SELF-STUDY REPORT FOR ACCREDITATION

Submitted to the Accreditation Board
Indian Council of Agricultural Research
New Delhi

COLLEGE OF AGRICULTURE, PADANNAKKAD

Kasaragod, Kerala

KERALA AGRICULTURAL UNIVERSITY

2001

FOREWORD

It is needless to stress on the importance of improving the quality of agricultural education in the country. The agricultural education has shown dwindling results quite often and the need for sustainability and improvement becomes the responsibility of Indian Council of Agricultural Research and the State Agricultural Universities. The establishment of SAU's on the pattern of the Land Grant Colleges of the USA, has been stagnating and has started showing signs of decline in quality in recent years. This paved the way for establishing Accreditation Board under the Agricultural Human Resource Development Project funded by the World Bank, specifically to improve and sustain the quality of agricultural education.

The accreditation process aims to strengthen and sustain the quality and integrity of education and it is for improving transferability and marketability of students nationally and internationally. The system of education with independent and withered objectives of the various institutions will be a hindrance for such efforts. A major breakthrough in the field of agricultural education has taken place in 1965 after the reorganisation of the ICAR. Accreditation of Universities and Colleges is a self-regulation and pre-review process adopted by educational community and is intended to strengthen and sustain quality and integrity of higher education, making it worthy of public confidence. The stakeholders in this process will also benefit from the changes under the new initiatives. Importantly, the trained graduates should be the effective technology agents and the present day requirement is middle level managers for which the students should develop the required competence to any type of vocational ventures. In a system where the public system alone is incapable to take the technology to the doorsteps of the farmers, village level concentration of the scientific and student community is highly warranted.

On an average, we are producing about 10,000 graduates every year and in the agricultural education field. India is a threat to many of the developed countries. Our HRD concept should be with a clear vision and contain the types of support we are going to offer to the community at department level, college level and university level. The Agricultural Human Resource Development Programme should thus help in greater exposure to national orientation and act as a weapon towards national development and integration.

The new economic policy being implemented still continues with the blend of pessimism and optimism. An opportunistic approach to cope up with the commitment is to be emerged, culminating the interests of the nation as well as nationals, especially for the rural agricultural and allied sections. Therefore, any type of transformation from regulation to liberalisation, from protection to

integration with the international markets and from planned economy to market economy demand new thinking, new approaches and new skills to accelerate the growth momentum and assure success ahead.

The concerted efforts initiated by the ICAR in promoting and co-ordinating higher agricultural education in India are praiseworthy. This includes national uniformity in education system in various branches of agricultural education. Let us hope that the earnest attempt in improving the quality and integrity of agricultural education through accreditation will benefit the stakeholders and the noble profession of agriculture is to be attracted by dedicated and talented students in the years ahead.

Padannakkad
17-09-2001

Dr. U. RAMACHANDRAN
Associate Dean &
Chairman, Steering Committee

PREFACE

The Agricultural Universities and their constituent colleges are numerous in our country. The education system followed by the colleges is not uniform and thereby poses many problems in the mobility and marketability of the students. Though, some of the institutions have pioneered in the field of education with sufficient modern facilities, many are to strengthen further. The effort of the ICAR on accreditation of colleges to improve the quality of higher education in agriculture is not worthy.

In the context of globalisation, only those institutions/colleges which provide quality education will survive. In order to assure quality improvement and quality assurance in Universities, National Assessment and Accreditation (NAA) was established by the UGC in 1994. The Accreditation Board was established on 15th March 1996 by ICAR under AHRD Project with specific objectives and functions of quality assurance in Agricultural Education. Through series of discussions and recommendations in the meetings of Faculty Deans and Vice-Chancellors of different universities in different years, the Accreditation Board approved the process and criteria for accreditation for the institutions coming under ICAR. The process of accreditation was started in the College of Agriculture, Padannakkad, during the year 2000 by constituting a steering committee and Task forces in April 2000, for the preparation of self-study report (vide Order No.CAN(B1) 1117/95 dated 11-4-2000).

Infrastructure and other facilities for the College were established under the leadership and guidance of Dr. A.M. Michael, the then Vice-Chancellor of Kerala Agricultural University. I take this opportunity to remember him in this occasion who contributed much of his time, energy and farsightedness for the establishment of this college. The guidance given by Dr. P.A. Wahid, the then Associate Dean inspired much on preparing this report.

The chairpersons and members of the task forces in the Steering committee have done their job sincerely and completed the draft report well in time. I appreciate the work of Dr. Jacob John and Dr. P.R. Suresh who helped me a lot in various stages of preparation of this report.

All of my colleagues particularly Dr. A. Rajagopalan, Dr. C. Latha Bastine, Mrs. P.S. Abida, Dr. Jiji Joseph, Mrs. R. Sujatha, Mrs. Sucy V. John, Mr. M. Joy, Dr. A. Anilkumar, Mr.V.V. Kunhambu and the students Mr. Berin Pathrose and Mr. E.K. Abhilash who helped me in the preparation of this report are highly appreciated. The Secretarial help rendered by Mr. K. Raveendran and the reprographic assistance provided by Mr. C. Madhusoodanan Nair are

acknowledged. The advice and guidance of Dr. C.K. Peethambaran, Co-ordinator, University level accreditation committee is gratefully acknowledged.

The support and encouragement extended by Dr. U. Ramachandran, Associate Dean at different stages of preparation of this report is thankfully acknowledged.

Data involved in the report are collected by the nine task forces constituted for this purpose. I have gone through these data and verified them to my level best. If there is any omissions or errors, the same may please be pointed out.

Finally, I submit this report for accreditation of College of Agriculture, Padannakkad, in expectation that the goals and objectives of the novel task would be materialised as desired.

Padannakkad
17-09-2001

Dr. P.C. Balakrishnan
Co-ordinator & Member Secretary
Steering Committee for Accreditation
(Associate Professor & Head,
Department of Plant Breeding & Genetics)

CERTIFICATE OF THE SELF STUDY REPORT

To

The Accreditation Board
Indian Council of Agricultural Research
New Delhi

From

The College of Agriculture
Kerala Agricultural University
Padannakkad P.O.
Kasaragode, Kerala

This Self-Study Report is submitted for the purpose of assisting in the determination as to whether or not this institution should become accredited by the ICAR-Accreditation Board.

It is certified that there was broad participation by the various constituencies and the Self Study accurately reflects the nature and substance of the institution.

17/9

Dr. U. RAMACHANDRAN
Associate Dean i/c
College of Agriculture
Padannakkad P.O.
Kasaragode, Kerala

Date: 17.09.2001

Prof. (Dr.) K.V. PETER
Vice Chancellor
Kerala Agricultural University
Vellanikkara, KAU P.O. 680 656
Thrissur, Kerala

Date: 20.09.2001

CONTENTS

LIST OF TABLES

LIST OF PLATES

LIST OF FIGURES

1. HISTORY AND DEVELOPMENT OF THE COLLEGE

1.1 HISTORICAL BACK GROUND

History of agricultural education in Kerala can be traced back to the year 1896 when a scheme was evolved in the erstwhile Travancore State to train a few young men in scientific agriculture at the Demonstration Farm, Karamana. Later, Agriculture was introduced as an optional subject in the middle school classes in the State. The need for higher education in agriculture was keenly felt at that time and with the establishment of the Travancore University in 1939, a scheme for Diploma Course in Agriculture was approved. But for some reason or other, this proposal did not materialize. Agriculture was later introduced as an optional subject in the Intermediate Course in 1953.

In 1955, the erstwhile Government of Travancore-Cochin started the Agricultural College at Vellayani in Thiruvananthapuram and the College of Veterinary and Animal Science at Mannuthy in Thrissur for offering degree level courses in agricultural and veterinary sciences, respectively. These courses were affiliated to the University of Travancore. With the formation of Kerala State in 1956, these colleges were affiliated to the University of Kerala. Post-graduate courses leading to M.Sc. (Ag.) and Ph.D. degrees were started in the Agricultural College in 1961 and 1965 respectively.

Kerala Agricultural University (KAU) came into existence on February 24, 1971. It is the fifteenth agricultural university in India. The Main Campus of KAU is located at Vellanikkara, Thrissur. After the formation of Kerala Agricultural University the following campuses were developed.

- College of Agriculture, Vellayani and the College of Veterinary and Animal Sciences, Mannuthy along with other 21 agricultural and animal husbandry research stations in the State were transferred to KAU in 1972.

- Subsequently, the Agronomic Research Station, Chalakudy and the Rice Research Station Vyttila were also brought under the KAU.

- In view of the great importance and potential of plantation and other horticultural crops, which occupy nearly two-thirds of the cultivated

area in the State, a College of Horticulture was started at Vellanikkara, Thrissur.

- Kelappaji College of Agricultural Engineering and Technology (KCAET) was started at Tavanur, Malappuram District
- College of Fisheries was started at Panangad, Kochi
- College of Co-operation, Banking and Management at Mannuthy, Thrissur
- College of Forestry at Vellanikkara, Thrissur.

Subsequent to this, the decision to establish the College of Agriculture at Padannakkad was taken after detailed discussions and considerations of its necessity at the Government and University levels. The main factors which have swung in its favour are the backwardness of the area, its peculiar agro-climatic conditions like highly skewed distribution of rainfall leading to prolonged drought, the existence of vast stretches of marginal lands and wastelands and peculiarities of cropping systems followed in the zone. The College is located 9 km south of Kanhangad town and 1 km north of Nileshwar town by the side of NH 17. The geographical location is 12° 16' N and 75° 10' E at an elevation of 7m above MSL.

1.2 INSTITUTIONAL GROWTH

For the purpose of establishing this college the erstwhile Coconut farm (Nileswar III), Padannakkad, under the Department of Agriculture was transferred to the KAU as per G.O MS 407 / 94 / AD dated 19.11.94 of Agricultural (Farms) Department, Government of Kerala. An initial outlay of Rs.1.00 crore was earmarked for the college in the KAU budget for the year 1994-95. The General Council of Kerala Agricultural University in its meeting on 26th March 1994 endorsed the decision of the Government for starting a full-fledged College of Agriculture at Nileswar-Pilicode in Kasaragod District. Administrative sanction was accorded as per order No. GA/J1/13662/94 dated 2.6.1994. Accordingly the first batch of students was admitted to the B.Sc. (Ag.) course in the year 1994. At present, six batches of undergraduate students have been enrolled in the College. The Regional Agricultural Research Station (RARS) of the northern zone at Pilicode provided the infra-structural facilities to start the College. The faculty included the scientists working in the RARS as well as those appointed for the College.

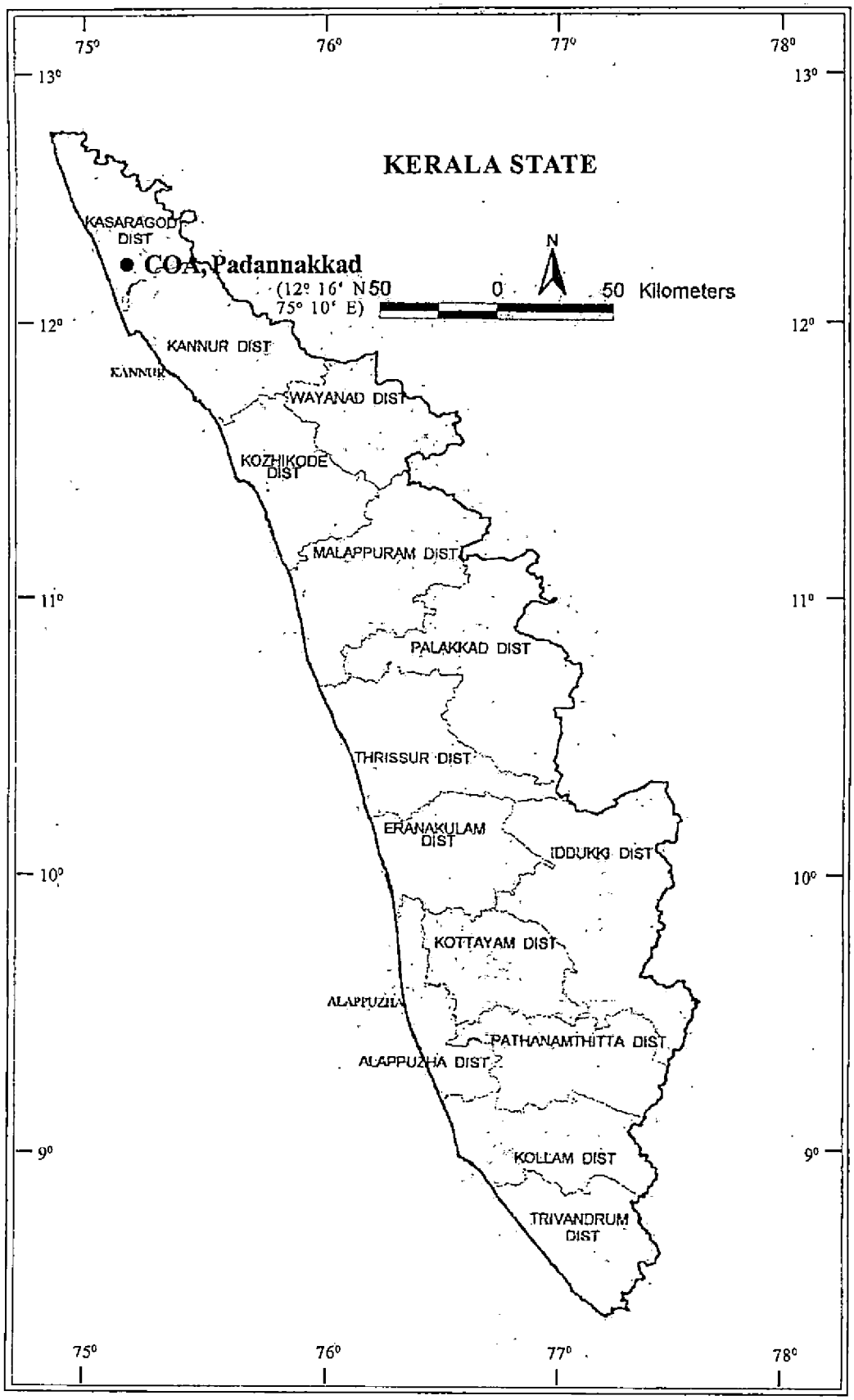


Fig.1.1 Location of College of Agriculture, Padannakkad

1.3 ADMINISTRATION OF THE COLLEGE

- The Associate Dean is the head of the College.

- The Faculty consists of Professors, Associate Professors and Assistant Professors working in the various departments of the college. Besides their normal duties of teaching, research and extension the Academic staff serve in other capacities such as Academic Cell in-charge, Instructional Farm (i/c), Library in-charge, Central Instruments lab in-charge, Career Development Cell in-charge, Office bearers of Parent-Teachers Association, Vehicles in-charge, Computer Cell in-charge, Nodal Officer of ARIS, Network Administrator, Assistant Warden (Men's and Ladies Hostel), Staff Advisors to students Union and its constituent clubs and National Service Scheme Program co-ordinator.

- The Administrative matters are managed by the Administrative Cell, which is headed by the Administrative Officer under the Associate Dean. There are different sections for Establishment, Cash & Purchase, Academic and Accounts.

- The Staff-council consisting of Associate Dean, Heads of Departments, Administrative Officer and other Officers in-charge serves as an advisory body in the administration of the College. Very important decisions are taken in consultation with the entire staff of the College.

Table 1.1 Administrative and supporting staff strength of the College

Post	Sanctioned posts	In position
Administrative Officer	1	1
Section Officers	3	3
Assistants	6	3+(3*)
Library Assistant	2	1
Farm Assistant	3	3
Steno	1	1
Typist	3	2
Data entry operator	1	0
Duplicating operator	1	1
Lab Assistant	5	1+(2*)
Class IV	4	4
Drivers	2	2

*Provisionally appointed

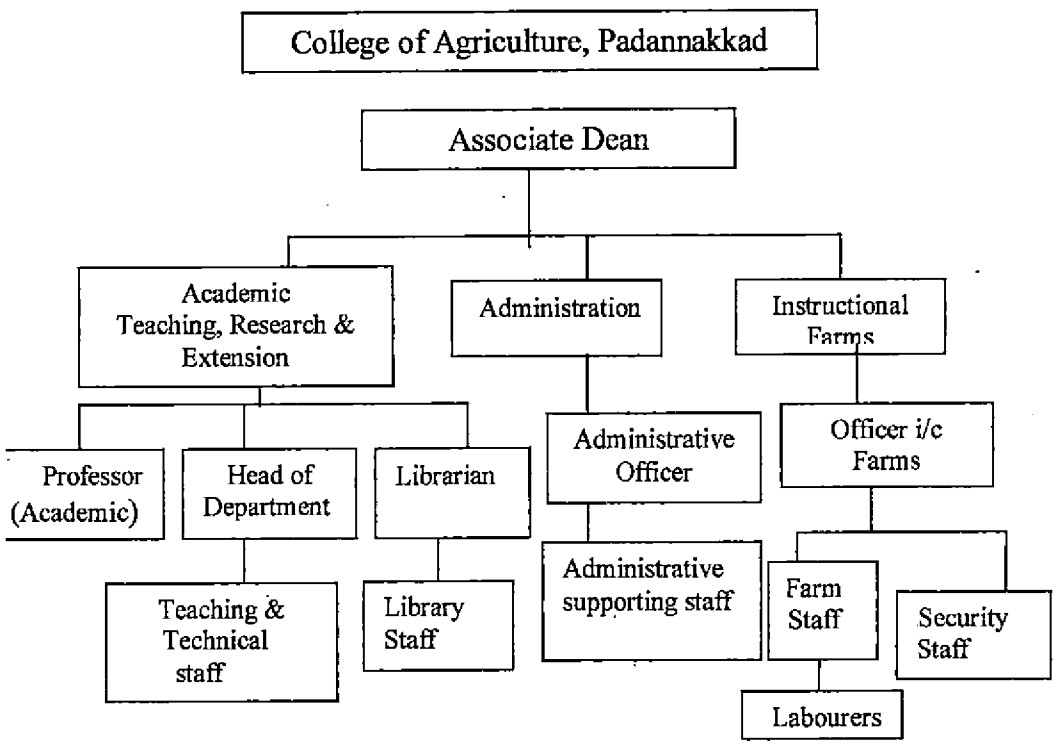


Fig.1.1 Administrative set up of the College

Table 1.2. Labour force in the Instructional farm of the College

Post	Sanctioned posts	In position
Farm Labourers	45	19
Regular Mazdoor	3	3

1.4 STUDENT ENROLMENT

Presently, the college offers only bachelor degree programmes in Agriculture, B.Sc. (Ag.). The intake capacity fixed for the College is 37. The students are selected based on a common entrance test conducted by the Government of Kerala for admission to Professional courses. The qualification prescribed for writing the entrance examination is a pass in Pre-degree or equivalent courses with at least 50% marks. The minimum prescribed duration for this degree programme is eight semesters (i.e., four academic years), excluding the period of temporary discontinuance, if any. The maximum time limit permitted to complete the programme is 16 semesters including the period of discontinuance, if any. The last semester of the course is set apart exclusively for farm/field training viz., Rural Agricultural Work Experience Programme (RAWE). The first batch was admitted in the year 1994.

1.5 INSTITUTIONAL PLANNING PROCESS

Since the college is in the initial stage of establishment, importance is given for the development of infra structural facilities. Appointment of staff is a major priority area as the present strength is quite inadequate. Student amenities and laboratories in the departments are also been given priority. The issues will be discussed in the faculty meetings and the proposals for approval and implementation are to be sent to the appropriate bodies of the University. Planning at College level is done through the management council and staff council. The Academic Council, General Council and Executive Committee of the Kerala Agricultural University take major policy decisions which is subsequently communicated to the College for implementation.

1.6 AMOUNT AND DISTRIBUTION OF ANNUAL BUDGET

The funds for the College come exclusively through the Kerala Agricultural University. Grants from the Government of Kerala, ICAR and externally aided projects are the main source of funds. Receipts from the

Instructional Farm/University property and Fee collection are the only sources of income

Table 1.3. Amount and distribution of annual budget (in lakhs)

Head of Account	1996-97	1997-98	1998-99	1999-2000
Non Plan	0.160	57.020	68.880	0.700
Plan	69.219	59.62	91.203	137.092
ICAR	-	-	6.930	1.080

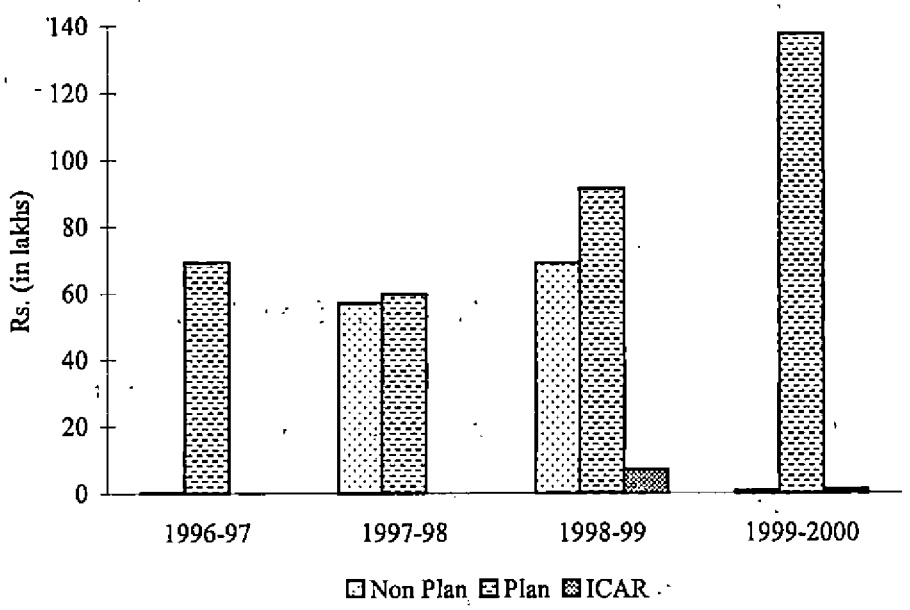


Fig 1.2 Distribution of annual budget

Table 1.4 Revenue statement of the College

Year	Income from Fees (lakhs)	% of total income	Income from University property (lakhs)	% of total income	Total income (lakhs)
1996-97	0.677	8.33	7.447	91.67	8.124
1997-98	0.673	7.20	8.669	92.80	9.342
1998-99	1.813	18.10	8.228	81.90	10.041
1999-2000	2.623	28.10	6.713	71.90	9.336

1.7 COLLABORATIVE EDUCATIONAL AND RESEARCH ARRANGEMENTS WITH OTHER INSTITUTIONS

Proximity to research stations and farms facilitate the conduct of study tours to these places by students for getting first hand information on the state-of-the-art of agricultural technologies and obtaining practical experience. Involvement and participation of the scientists of these institutions in the academic and research programmes of the college by

way of guest lectures, seminars, collaborations etc. also help improve the quality of education. Some of the important institutions near to the college are:

- Central Plantation Crops Research Institute, Kasaragod (about 35 km from Padannakkad).
- District Agricultural Farm, Karimbam, Taliparamba, Kannur District.
- State Seed Farm, Aralam, Kannur District.
- Centre for Water Resource Development and Management, Kozhikode District.
- Indian Institute of Spices Research, Marikunnu, Kozhikode District.
- Regional Agricultural Research Station (RARS), Pilicode, KAU
- RARS, Ambalavayal, KAU
- RARS, Pattambi, KAU
- Pazhakulam Social Service Society (PASSS), Adoor
- National Bureau of Soil Survey & Land Use Planning, Bangalore Centre and Soil Survey department of Agriculture

1.8 GENERAL STATEMENT ABOUT PRESENT CONDITION OF INSTITUTIONAL INFRASTRUCTURE

The Campus includes an Academic cum Administrative Block, hostels for men and women, residential quarters for Associate Dean, Assistant Wardens, faculty members, and other staff. Besides these, basketball courts, volleyball courts and stadium are also present. The construction of faculty residential quarters has been initiated and is nearing completion. Instructional Farm at Padannakkad has an area of 27.23 ha with a stand of over 3700 coconut palms and several mango trees. A beautiful pond (Theerthamkara pond) with an area of 4.2 ha is available at the Instructional Farm, Padannakkad.

Table 1.5 Infra structure available in the College

Facility	Hectares/Sq.m
Academic Buildings	4879.0 sq.m
Students Hostels	4950.1 sq.m
Housing for staff	400 sq.m
Play grounds	9800 sq.m
Administrative Buildings	628 sq.m
Gardens and Farms	27.23 ha.
Library	394 sq.m

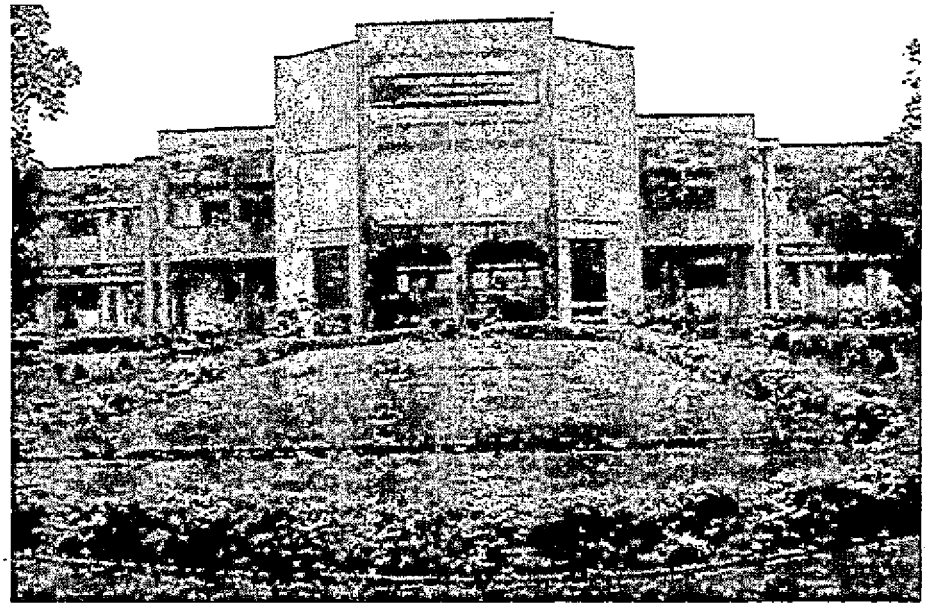


Plate 1.1. Front view of the College of Agriculture, Padannakkad

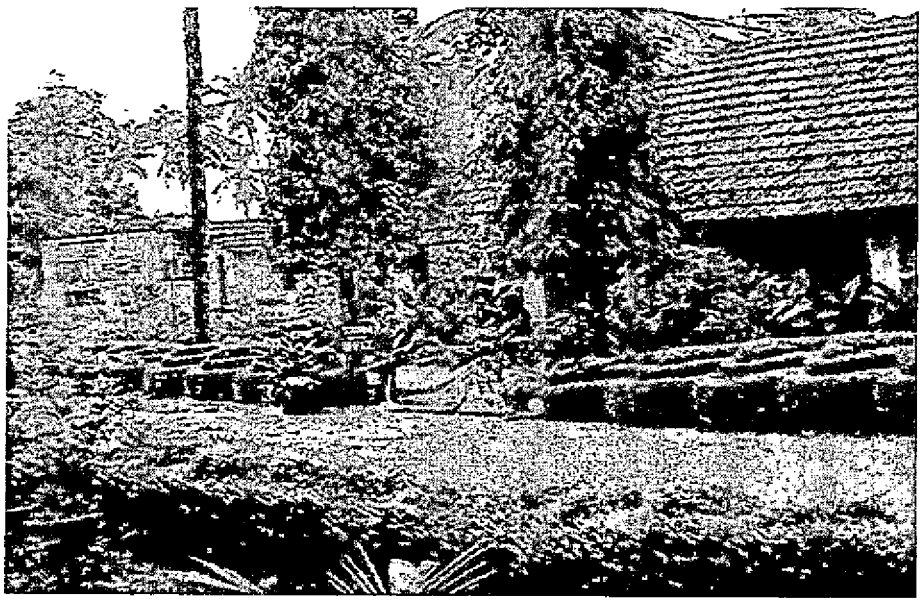


Plate 1.2. The Instructional Farm attached to the college

2. MISSION AND GOALS

2.1 ORIGINAL MISSION STATEMENT

The objectives of Kerala Agricultural University, as stated in the Act are imparting of education, advancement of learning, promoting research and undertaking extension education programmes in agriculture and allied subjects.

The College of Agriculture, Padannakkad was established with the mission of removing the backwardness and advancement of farming sector in northern zone of Kerala.

2.2 GOALS

Keeping the mission in view, the College has set the following goals

- Impart quality education for the young generation and to equip them in meeting future challenges in agricultural sector
- Removing the backwardness and solving field problems associated with agriculture in the northern zone of Kerala
- Improving the production and productivity of crops grown in the Northern zone.

2.3 SHORT AND LONG RANGE PLANS OF THE INSTITUTION

Presently, the college offers only bachelor degree programmes in Agriculture, B.Sc. (Ag.). The long range plans under teaching, research and extension are:

2.3.1 Teaching

Post-graduate courses in the major disciplines namely, Agronomy, Plant Pathology, Agricultural Economics, Soil Sciences and Agricultural Chemistry, Plant Breeding and Genetics, Horticulture, Agricultural Extensions and Agricultural Entomology are to be offered in this College. The following PG programmes in the emerging areas with an eye on the

employment generation and to promote entrepreneurship are also propos to be started in this college.

- Agri-business Management
- Floriculture and Landscape Architecture.
- Environmental Sciences.
- Soil Biology and Ecology.
- Wasteland Management.
- Integrated Production Systems Management.
- Biotechnology
- Crop Physiology.

2.3.2 Research

Besides the post-graduate research mentioned in the above areas, proble oriented research in the following areas will also be undertaken.

- Control of root-grubs in coconut and other crops with emphasis biological methods.
- Pesticide residues in plantation crop, especially export-oriented crops
- Management of *Phytophthora* diseases of plantation crops.
- Presently, biotechnology research in agriculture is focussed on cr improvement through development of trans-genic materials, tiss culture and other similar propagation methods. The product-speci biotech methods, if successfully developed, will enable us to help t farmers to utilise the recent scientific advancements in their fields a to practice agriculture as a business enterprise.
- Evolution of dwarf coconut varieties/hybrids with desirable n characteristics of tall varieties in view of the shortage of climbers f coconut harvesting

- Development of chemical and physiological methods for dwarfing coconut palm (as an alternative to the development of dwarf varieties proposed above.)

- Development of software and hardware for computer-aided automation system in farm husbandry in collaboration with the computer firms and allied industries.

- Development of expert systems in farm management in collaboration with computer firms.

2.3.3 Extension

- ***Establishment of an Agricultural Entrepreneurship Development Training Centre***

  Dearth of rural entrepreneurs is a critical problem in our country. For various reasons entrepreneurs do not spontaneously respond to available agri-business opportunities despite the various incentives, schemes and programmes to promote and assist them. An effective mechanism, therefore, is to be developed to enlarge the pool of local entrepreneurs. Establishment of an 'Agricultural Entrepreneurship Development Training Centre' at the college of Agriculture, Padannakkad, is proposed in this context. This centre will conduct short-term training programmes for the benefit of the unemployed youth and school/higher secondary dropouts.

- ***Hybridisation and Nursery Management in coconut***

  At present, there is scarcity of quality planting materials of newly released varieties in spite of the heavy demand. The facilities available at the Government/ University farms are not adequate to produce enough seedlings to meet the ever-growing demands. The technologies for hybridisation and nursery management in coconut can be transferred to resource rich entrepreneurs who owns/can arrange at least 300 mother palms. This programme is expected to encourage and promote entrepreneurship in the production of high quality planting materials.

- ***Commercial floriculture***

  Commercial floriculture is an emerging area. The climatic conditions of Kerala are quite conducive for the cultivation of high value cut flower, such as orchids and anthurium. The green house technology for the cultivation of anthurium has been standardised. The cut flowers can be

marketed locally or sold in metro-markets through agencies. The beneficiaries can be unemployed educated youths or housewives.

- ***Plant propagation techniques and establishment of commercial nurseries***

  There is immense scope of establishing certified nurseries in the villages. Educated rural youths can be trained in such activities. Nursery techniques in plantation crops have been developed. Beneficiaries may be selected from localities in which these crops are widely cultivated.

- ***Mushroom production***

  Cultivation of oyster mushroom (*Pleurotus sajor-caju*) in polybags and production of edible mushrooms for sale through markets or production of mushroom powder. Modified polybag technology using agricultural products and waste products such as straw, banana pseudostem, grass etc. can also be included.

  With increasing demand for spawn for mushroom cultivation, educated unemployed youth can be given training in setting up a mini- lab and procedures for production of mushroom spawn.

- ***Post harvest and processing technology***

  The post harvest loss of produces such as fruits and vegetables is to the tune of 30%. There are several fruits like jack, pineapple, cashew apple, papaya etc., the bulk of which are unutilised, which can be processed for making various products. Procedures have already been standardised for home scale processing of fruits into products like jam, jelly, squash, ready-to-serve beverages, pickles, candies etc. These products can also be sold in local markets at reasonable prices than the factory-made foods. There is good scope for the unemployed youths and housewives to take up the entrepreneurship in home-scale processing of fruits.

These programmes also cover training in general aspects like skill development, farm management, book keeping and accounting, least-cost technology, formal and informal group formations, business principles, need for commercialisation of agriculture, trade/marketing procedures and other related issues including efficient land use and multiple cropping systems depending upon the requirement of enterprise.

- ***Participatory research and gender analysis technology***

Ensuring the participation of users in the process of agricultural technology development should be an important strategic research issue, vital to achieving impact, which benefit poor people. Use participation in the early stages of development of technology design enables technologies to be adopted rapidly. Women are a particular important category of users. Gender analysis is therefore, crucial for ensuring women's special needs in technology development.

- ***Agro-clinics***
  To impart on-farm experience in diagnosis of problems related to pests and diseases, soil health and plant nutrition to students, it is proposed to organise ago-clinics in selected panchayats as part of the curriculum, in collaboration with the Department of Agriculture.

- ***Farm Advisory Services***
  This is another important area, wherein a lot of development is required. This programme involves close interaction among scientists, students and farmers relating to field problems and transfer of new agro-techniques. This programme will also open up avenues for consultancy services.

One of the stated lead functions of the college is undertaking need based location specific front line extension programme. The college is now in its seventh year of functioning. Since its inception in the year 1994 there has been great demand from the governmental and non-governmental organizations and the farmer public on the extension services of the college in conducting training programmes, seminars, exhibitions etc.

In the above backdrop, it is proposed to establish a permanent agroclinic-cum-human resource development centre attached to the Department of Agricultural Extension with the following components.

- ***Agro-clinic***: The programme purports to diagnose the field problems of the farmers by the students under the supervision and guidance of multi-disciplinary team of teachers once in every fortnight on a fixed day. It will serve as a training ground for the students to aquaint with field problems and improve their diagnostic and public relation skills.

- ***Training:*** It is proposed to conduct non-stipendiary training programme in crop production technologies, post harvest technologies, crop protection, and personnel management using participatory/experiential mode. The

programme as far as possible will be conducted in tandem with other organizations. The faculty resources available at the college and the Regional Agricultural Research Station, Pilicode can be utilized for handling the sessions.

- ***Information centre***: The centre aims at providing easy access to farm related information and information sources of KAU. It can serve as a mini satellite of the Directorate of Extension in the northern region.

- ***Museum***: It is proposed to establish an educational museum as part of the centre consisting of several items of interest to farmers such as specimens of pests and diseases, new varieties of crops, objects, models, graphs, charts, farm machinery etc.

2.4 RATIONALISATION OF VARIOUS PROGRAMMES ADDED OVER THE YEARS

The review committee popularly known as Randhawa Committee has pointed out the inadequacy of the curriculum of degree programme in providing required practical training and acquisition of skills by graduates. This necessitates providing adequate work experience during the last semester of the degree programme. A properly trained agricultural graduate should have a solid knowledge of the fundamental principles of the major areas of agriculture viz., Pathology, Entomology, Agronomy, Soil Science, Horticulture, Agrl. Economics, Plant Breeding etc. in relation to the production environment of crops and livestock. Work Experience includes physical and/or mental effort extended for a purposeful activity that includes training, observation and practice, experience and personal participation or involvement. This can be achieved through the introduction of Rural Agricultural Work Experience (RAWE) programme. This increases the competency of the graduate in functioning as an effective teacher/researcher/extension professional in the transfer of technology to the farmers.

2.4.1 Formation of new courses to meet the above

As per the revised syllabus, the Field-training programme of B.Sc. (Ag.) students has been planned for one semester. The Field training programme of the B.Sc. (Ag) programme has been revamped and designated as Rural

Agricultural Work Experience (RAWE) programme. The RAWE Programme forms an integral and essential part of the curriculum of B.Sc. (Ag.) course.

2.5 STRENGTH AND SCOPE FOR IMPROVEMENT

Despite the low staff strength, the College has been successfully undertaking teaching, research and extension activities with emphasis on the problems in the zone. The scope for improvement in these fields is included in the short and long range plans outlined earlier (under 2.3).

3. ORGANISATION AND GOVERNANCE

The College of Agriculture, Padannakkad is a constituent college of Kerala Agricultural University. Therefore, the governance of the college is intrinsically linked with that of KAU. The authorities of KAU are the General Council, the Executive Committee, the Academic Council, the faculties and the Board of Studies of Faculties.

- The General Council is the supreme authority of KAU.
- The Executive Committee carries out the administration of the University.
- The Academic council looks after the academic matters.
- Each faculty has a 'Board of Studies' to look after the academic matters pertaining to that faculty such as curriculum, syllabus, examinations, research and extension. Dean is the head of a faculty.
- Kerala Agricultural University has a well-organized planning setup. Academic Planning Process is, largely, within the control of the Academic Council of KAU. Admissions, Semester final examinations, declaration of results, awarding of degrees etc. are all decided centrally. There is a Directorate for Academic and Post Graduate studies to co-ordinate the academic activities. The remaining matters are handled at the College level according to the provisions of the Academic Regulations of KAU.
- The major role of the College, besides the conduct of courses and examinations, is in initiating syllabus revision, new projects, new departments and new courses of study. Such matters are discussed at length in the Board of Studies and reviewed by the Academic Council before implementation.
- As far as physical structures are concerned, the planning process is initiated and executed by the Directorate of Physical Plant (DPP) in consultation with the Associate Dean.
- The Dean of the College of Agriculture, Vellayani is also the Dean of the Agriculture Faculty. Dean is one of the Officers of the University as per the KAU Act and is appointed by direct recruitment for a period of five years.

- The Associate Dean is the head of the College. The Staff council, consisting of Heads of Departments, Administrative Officer, Academic Officer, Assistant Wardens and Officer i/c Farm, advises on administrative matters of the College. Very important decisions are taken in consultation with the entire faculty. The College has fourteen departments. The senior most faculty member in the department acts as the head of department.

- The Associate Dean who is assisted by the Academic Officer monitors academic matters in the College. They plan the semester calendar, organize the conduct of classes, prepare examination timetables etc. in consultation with the heads of departments.

- The Administrative matters in the College are looked after by the General Administration, which is head by an Administrative Officer. In addition, there are section officers for Establishment, Cash and Purchase, Academic and Accounts. Each section has assistants.

- The audit is conducted annually by a team of members under the supervision of the Assistant Comptroller in the case of internal audit and Internal Audit Officer in the case of Local fund audit. In addition audit of accounts is also undertaken by the Accountant General of Kerala.

The decision making process of the institution is depicted in the Fig. 3.1.

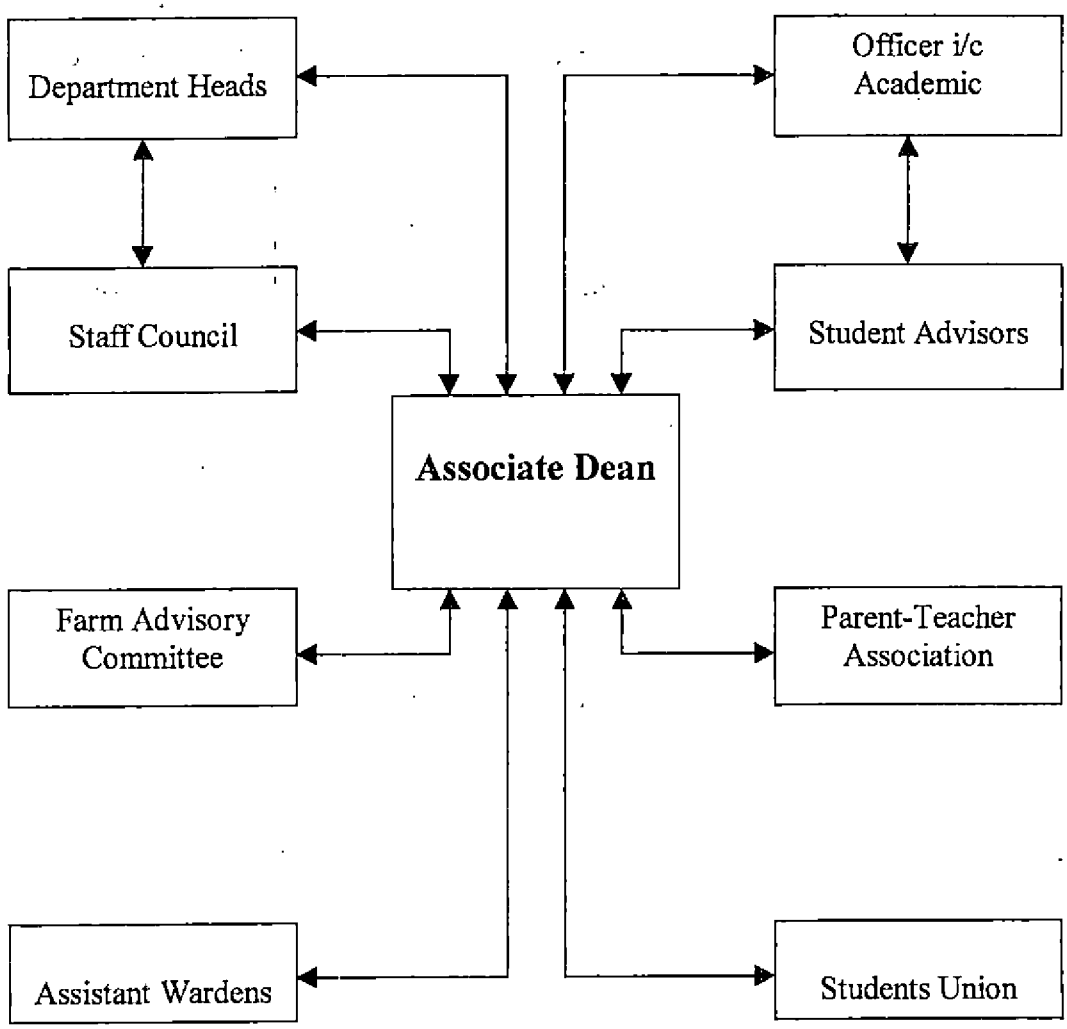


Fig 3.1. Decision making process of the college

4. STUDENTS DEVELOPMENT

4.1. STUDENT PROFILE

The first batch of students was admitted in 1994. In general, over the years, a predominance of female students has been observed. A few students from outside the State are also studying in this campus. They include nominees of ICAR, Andaman and Nicobar and Lakshadweep (Table 4.1 and 6.1).

Table 4.1 Composition of students (from establishment till date)

Year of admission	Male	Female
1994	13	16
1995	12	21
1996	10	16
1997	11	22
1998	18	23
1999	17	36
2000	16	24

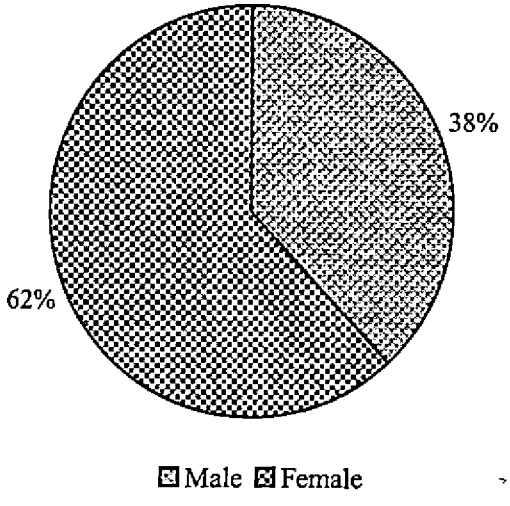


Fig.4.1 Gender wise distribution of students admitted to the College since inception

4.2. ADMISSION STANDARDS

Presently, the college offers only bachelor degree programmes in Agriculture, B.Sc. (Ag.). The students are selected based on a common entrance test conducted by the Government of Kerala for admission to Professional courses. The qualification prescribed for writing the entrance examination is a pass in Pre-degree or equivalent courses with at least 50% marks.

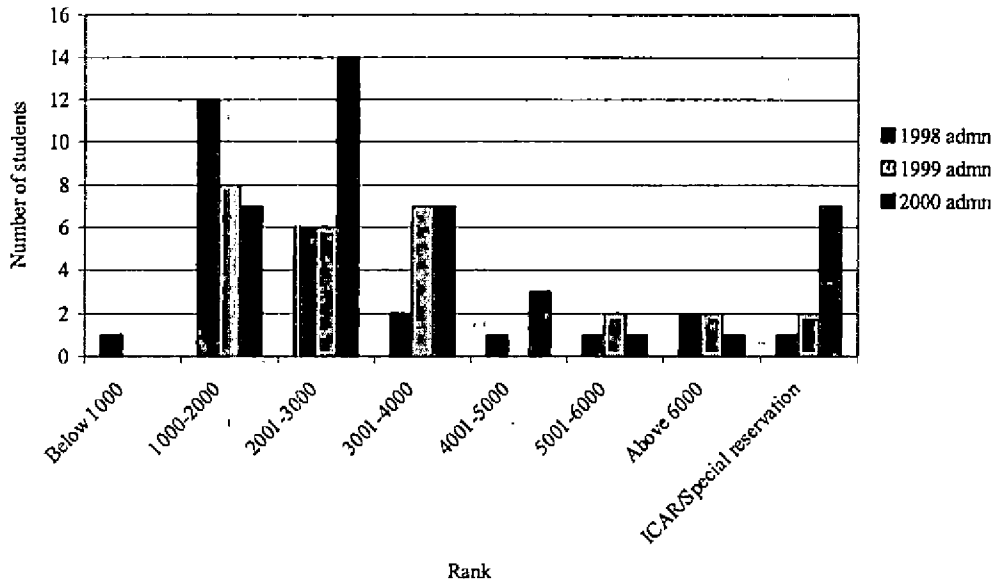
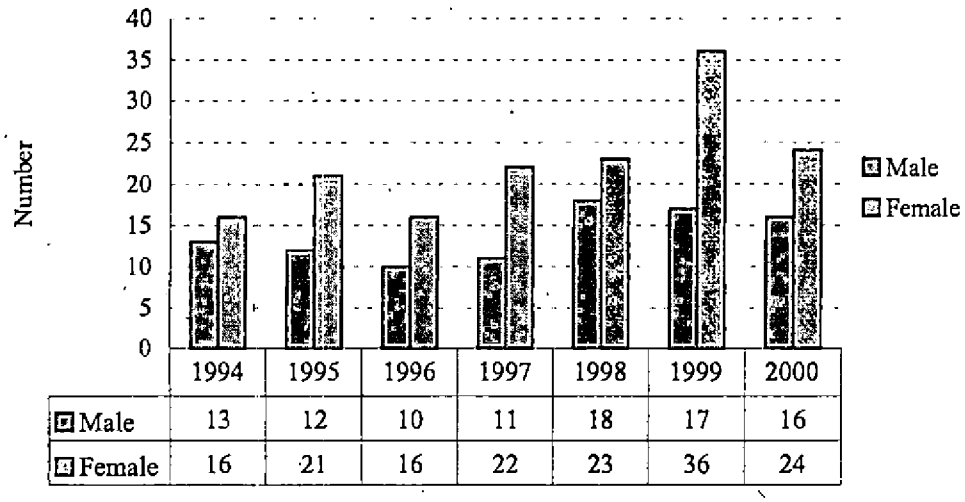


Fig 4.2 Admission standards of students enrolled in the College



	1994	1995	1996	1997	1998	1999	2000
Male	13	12	10	11	18	17	16
Female	16	21	16	22	23	36	24

Fig 4.3 Student enrolment in the College from start till 2000

Table 4.2 Entrance test rank wise distribution of students admitted to the College

Rank in entrance exam	Number of students admitted		
	1998 admn	1999 admn	2000 admn
Below 1000	1	0	0
1000-2000	12	8	7
2001-3000	6	6	14
3001-4000	2	7	7
4001-5000	1	0	3
5001-6000	1	2	1
Above 6000	2	2	1
ICAR/Special reservation	1	2	7

4.3 STUDENTS ENROLMENT

The list of students allotted to this College is received from the Office of the Commissioner of Entrance exam, Government of Kerala.

4.4 DATA ON ATTRITION AND RETENTION

After admission, some of the students submit applications for transfer to other constituent Colleges of the University offering the same degree programme. The main reason behind applying for such transfers is the proximity of those colleges to their residence. These requests are then forwarded to the University Headquarters, where it is considered. Some of the transfers are permitted and hence, they leave this College. In addition, some students appear for entrance exams in the succeeding year, obtain admission for another course, and thus leave the campus.

Table 4.3. Attrition and retention of students in the College

Year of admission	Admitted		Dropped out		Appeared in Final Exam *		Failed to appear in final exam		Passed		Percentage	
	M	F	M	F	M	F	M	F	M	F	M	F
1994	13	16	4	4	9	12	-	-	9	12	100	100
1995	12	21	1	5	11	16	2	2	9	14	82	88
1996	10	16	3	2	7	14	-	-	7	14	100	100

M=Male F=Female

* Students admitted in 1994, 1995 and 1996 passed out in the year 1999, 2000 and 2001 respectively

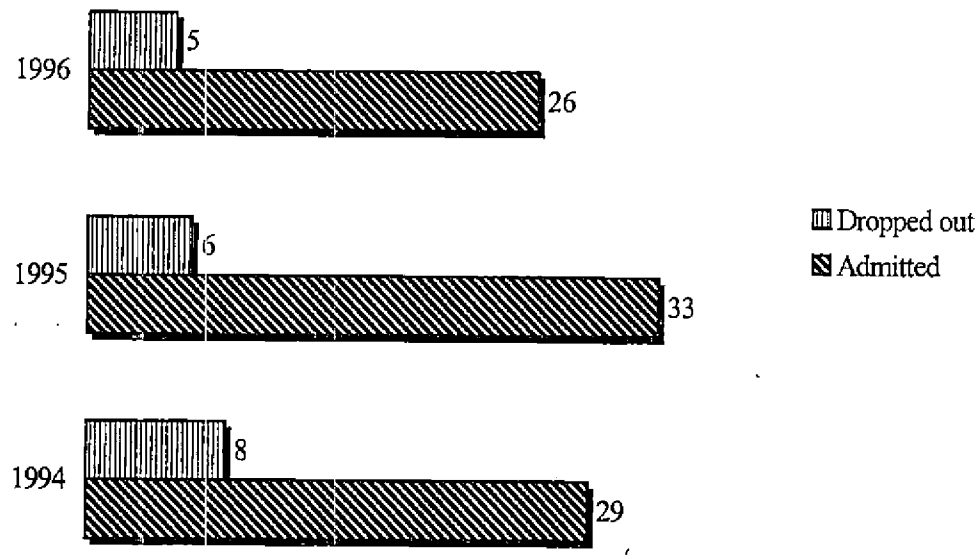


Fig 4.4. Admission and retention of students over the years

4.5 STUDENTS WELFARE PROGRAMMES

4.5.1 The directorate of students welfare (DSW)

The Directorate of Students Welfare (DSW) of KAU formulates programmes for the welfare of the students in KAU. These programmes are implemented at the College level based on the directions received from the Directorate.

4.5.2 Parent-teachers association (PTA)

The College has a Parent Teacher's Association (PTA) governed by an executive committee comprising of the Associate Dean as the Patron, a parent as the President and a teacher as the vice President. In addition, three parents and two teachers are also included in the committee. The committee meets regularly and discusses the general performance and welfare of the students. Certain cash awards constituted by the Parent Teacher's Association to encourage outgoing students excelling in academics along with certain other awards constituted by the Alumni are presented in a ceremony held along with the annual general body meeting of the association.

4.5.3 Student counseling

The College has nominated faculty members as student advisors and each advisor is allotted four students. The performance of the students is closely monitored and their well being in the college is assured and by the advisors who meets and discusses with the students regularly. The advisors maintain all the academic documents and grade reports of the students allotted.

4.5.4 Performance in inter university/all India competition

The Students' Union under the guidance of the Associate Dean and Staff Advisors of different clubs organize various competitions at the College level. Athletic meet and games are conducted under the guidance of the Physical Education division. The best athletes and players participate in the inter-collegiate athletic meet and games. The Arts club organizes the College Arts festival. The winner and runner up of every event get a chance to participate in the inter-collegiate arts festival. Those students who excel in the inter-collegiate competitions are selected to compete in the Inter-University/Inter-State competitions. Our College table-tennis team represented the Kerala Agricultural University in the Inter-University Table-Tennis tournament during 1999-2000 and 2000-2001. Some of our athletes have also participated in the Inter-University athletics. Sri.Rajesh R. (1998 admission) secured third place in long jump.

Table 4.4 Performance of students in Inter University/All India Competition

Level of participation	Name of Sport	Awards/ Recognition			
		1999-2000		2000-01	
		Men	Women	Men	Women
Inter Collegiate level	S.Badminton	II	-	II	-
	Cricket	-	-	-	-
	Table Tennis	I	-	I	-
	Track & Field	-	-	-	-
	Basketball	-	-	II	II
	Volleyball	II	II	II	II
Inter University level	Athletics (long jump)	-	-	III	-

4.5.5 Student clubs

- The students' Union composed of elected representatives of the students has several constituent clubs viz., Arts Club, Athletic Club, Nature Club, Social Service League and Planning Forum.

- Most of the students are members of the college unit of National Service Scheme. They undertake cleaning activities, tree planting programmes, blood donation etc.

- Besides, a computer club has been formed recently. The primary objective of the club would be orienting our College community to computers. In addition, the activities of the club will include subscribing computer magazines, which carry free CD's and conduct of seminars/classes/demonstrations using the services of local computer firms also.

4.5.6 Fellowships

The first batch of B.Sc. (Ag) students passed out from this College in 1999. Subsequently, two more batches passed out in 2000 and 2001. Some of the students of these batches appeared for the ICAR-All India JRF Examination and most of them succeeded in getting JRF. Some of them secured placements only.

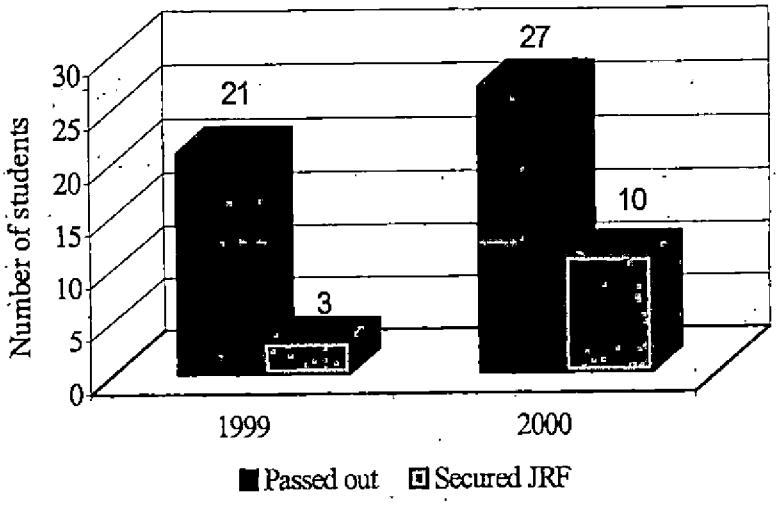


Fig.4.5 Performance of students in the ICAR ALL India JRF Exam

Table 4.5 Students who have obtained fellowships for higher studies

Sl. No.	Year of passing out	Number of students	Percentage *	Fellowship obtained
1.	1999	3 + 1	19	ICAR-JRF (3) + Bristol Unvsty, U.K. (1)
2.	2000	10	37	ICAR-JRF
3.	2001	5	24	ICAR-JRF

*expressed as percentage of the total students passed out

4.6 PLACEMENT SERVICES

A Career Guidance and Placement Cell for the students of this College is functioning at present with the following objectives:

- To provide proper guidance to the students on their future career after completion of their B.Sc. (Ag.) programme.
- To assist the students to get proper placement after graduating
- To make the students competitive enough for their future endeavours
- To develop the overall personality of the students

Professional libraries are being maintained in the Men's and Ladies Hostels that subscribes and maintains books and periodicals related to various competitive exams like bank tests, MBA programmes (eg. CAT), Civil Services etc.

4.7 ENTREPRENEURSHIP DEVELOPMENT PROGRAMME

The Entrepreneurship Development Programme (EDP), which forms part of the RAWE programme aims to develop entrepreneurial traits among the students and enable them to take up self-employment in their Professional field with adequate self-confidence. The objectives of the programme include

- Strengthen the entrepreneurial qualities and achievement motivation.
- Visualize and analyse environment related to small business enterprise
- Select project and product, based on analysis.
- Project formulation and appraisal
- Acquire basic management skills.
- Internalise and appreciate social responsibility/ entrepreneurial disciplines

To fulfill the above objectives the EDP training programme must equip the student with entrepreneurial capabilities for launching and managing an enterprise successfully. The programme covers the following areas.

- Entrepreneurial motivation and identity development
- Enterprise launching
- Enterprise management

4.8 INFRASTRUCTURE

- The hostels are placed equidistant from the main block. The men's hostel is located on the northwestern side and the women's hostel is situated on the southeastern side. The design of hostel blocks is done to have maximum privacy and independence despite their integration with the campus. The clusters are done with open layout concept to achieve maximum lighting and ventilation. Toilets are grouped in such a way that they are isolated, at the same time close to the rooms. The dining area in the ground floor and the reading and recreation rooms in the first floor is placed along an axis symmetrical to both the wings, so that they can be reached at ease.
- The class rooms and seminar hall are grouped together in a separate block and placed on the rear side, equidistant from the rest of the building, at the same time away from the busy national highway to

Plate 4.1. The *CHANDRAGIRI* Men's hostel

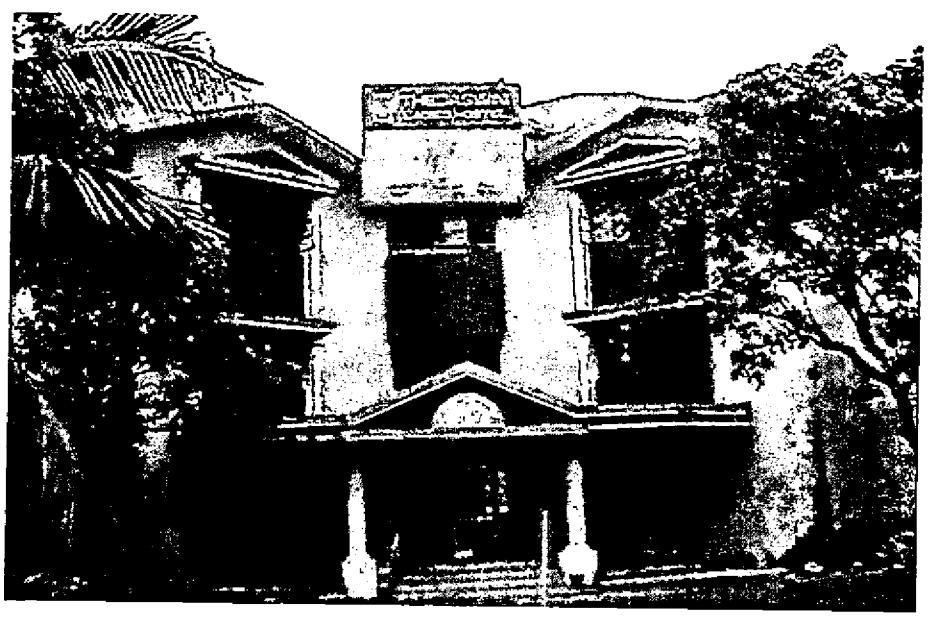


Plate 4.2. The *THEJASWINI* Ladies hostel

- in different levels to accommodate reading and stacking of books. The independent staircase will facilitate the functioning of library during late hours, while the other part of the building is closed.

- The football ground and athletic tracks are placed along north-south axis in the vacant space available at southeastern side of the campus. The following athletics and games facilities are available:

▪ Indoor courts for table tennis	2
▪ Shuttle badminton court	2
▪ Gymnasium	1
▪ Basket ball court	1
▪ Football court	1
▪ Athletic track	1
▪ Volley ball court	2
▪ Canteen for staff and students	1

4.9 STRENGTH AND SCOPE FOR IMPROVEMENT

Despite, the remoteness of our College from the University headquarters and the other constituent Colleges of the KAU and the inadequate facilities our students have excelled and attained a prominent place in every sphere of activity of the University. They have surpassed the students of other campuses by their overwhelming performance in academics, sports, games and other co-curricular activities. It would be however, desirable that post graduate programmes are offered in the campus so that the students can pursue higher education this college itself. The PG programmes in the emerging areas viz., Agri-business Management, Floriculture and Landscape Architecture, Environmental Sciences, Soil Biology and Ecology, Wasteland Management, Integrated Production Systems Management, Biotechnology, Crop Physiology, with an eye on the employment generation and to promote entrepreneurship should be started in this college. The college library needs to be strengthened and the ARIS network needs further expansion by linking to the Central library and libraries of other institutions to enable them to have better access to more learning resources.

5. FACULTY

5.1 CLASSIFICATION OF FACULTY

The Associate Dean is the Head of the College. The faculty consists of Professors, Associate Professors and Assistant Professors working in the various departments of the college. Besides their normal duties of teaching, research and extension the Academic staff serve in other capacities

- Academic Cell in-charge
- Instructional Farm in-charge
- Library in-charge
- National Service Scheme Program co-ordinator
- Staff Advisors to students Union and its constituent clubs
- Central Instruments lab in-charge
- Career Development Cell in-charge
- Office bearers of Parent-Teachers Association
- Vehicles in-charge
- Computer Cell in-charge
- Nodal Officer of ARIS & Network Administrator
- Assistant Warden (Men's and Ladies Hostel)

Table 5.1 Existing faculty strength of the College

Department	Number of Faculty		
	Professor	Assoc. Prof.	Asst. Prof.
1. Agronomy	-	-	3
2.Horticulture	-	1	2
3.Biotechnology	-	-	1
4.Soil Science & Agrl. Chem.	-	-	1
5.Entomology	-	-	3
6.Pathology	-	-	1
7.Plant Breeding & Genetics	-	1	2
8.Plant Physiology	-	-	1
9.Agrl.Economics	-	2	-
10.Agrl.Extension	-	1	1
11.Agrl.Engineering	-	-	1
12.Agrl. Statistics	1	-	-
13.Computer Science	-	-	-
14.Physical Education	-	1	-
15.Home Science	-	-	1
16.Animal Husbandry	-	-	-
17.Agrl.Meteorology	-	-	-
Total	1	6	17

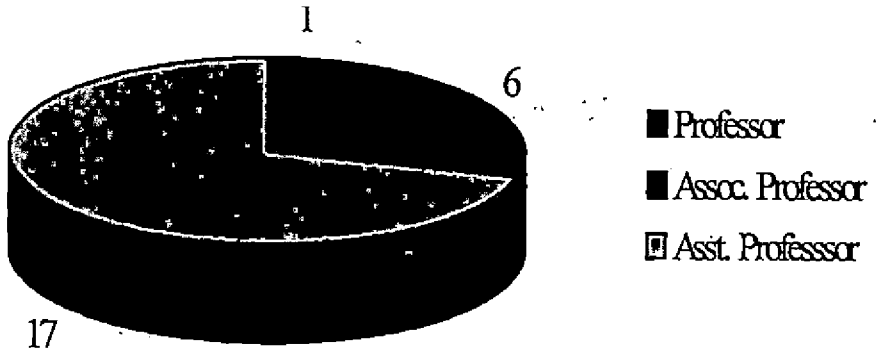


Fig 5.1 Faculty strength

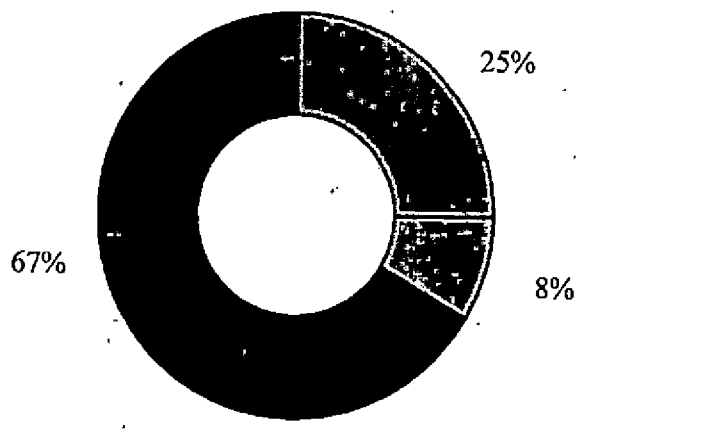


Fig. 5.2 Place of acquiring highest degree by faculty

5.2 PROFILE OF ACADEMIC STAFF

The faculty consists of a set of highly qualified and dedicated teachers. Nearly 58 per cent of the staff are Doctorate degree holders.

Table 5.2 Academic credentials of faculty

Department	Name	Designation	Qualification and institution of acquiring		
			B.Sc.	M.Sc.	Ph.D.
Agronomy	Dr.Jacob John	A. P	KAU	KAU	KAU
-do-	Ratheesh P.K.	.A.P.	KAU	KAU	-
-do-	Sheeba Rebecca Isaac	A.P	KAU	KAU	-
Plant Breeding	Dr.P.C.Balakrishnan	A P	KAU	KAU	TNAU
-do-	Abida P.S.	A.P	KAU	UAS	-
-do-	R.Sujatha	A.P	KAU	KAU	-
-do-	Dr.Jiji Joseph	A.P	KAU	KAU	TNAU
Agricultural Economics	Dr.U.Ramachandran	Assoc Dean-i/c	Calicut Unvsty	Mysore Uvty	Mysore Uvty
-do-	Dr.Latha Bastine	Asc.P	KAU	KAU	TNAU
Plant Pathology	Joy M.,	A.P	KAU	TNAU	-
Horticulture	Dr.A.Rajagopalan	Asc.P	KAU	KAU	TNAU
-do-	Dr.K.N.Satheeshan	A.P (Sr.Gr)	KAU	KAU	KAU
-do-	Ancy Joseph	A P	KAU	KAU	-
Home Science	DR.P.V.Nandini	A.P (Sr.Gr)	Kerala Unvsty.	Kerala Unvsty.	KAU
Engineering	Mini P.K.	A.P	KAU	KAU	-
Soil Science	Dr.P.R.Suresh	A.P	KAU	KAU	IARI
Agricultural Extension	Dr.K.Abdul Kareem	Asc P	KAU	KAU	UAS
-do-	Dr.A.Anilkumar	A.P	KAU	KAU	IARI
Entomology	Dr.Sreekumar K.M.	A.P.	KAU	KAU	IARI
-do-	Dr.D.V.S.Kumar	A.P	APAU	APAU	IARI
-do-	Dr.G.K.Mahapatro	A.P	OUAT	OUAT	IARI
Agrl. Statistics	Smt.P.R,Krishna Kumari	Prof.	Kerala Unvsty	Kerala Unvsty	-
Biotechnology	Smt.Swapna Enose	A.P	CUSAT	CUSAT	-
Physical Education	Smt.Sucy V.John*	Asc.P	NCPE, Jhansi	NCPE, Jhansi	-

A.P Assistant professor Asc.P Associate Professor

*Qualifications are B.PE & M.PE

Table 5.3. Academic qualification of the faculty

Department	Ph.D	% of total	M.Sc.	% of total
1.Agronomy	1	33	2	67
2.Horticulture	2	67	1	33
3.Biotechnology		-	1	100
4.Soil Science & Agricultural	1	100	-	-
Chemistry	3	100	-	-
5.Entomology	-	-	1	100
6.Pathology	2	33	1	67
7.Plant Breeding & Genetics	-	-	1	100
8.Plant Physiology	2	100	-	-
9.Agrl. Economics	2	100	-	-
10.Agrl.Extension	-	-	1	100
11.Agrl.Engineering	-	-	1	100
12.Agrl.Statistics	-	-	-	-
13.Computer science	-	-	1	100
14.Physical Education	1	100	0	-
15.Home Science				
Total	14	58	10	42

Table 5.4 Distribution of time of the faculty for various duties

Name of the teaching staff	Designation	Percentage of time allotted			
		Research	Teaching	Extension	Administration & others
Smt.Sujatha R.	Assistant Professor (Plt Breeding & genetics	0	60	10	30
Dr.Jacob John	Assistant Professor (Agronomy)	10	75	10	5
Dr.C.Nirmala	Assistant Professor Sr.Scale (Home Science)	20	65	10	5
Smt. Sheeba R.I.	Assistant Professor (Agronomy)	0	85	15	0
Dr.P.R.Suresh	Assistant Professor (Soil Science)	10	75	5	10
Sri.Retheesh P.K.	Assistant Professor (Agronomy)	0	50	25	25
P.R.Krishna Kumari	Professor (Agrl. Statistics)	20	80	0	0
Dr.A.Anil Kumar	Assistant Professor Sr. Scale (Agrl. Extn)	10	75	15	0

Dr.U.Ramachandran	Associate Dean (i/c)	5	25	5	65
Dr.Latha Bastine	Associate Professor (Agrl. Economics)	40	45	10	5
Dr.P.C.Balakrishnan	Associate Professor (Plant Breeding & Genetics)	10	70	10	10
Dr.A.Rajagopalan	Associate Professor (Hort)	10	40	30	20
Smt.Ancy Joseph	Assistant Professor (Hort)	5	70	10	15
Dr.K.N.Satheeshan	Assistant Professor Sr.Scale (Hort)	15	50	20	15
Dr.G.K.Mahapatro	Assistant Professor (Entomology)	10	70	10	10
Smt.Mini P.K.	Assistant Professor (Agrl. Engg)	0	70	10	20
Dr.K.M.Sreekumar	Assistant Professor (Entomology)	5	70	20	5
Smt. Abida P.S.	Assistant Professor (Plant Physiology)	10	75	5	10
Sri.Joy M.	Assistant Professor (Plt. Pathology)	10	50	30	10
Dr.Jiji Joseph	Assistant Professor (Plant Breeding & Genetics)	0	80	10	10
Dr.Abdul Kareem	Associate Professor (Agrl. Extn.)	15	60	20	5
Dr.D.V.Sairam Kumar	Assistant Professor (Entomology)	5	65	20	10
Smt. Sucy V.John	Assciate Professor (Physical education	0	--75	0	25

5.3 PROCEDURE FOR RECRUITMENT

- The University in accordance with existing statutes and ICAR norms appoints permanent staff.

- For provisional hands, the list of candidates with desired qualification is sought from the professional employment exchange. On receiving the list an interview is conducted after constituting a selection committee in consultation with the University. The personnel selected is appointed for a term of 179 days or till regular hand joins whichever is earlier.

5.4 COMPENSATION PACKAGE

The compensation package of the faculty, administrative and supporting staff, farm staff and labour force is in accordance with the decisions/rules of the Kerala Agricultural University.

5.5 FACULTY RESEARCH AND SCHOLARSHIP POLICY

5.5.1 Faculty research

The faculty members undertake research work either alone or in association with faculty of other institutions under KAU or with the State department of Agriculture. Certain projects have been already completed. Many have submitted project proposals to various external-funding agencies. Some of the proposals have been sanctioned and work has been initiated.

Table 5.5. Details of external aided research projects (1999-2000)

Total number	Amount (Rs.)	Funding agencies
3	13.40 lakhs	ICAR (2) STED (1)

5.5.2 Faculty training

Teachers will be given opportunity for acquiring Ph.D. and Post Doctoral qualification through deputation, study leave etc. Opportunity for participating in Summer/Winter/Short courses, management development programmes and other training courses at national and international levels will be given to teachers according to their area of interest and specialization and also in the fields of further requirement of the College and University.

Table 5.6 Faculty Training and development Programme

Department	Number attended				
	Refresher course/ summer &winter course	Study leave	Sabbatical leave	Workshop/ Seminar/ Symposium	International symposium or foreign visits
Agronomy	2	-	-	6	3
Entomology	2	-	-	10	4
Soil Science & Agrl. Chemistry	2	-	-	-	-
Horticulture	1	-	-	-	-
Biotechnology	1	-	-	-	-
Agrl. Economics	2	-	-	-	-
Agrl. Extn.	1	-	-	1	1
Agrl. Engg.	1	-	-	1	-

5.6 STRENGTH AND FUTURE NEEDS

The academic excellence and dedication of the faculty is reflected in the overwhelming and exceptional performance of the students of this College trained under their guidance both while studying in the University and after passing out. However, certain advancements in the fields of teaching, research and extension would aid in the professional development of the faculty and the college as a whole.

5.6.1 Teaching

Post-graduate courses in the major disciplines namely, Agronomy, Plant Pathology, Agricultural Economics, Soil Sciences and Agricultural Chemistry, Plant Breeding and Genetics, Horticulture, Agricultural Extensions and Agricultural Entomology are to be offered in this College so as to enable professional development of the faculty. Pg programmes on certain special topics can also be started in this college viz., Seed technology, Agri-business Management, Floriculture and Landscape Architecture, Environmental Sciences, Soil Biology and Ecology, Wasteland Management, Integrated Production Systems Management, Biotechnology and Crop Physiology.

5.6.2 Research

Besides the post-graduate research mentioned in the above areas, problem-oriented research in the following areas is proposed.

- Control of root-grubs in coconut and other crops with emphasis on biological methods.
- Pesticide residues in plantation crop, especially export-oriented crops.
- Management of *Phytophthora* diseases of plantation crops
- Presently, biotechnology research in agriculture is focussed on crop improvement through development of trans-genic materials, tissue culture and other similar propagation methods. While these approaches are aimed at developing and multiplication of the whole plant systems, it also appears to be feasible to develop methods for mass scale production of specific plant parts (e.g. coconut kernel, mango fruits, cashew nut kernel etc.) of economic importance or used for edible purposes.

- Evolution of dwarf coconut varieties/hybrids with desirable nut characteristics of tall varieties in view of the shortage of climbers for coconut harvesting.

- Development of chemical and physiological methods for dwarfing coconut palm (as an alternative to the development of dwarf varieties proposed above.)

- Development of software and hardware for computer-aided automation system in farm husbandry in collaboration with the computer firms and allied industries.

- Development of expert systems in farm management in collaboration with computer firms.

5.6.3 Extension

- ***Establishment of an Agricultural Entrepreneurship Development Training Centre***

  Dearth of rural entrepreneurs is a critical problem in our country. For various reasons entrepreneurs do not spontaneously respond to available agri-business opportunities despite the various incentives, schemes and programmes to promote and assist them. An effective mechanism, therefore; is to be developed to enlarge the pool of local entrepreneurs. Establishment of an 'Agricultural Entrepreneurship Development Training Centre' at the college of Agriculture, Padannakkad, is proposed in this context. This centre will conduct short-term training programmes for the benefit of the unemployed youth and school/higher secondary dropouts.

- ***Hybridisation and Nursery Management in coconut***

  At present, there is scarcity of quality planting materials of newly released varieties in spite of the heavy demand. The facilities available at the Governmental/ University farms are not adequate to produce enough seedlings to meet the ever-growing demands. The technologies for hybridisation and nursery management in coconut can be transferred to resource rich entrepreneurs who owns/can arrange at least 300 mother palms. This programme is expected to encourage and promote entrepreneurship in the production of high quality planting materials.

- ***Commercial floriculture***

  Commercial floriculture is an emerging area. The climatic conditions of Kerala are quite conducive for the cultivation of high value cut flower, such as orchids and anthurium. The green house technology for the cultivation of anthurium has been standardised. The cut flowers can be marketed locally or sold in metro-markets through agencies. The beneficiaries can be unemployed educated youths or housewives.

- ***Plant propagation techniques and establishment of commercial nurseries***

  There is immense scope of establishing certified nurseries in the villages. Educated rural youths can be trained in such activities. Nursery techniques in plantation crops have been developed. Beneficiaries may be selected from localities in which these crops are widely cultivated.

- ***Mushroom production***

  Cultivation of oyster mushroom (*Pleurotus sajor-caju*) in polybags and production of edible mushrooms for sale through markets or production of mushroom powder. Modified polybag technology using agricultural products and waste products such as straw, banana pseudostem, grass etc. can also be included.

  With increasing demand for spawn for mushroom cultivation, educated unemployed youth can be given training in setting up a mini- lab and procedures for production of mushroom spawn.

- ***Post harvest and processing technology***

  The post harvest loss of produces such as fruits and vegetables is to the tune of 30%. There are several fruits like jack, pineapple, cashew apple, papaya etc.; the bulk of which are unutilised, which can be processed for making various products. Procedures have already been standardised for home scale processing of fruits into products like jam, jelly, squash, ready-to-serve beverages, pickles, candies etc. These products can also be sold in local markets at reasonable prices than the factory-made foods. There is good scope for the unemployed youths and housewives to take up the entrepreneurship in home-scale processing of fruits.

These programmes also cover training in general aspects like skill development, farm management, book keeping and accounting, least-cost technology, formal and informal group formations, business principles, need for commercialisation of agriculture, trade/marketing procedures and other related issues including efficient land use and multiple cropping systems depending upon the requirement of enterprise.

- ***Participatory research and gender analysis technology***

  Ensuring the participation of users in the process of agricultural technology development should be an important strategic research issue, vital to achieving impact, which benefit poor people. Use participation in the early stages of development of technology design enables technologies to be adopted rapidly. Women are a particular important category of users. Gender analysis is therefore, crucial for ensuring women's special needs in technology development.

- ***Agro-clinics***

  To impart on-farm experience in diagnosis of problems related to pests and diseases, soil health and plant nutrition to students, it is proposed to organise ago-clinics in selected panchayats as part of the curriculum, in collaboration with the Department of Agriculture.

- ***Farm Advisory Services***

  This is another important area, wherein a lot of development is required. This programme involves close interaction among scientists, students and farmers relating to field problems and transfer of new agro-techniques. This programme will also open up avenues for consultancy services.

6. ACADEMIC PROGRAMMES AND AMENITIES

6.1 DEGREE PROGRAMMES OFFERED

Presently, the college offers only bachelor degree programme in Agriculture, B.Sc. (Ag.).

6.1.1 Admission procedure

The students are selected based on a common entrance test conducted by the Government of Kerala for admission to Professional courses. The qualification prescribed for writing the entrance examination is a pass in Pre-degree or equivalent courses with at least 50% marks.

6.1.2 Split up of seats

The intake strength of students fixed for 2001 is 29 and its distribution is as follows.

Table 6.1 Category wise split up of seats for B.Sc. (Ag) in the College during 2000 and 2001

Category	Number of seats	
	2000	2001
State Merit	15	10
Malabar	5	3
Ezhava	3	2
Muslim	2	1
OBC	2	1
SC/ST	3	2
ICAR	5	4
CA CO	1	1
CA CE	1	1
Andaman & Nicobar	1	1
Lakshadweep	2	2
Serving Defence	1	1
Total	41	29

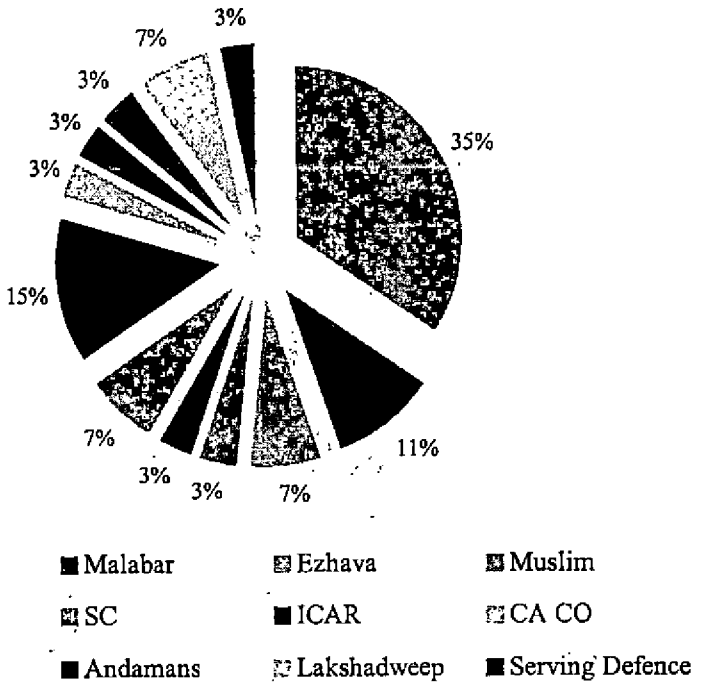


Fig 6.1 Distribution of seats for B.Sc. (Ag) course in the College (2001)

6.1.3 Qualification requirements

The minimum prescribed duration for this degree programme is eight semesters (i.e., four academic years), excluding the period of temporary discontinuance, if any. The maximum time limit permitted to complete the programme is 16 semesters including the period of discontinuance, if any. The last semester of the course is set apart exclusively for farm/field training viz., Rural Agricultural Work Experience Programme (RAWE). The minimum grade required for successful completion of a course offered by a department is 6.0/10 and overall grade point average required for successful completion of the B.Sc. (Ag.) programme is 7.0/10.

6.1.4 Curriculum offered in different departments

The course offered by the different departments of the college and their credit load is as follows.

Horticulture

Hort. 101.	Fundamentals of horticulture	1+1
Hort. 102.	Plantation.	2+1
Hort. 203	Fruit crops	2+1
Hort. 204	Vegetable crops	2+1

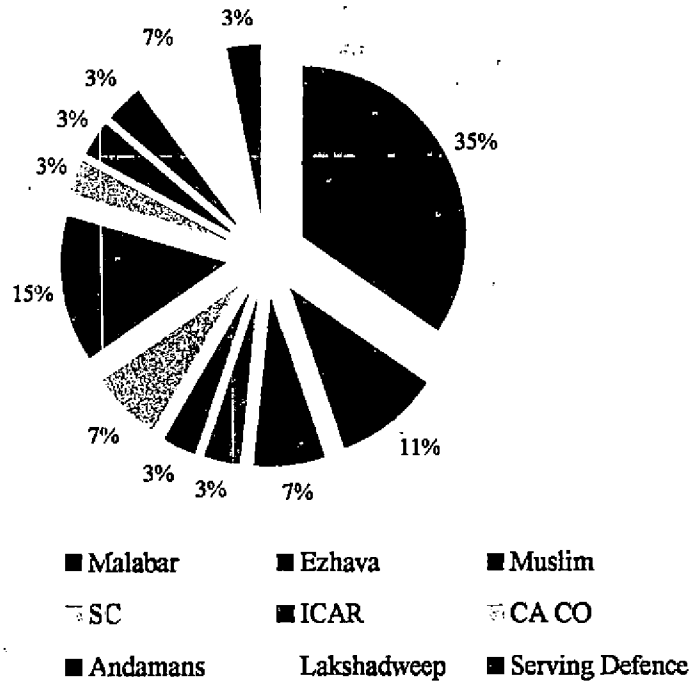


Fig 6.1 Distribution of seats for B.Sc. (Ag) course in the College (2001)

6.1.3 Qualification requirements

The minimum prescribed duration for this degree programme is eight semesters (i.e., four academic years), excluding the period of temporary discontinuance, if any. The maximum time limit permitted to complete the programme is 16 semesters including the period of discontinuance, if any. The last semester of the course is set apart exclusively for farm/field training viz., Rural Agricultural Work Experience Programme (RAWE). The minimum grade required for successful completion of a course offered by a department is 6.0/10 and overall grade point average required for successful completion of the B.Sc. (Ag.) programme is 7.0/10.

6.1.4 Curriculum offered in different departments

The course offered by the different departments of the college and their credit load is as follows.

Horticulture

Hort. 101.	Fundamentals of horticulture	1+1
Hort. 102.	Plantation	2+1
Hort. 203	Fruit crops	2+1
Hort. 204	Vegetable crops	2+1

Plate 6.1. Students undergoing work experience on biotechnology

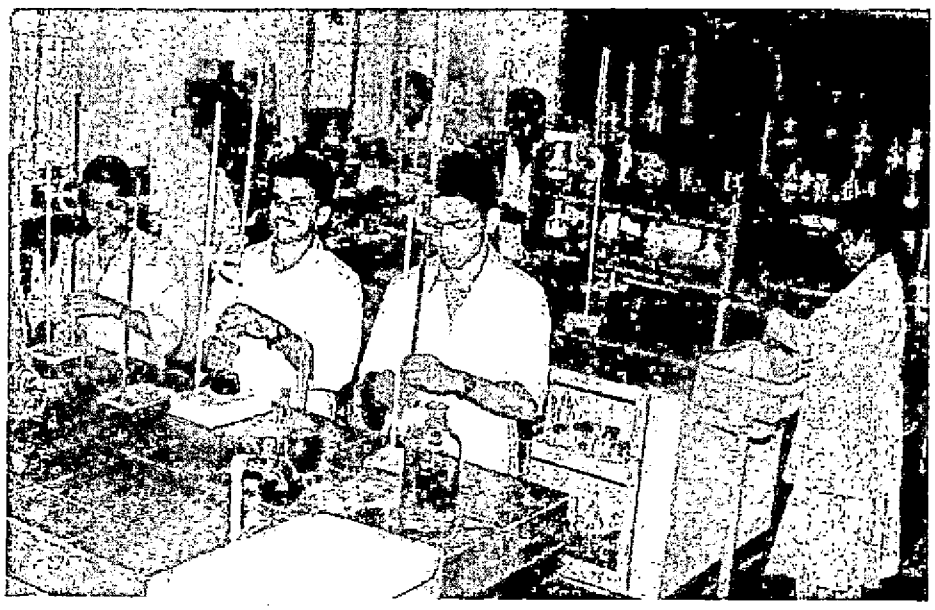


Plate 6.2. Students engaged in a practical class in Soil Science & Agrl. Chem Lab

Hort. 305	Spices	1+1
Hort. 306	Medical and aromatic plants	1+0
Hort. 307	Post-harvest handling and processing of horticultural crops	2+1
Hort. 408.	Landscaping and ornamental gardening	1+1
		12+7=19

Agronomy

Agro 101	Principles of agronomy	1+0
Agro. 101	Soil productivity and management	1+1
Agro. 103	Soil and water conservation	1+0
Agro. 104	Principles of weed management	1+1
Agro. 205	Water management	1+1
Agro. 206	Crop production I	1+1
Agro. 207	Crop Production II	1+1
Agro. 308	Crop Production III	1+1
Agro. 309	Crop production IV	1+1
Agro. 410	Cropping pattern and farming system	1+0
		10+7=17

Soil Science and Agricultural Chemistry

Chem. 101	Physical chemistry and biophysics	1+0
Chem. 102	Analytical chemistry	0+1
Chem. 103	Agrl. Biochemistry	2+1
Chem. 204	Basic soil science	2+1
Chem. 205	Soil fertility, soil-plant relationship and soil biology	2+1
Chem. 306	Manures and fertilizers	1+1
Chem. 307	Agrl. Chemicals and environmental pollution Management	1+1
Chem. 408	Chemistry of submerged and problem soils	1+0
		10+6=16

Agricultural Entomology

Ento. 101	Fundamentals of entomology	1+1
Ento. 202	Insect taxonomy and beneficial organisms	2+1
Ento. 203	Ecology and pest management	2+1
Ento. 304	Economic entomology I	2+1
Ento 305	Economic entomology II	1+1
Ento 406	Non-insect pests and their management	1+1
		9+6=15

Plant Pathology

Path. 101	Microbiology I	2+1
Path. 102	Microbiology II	1+1
Path. 203	Principles of plant pathology	2+0
Path. 204	Diseases of field crops, vegetables and ornamentals	2+1
Path. 305	Disease of plantation crops	2+1
Path. 306	Disease of fruit plants and post harvest technology	1+1
		10+5=15

Plant Breeding and Genetics

Plbr. 101	Morphology and systematics of crop plants	1+1
Plbr. 102	Anatomy, embryology and cytology	1+1
Plbr. 203	Principles of genetics	1+1
Plbr. 204	Methods of plant breeding	2+1
Plbr. 305	Breeding of crops and seed certification	2+1
		7+5=12

Agricultural Economics

Econ. 101	Principles of economics	2+0
Econ. 102	Agrl. Finance	1+1
Econ. 103	Agrl. Marketing	1+1
Econ. 304	Farm management economics	2+1
Econ. 305	Agrl. Business management	1+0
		7+3=10

Agricultural Extension

Extn. 101	Rural sociology	1+0
Extn. 102	Psychology and extension education	1=0
Extn. 203	Extension education and rural development	1+0
Extn. 304	Communication in agriculture	1+0
Extn 305	Extension Methods and Audio Visual aids	1+1
Extn. 406	Programme planning	1+1
Extn, 407	Agrl. Extension management	1+1
		7+3=10

Agricultural Engineering

Engg. 101	Irrigation & drainage engineering	1+1
Engg. 102	Agrl. Survey and structure	1+0
Engg. 403	Farm power and machinery and field Operation	2+1
		4+2=6

Plate 6.3. Practical Class in Plant Pathology

Plate 6.4. Students at the Central Instrument Lab

Agricultural Statistics

Stat. 101	Mathematics	1+0
Stat. 302	Statistical methods	1+1
Stat. 303	Design and analysis of experiments	1+1
		3+2=5

Animal Husbandry

Anhs. 301	Animal management and nutrition	1+1
Anhs. 302	Poultry, dairying and fisheries	1+1
		2+2=4

Plant Physiology

Crps. 201	Principles of crop physiology	2+1
Crps. 302	Growth and morphogenesis	1+0
		3+1=4

Agricultural Meteorology

Metg. 101	Agrl. Meteorology	1+1

Home Science

Hmsc. 101	Food and nutrition	1+1

Biotechnology

Biot. 201	Principles of biotechnology	1+0
Biot. 302	Molecular biology	1+0
		2+0=2

Computer Science

Comp. 101	Introduction to computer application	1+0

Physical Education

Phed. 101	Physical education I	0+1
Phed. 202	Physical education II	0+1
		0+2=2

Work Experience

WE Agro. 201	Rice	0+2
WE Agro.202	Pulses	0+1
WE Agro. 303	Tapioca	0+1
WE Hort. 101	Tree crops	0+1
WE Hort. 302	Plant propagation and nursery technique	0+1
WE Hort 303	Medicinal and Aromatic Plants	0+1
WE Hort. 304	Annual Horticultural crops & Processing	0+1
WE Chem. 401	Soil testing	0+1
WE Plpt 301	Plant protection I	0+1
WE Plpt. 402	Plant protection II	0+1
WE Comp. 101	Computer applications	0+2
WE. Met. 101	Agrl. Meteorology	0+1
WE Biot. 201	Biotechnology-I	0+1
WE Biot.. 302	Biotechnology-II	0+1
	Total	0+16=16

Study Tour

Stur. 201	Study tour I	0+1
Stur. 302	Study tour II	0+1

Field Training

Ftrg. 401	RAWE	0+8

Table 6.2 Abstract of credit load of B.Sc. (Ag.) programme

Department	Credits
Horticulture	12+7=19
Agronomy	10+7=17
Soil Science and Agrl. Chemistry	10+6=16
Agrl. Entomology	9+6= 15
Plant pathology	10+5=15
Plant Breeding and genetics	7+5=12
Agrl. Economics	7+3=10
Agrl. Extension	7+3=10
Agrl. Engineering	4+2=6
Agrl. Statistics	3+2=5
Animal Husbandry	2+2=4
Plant Physiology	3+1=4
Agrl. Meteorology	1+1=2
Home Science	1+1-2
Biotechnology	2+0=2
Computer Science	1+0=0
Total	140
Physical education	0+2=2
Work Experience	0+16=16
Study Tour	0+2=2
Field Training	0+8=8
Grand Total	168

Plate 6.5. Students undergoing work experience on rice

Plate 6.6. Student-farmer interaction during field visit

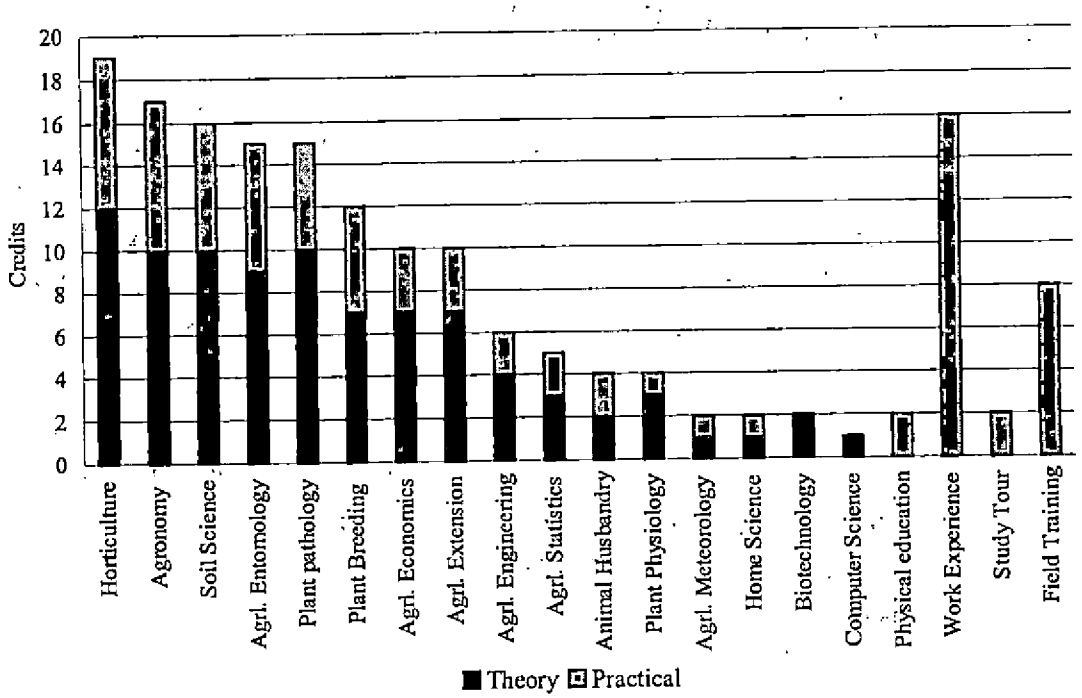


Fig. 6.2 Department wise credit load for B.Sc. (Ag)

6.2 CURRICULUM REVISION

The Board of studies and the Academic council of the University level revises and suggests modifications regarding the curriculum and mode of examination. Subsequently, the directions received from the Office of the Director (Academic) are followed.

6.3 MANAGEMENT OF PG PROGRAMMES

The college does not offer post graduate programmes at present.

6.4 BASIS FOR STARTING AND CLOSING OF ACADEMIC PROGRAMMES AND COLLEGES

The decision to establish the College of Agriculture at Padannakkad was taken after detailed discussions and considerations of its necessity at the Government and University levels. The main factors which have swung in its favour are the backwardness of the area, its peculiar agro-climatic conditions like highly skewed distribution of rainfall leading to prolonged drought, the existence of vast stretches of marginal lands and wastelands and peculiarities of cropping systems followed in the zone.

6.5 MECHANISM AND PROCEDURES FOR ASSESSING COMMUNITY TRAINING NEEDS

The faculty as part of their extension activities participates in several scientist-farmer interface programmes. In addition, the agroclinics serve as an important forum for interacting with the farmers and assessing the field related problems. Moreover, the field visits made as part of the agroclinics and practical lessons of the students give a realistic picture of the field related practical problems encountered by the farmers. The responses received from the farmers serve as basis for undertaking future extension programmes and preparation of publications. This also helps the faculty in planning need-based training programmes and suggesting to the Agricultural department topics that deserve immediate attention for inclusion in their training calendar.

6.6 EMERGING REQUIREMENTS

Post-graduate courses in the major disciplines namely, Agronomy, Plant Pathology, Agricultural Economics, Soil Sciences and Agricultural Chemistry, Plant Breeding and Genetics, Horticulture, Agricultural Extensions and Agricultural Entomology are to be offered in this College. Post graduate programmes on certain special topics can also be started in this college viz., Seed technology, Agri-business Management, Floriculture and Landscape Architecture, Environmental Sciences, Soil Biology and Ecology, Wasteland Management, Integrated Production Systems Management, Biotechnology and Crop Physiology.

7. LEARNING RESOURCES

7.1 LIBRARY FACILITIES

The College library situated on the top floor of the main academic block functions from 9.00 a.m. to 5.00 p.m. An independent staircase approaches the library above the classrooms, which facilitates the functioning of library during late hours while the other part of the building is closed. The inner organization of the library space is articulated in different levels to accommodate reading and stacking of books.

7.1.1 Funds for the library

The funds for the library are obtained from the KAU. The budget allocation and utilization during the previous years are as follows. The complete utilization of funds during the initial years was not possible due to certain technical and administrative encountered and standardization of purchase procedures at the University level. However, this has now been clarified and funds are utilized to the maximum received.

Table 7.1 Fund allotment and expenditure of College library (in lakhs)

Year	Budget	Expenditure
1997-98	5.75	2.206
1998-99	12.0	8.714
1999-2000	5.95	3.761

7.1.2 Number of books and periodicals

The library though in its developing stage has a collection of 1862 books and about 54 periodicals. The books currently present in the library have been catalogued using the *isis* software. It is loaded in the computer system placed in the library. In addition, videocassettes on various topics of relevance to agriculture are available in the library. The faculty, students and library personnel are using the computer facility. The library has a photocopier machine that is utilised by the staff and students. Since, the Central Plantation Crops Research Institute and RARS, Pilicode are situated near the college their library facilities are also being used. A limited collection of CD's are also available on certain selected topics and these are made available to the students and staff for viewing in the computer facility available in the library.

Table 7.2 Subject wise availability of books in the library

Sl.No.	Subject	Number of books
1.	Agronomy	242
2.	Agrl. Extension	21
3.	Agrl. Entomology	217
4.	Agrl. Economics	130
5.	Agrl. Engineering	51
6.	Agrl. Meteorology	34
7.	Botany	100
8.	Biotechnology	45
9.	Computer Science	52
10.	Chemistry	61
11.	Food Science	32
12.	Genetics	47
13.	Horticulture	141
14.	Mathematics & Statistics	23
15.	Plant Breeding	75
16.	Plant Pathology	195
17.	Soil Science	193
18.	Animal Husbandry	61
19.	Sociology	76
20.	General	66
Total		1862

Over and above this the library facilities of RARS, Pilicode are also utilized by the faculty and students. The books available as personal possession of the faculty are also provided to students for reference.

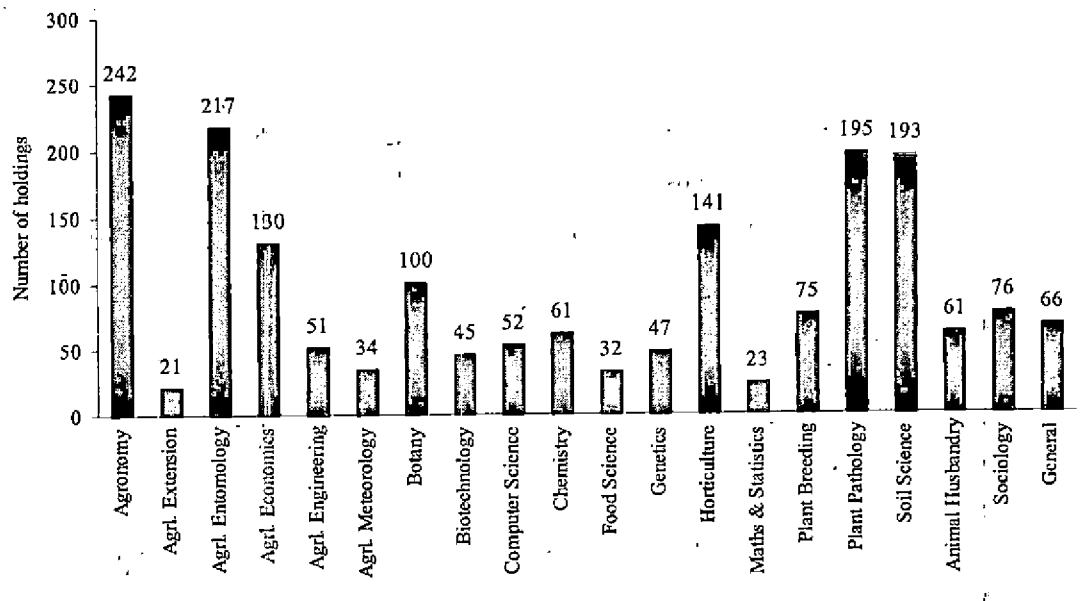


Fig.7.1 Subjectwise distribution of holdings in the College library

Plate 7.1. Students utilising the library facilities

Plate 7.2. Students making use of the computer cell

7.2 A.V. AND MEDIA SUPPORT

The audio-visual equipment and computer facilities available in the College are furnished below. One computer system is placed in the library along with a printer.

Table 7.3 Audio-visual equipment available in the College

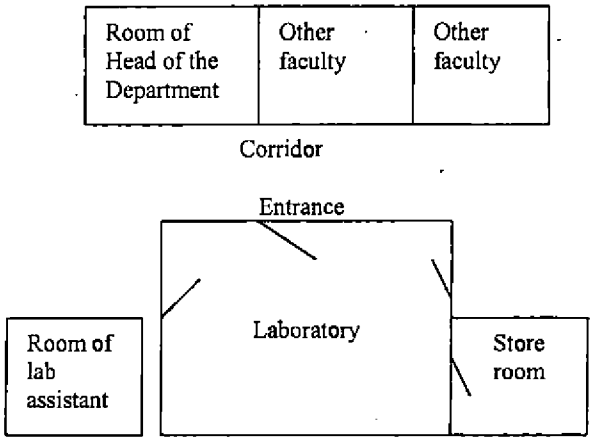
AV equipment	Number available
Microphone	2
Microphone stand	4
Tie microphone	2
Cordless microphone	1
Slide projector	2
Overhead projector	2
Television	1

Table 7.4 Computer and Peripherals available in the College

Number	Specification
2	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, 128 BIT SOUND CARD/MIC/2USB, SBS 20, SPKR/48 X IDE CDROM (one with e-mail/internet connection)
6	Celeron, 333 MHz, 32 MB RAM (2 systems with 16 MB RAM), 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor
5 printers	Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor. Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor. Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, SBS 20, SPKR/48 X IDE CDROM Printer DMP, 24 pin, 136 col, HQ-1040
Internet & e-mail	Connection through vsnl with modem 56 kbps

7.3 IMPROVEMENT OF LECTURE HALLS AND LABS

The existing layout of a typical department with laboratory facility is given below.



Certain lab equipment needs to be procured (list attached under 9.9). The existing classrooms, with a seating capacity of 40, can be improved if more audio-visual equipment is procured. Placement of overhead projectors in each classroom and a LCD projector in the seminar hall is necessary.

7.4 RAWE

As per the revised syllabus, the Field-training programme of B.Sc. (Ag.) students has been planned for one semester. A properly trained agricultural graduate should have a solid knowledge of the fundamental principles of the major areas of agriculture viz., Pathology, Entomology, Agronomy, Soil Science, Horticulture, Agrl. Economics, Plant Breeding etc. in relation to the production environment of crops and livestock. Considering this, the Field training programme of the B.Sc. (Ag) course has been revamped and designated as Rural Agricultural Work Experience (RAWE) programme. This programme forms an integral and essential part of the curriculum of B.Sc. (Ag.) course.

Objectives of RAWE

- To develop among the students an understanding of the rural community and the different situations prevailing in villages, with special reference to agriculture
- To help the students to get familiarity with the socio-economic conditions of the farmers and their problems with reference to agricultural development.
- To develop communication skills among students using extension teaching methods in transfer of technology.
- To make students understand agricultural technologies being followed by farmer and to prepare alternate farm plans to suit to the local situation in consultation with farmers.
- To develop confidence and competence in students for solving problems related to agriculture

Plate 7.3. Students in a classroom session

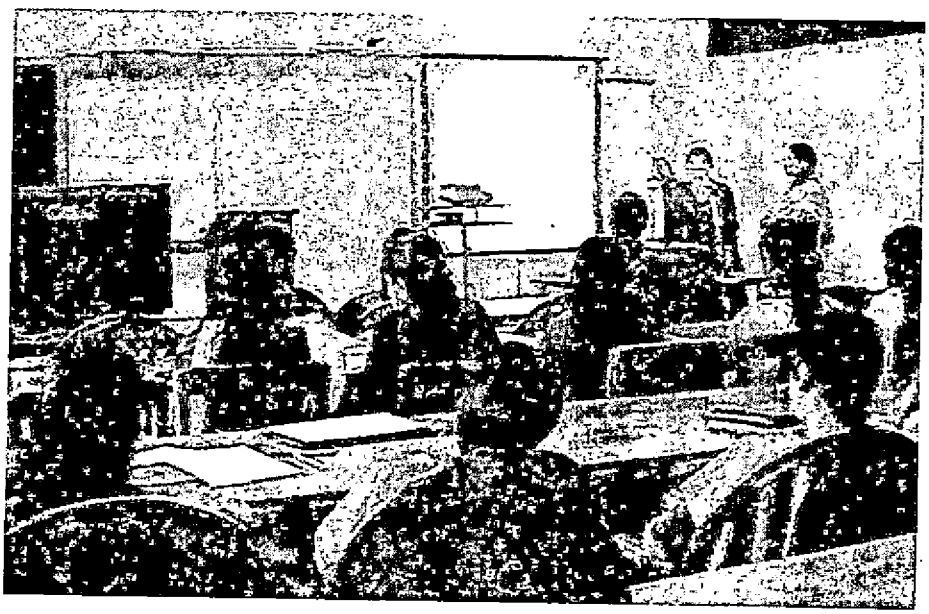


Plate 7.4. Students acquainting with the audio-visual facilities

Modules of RAWE and their Duration

Orientation and interaction session	1 week
Farm planning and watershed management analysis	3 weeks
Village stay programme and Panchayat level	2 weeks
Agro clinics	1 week
Experiential Learning of Non-Governmental Organisations activities	1 week
Training at Krishi Bhavan	1 week
Entrepreneurship Development Programme analysis	3 weeks
Training at Research Stations & Krishi Vigyan Kendras	2 weeks
Transit time	2 weeks
Interim evaluation and interaction	2 weeks
Preparation, Presentation, and Submission of reports and experience sharing in the presence of experts	3 weeks
Total	21 weeks

7.5 EARN WHILE YOU LEARN

An earn while you learn project on Sericulture has been initiated under the leadership of Dr.D.V.Sairam Kumar, Assistant Professor (Entomology) with the objectives of diversification of farming business, to make the students acquainted with silkworm rearing and to develop and promote self employment opportunities among the students.

7.6 EXHIBITION

The College has organized and conducted a few exhibitions under the leadership of the faculty of the agricultural extension department.

- Exhibition cum agricultural seminar at Chalakkadavu, Madikkai from April 11-14, 1994.
- Agricultural exhibition at Government High School, Kuttamath on 18-10-94.
- Agricultural Exhibition at Rajas High Scjhool, Nileswar from 20-30 January 1995.
- Agricultural exhibition at Bekal-Karippady, Muchilot from 20-27, January 1995.

- Exhibition cum agricultural seminar at Alakkode from 30-12-1994 to 01-01-1995.

7.7 NATIONAL SCIENCE DAY/FARMERS DAY

- A farm day was conducted in the College during the year 2000. The entire faculty, administrative staff, students, farm staff and labourers participated in the event. Various competitions were held and all categories jointly participated in the same.

- On June 5th 2001 (World Environment Day) a seminar on Endosulphan and its use in aerial spraying with special emphasis on aerial spraying in cashew plantation was held under the leadership of the faculty in collaboration with the Shasthra Sahitya Parishad in the college. Academicians, researchers, students, farmers and policy makers participated in the event.

7.8 DISPLAY SYSTEM-IN DIFFERENT DEPARTMENTS

Each department in the College has developed its own unique way of displaying items relevant to their subject that are useful both for students and the visiting farmers. The items displayed include charts, models, insect collections, seed collections, disease and insect infested crop specimens, samples of agrochemical etc. The display system adopted in some of the departments is furnished below.

- The Entomology division has developed its own museum in which various insect specimens, insecticide formulations, rat traps and charts related to various aspects of insect control are neatly displayed.

- The department of Plant Pathology has displayed specimens (wet and dry) of symptoms of pathogen attack in various crops and their parts. The division also maintains a fungal culture bank.

- The Agronomy division has displayed in its laboratory seeds of various field crops and their popular varieties, commonly used organic manures, inorganic fertilizers, biofertilizers and weedicides. Models of some of the water conserving irrigation methods (sprinkler, drip) and indigenous low cost irrigation methods (using hospital drip emitters) are exhibited. In addition, several charts are also available for viewing.

Plate 7.5. Students participating in agro-clinic as part of RAWE

Plate 7.6. Students interacting with farmers during RAWE

- The Plant Breeding & Genetics division has displayed various aspects of breeding in crops through wall charts.

- The Engineering division has a collection of different models related to water management, soil conservation and farm machinery in its lab.

7.9 PUBLICATION

Publications of books by teachers

Table 7.5 Publication of books by teachers

Department	Books authored	Books edited	Book chapters
Agronomy	-	-	1
Soil Science	3	-	2
Plant Breeding	-	-	1
Horticulture	-	-	1

7.10 STRENGTH AND SCOPE FOR IMPROVEMENT

Since the inception of the College in the year 1994 there has been great demand from the governmental and non-governmental organizations and the farmer public on the extension services of the college in conducting training programmes, seminars, exhibitions etc. In the above backdrop, it is proposed to establish a permanent agroclinic-cum-human resource development centre attached to the Department of Agricultural Extension with the following components.

- **Agro-clinic**: The programme purports to diagnose the field problems of the farmers by the students under the supervision and guidance of multi-disciplinary team of teachers once in every fortnight on a fixed day. It will serve as a training ground for the students to aquaint with field problems and improve their diagnostic and public relation skills.

- **Training:** It is proposed to conduct non-stipendary training programme in crop production technologies, post harvest technologies, crop protection, and personnel management using participatory/experiential mode. The programme as far as possible will be conducted in tandem with other organizations. The faculty resources available at the college and the Regional Agrl. Research Station, Pilicode can be utilized for handling the sessions.

- **Information centre**: The centre aims at providing easy access to farm related information and information sources of KAU. It can serve as a mini satellite of the Directorate of Extension in the northern region.

- **Museum**: It is proposed to establish an educational museum as part of the centre consisting of several items of interest to farmers such as specimens of pests and diseases, new varieties of crops, objects, models, graphs, charts, farm machinery etc.

Plate 7.7. Dr.A.M.Michael, former Vice-Chancellor and architect of the college inaugurated an agri-exhibition organised as a part of technology transfer

Plate 7.8. Display system in Entomology department museum

8. RESEARCH AND COMMUNITY SERVICES

8.1 RESEARCH STATIONS AT A GLANCE

One of the important criteria, which determined the establishment of the College initially at Nileshwar-Pilicode, was the existence of a well-established Regional Agricultural Research Station at Pilicode.

- This station is reputed for its research on coconut. Introduction of coconut cultivars from different parts of India and other countries, election, hybridization, identification of superior varieties and their distribution among farmers were the major activities of this centre prior to the implementation of National Agricultural Research Project (NARP) in 1980.

- Besides coconut, research on rice, black pepper, vegetables, oilseeds, pulses and tubers was also initiated.

- Under the NARP, the RARS (Northern Zone) has taken up both research and extension programmes and served as the lead centre for research on coconut, as commodity verification and testing centre for rice, pulses and oil seeds and as the centre to supervise and guide the work at Pepper Research Station, Panniyur.

- The scientists of the RARS work in close collaboration with the officials of the Department of Agriculture, Kerala and farmers of selected villages to understand farmer's problems and reactions towards adopting recommended agrotechnologies and practices.

- It was also mandatory on the part of the RARS to test and evaluate the promising experimental results in farmers' fields under different soil and climatic conditions before their inclusion in the package of practices recommendations.

8.1.1 Funding for research

The funds for undertaking various research programmes in the College are currently received from the KAU, ICAR, STED (Science, Technology and Environment Department, Government of Kerala), Agricultural Department .

8.2 PROBLEM IDENTIFICATION

Based on the problems identified it is felt that problem-oriented research in the following areas need to be undertaken.

- Control of root-grubs in coconut and other crops with emphasis on biological methods.
- Pesticide residues in plantation crop, especially export-oriented crops.
- Management of *Phytophthora* diseases of plantation crops.
- Presently, biotechnology research in agriculture is focussed on crop improvement through development of trans-genic materials, tissue culture and other similar propagation methods. While these approaches are aimed at developing and multiplication of the whole plant systems, it also appears to be feasible to develop methods for mass scale production of specific plant parts (e.g. coconut kernel, mango fruits, cashew nut kernel etc.) of economic importance or used for edible purposes.
- Evolution of dwarf coconut varieties/hybrids with desirable nut characteristics of tall varieties in view of the shortage of climbers for coconut harvesting.
- Development of chemical and physiological methods for dwarfing coconut palm (as an alternative to the development of dwarf varieties proposed above.)
- Development of software and hardware for computer-aided automation system in farm husbandry in collaboration with the computer firms and allied industries.

8.3 NATP

The faculty members have submitted various project proposals for funding under the Production System Research mode and Competitive Grant Programme. The research proposals that have been already approved are

- An NATP project entitled "Analysis and development of homestead farms of Kerala-A farmer participatory approach" (under production system research mode-coastal agro ecosystem) with a budget outlay of

Rs.86.64 lakhs for a period of three years has been sanctioned. The amount allotted for this centre is Rs.15.02 lakhs.

- An NATP project entitled "Standardization of extraction and preservation techniques of palm sap (toddy) from Coconut (***Cocos nucifera L.)***" has been sanctioned in the CGP mode at RARS, Pilicode with a total budget outlay of Rs.10.7817 lakhs. Several faculty members of this College are co-PI's.

8.4 ARIS

Subsequent to the direction received from the Director of Research, KAU, Dr. Jacob John, Assistant Professor (Agronomy) of this College was nominated as the Network Administrator and Nodal Officer of ARIS Cell and Dr. P.R.Suresh, Asst. Professor (Soil Science and Agricultural Chemistry) was nominated as the second Nodal Officer. Network cabling and layout of UTP points with I/O boxes have been completed in our College. Racks to house the two hubs have also been fixed. There are 65 UTP points in the College. The locations of these points are as follows

Table 8.1 Network coverage under the ARIS

Location	Number of points
ARIS room	21
Computer Cell	8
Associate Dean	1
Steno to Associate Dean	1
Academic Cell	1
Library	3
Conference Hall	1
Audiovisual lab	1
Classrooms	6
Auditorium	1
Central Instrumentation lab	2
Agronomy	1
Soil Science & Agrl. Chemistry	1
Entomology	1
Pathology	1
Extension	1
Engineering	1
Horticulture	1
Biotech	1
Plant Breeding	1
Economics	1
Administrative Office	4
Statistics	1
Cash section	1
Front lobby pillar	1
Nodal Officers	2
Total	65

In the proposal given from our College initially, the two hostels, Physical Education Department and Instructional Farm were included. However, it was informed that the cable currently supplied is not suitable for lavout to such distant points.

At present, we have an Internet connection provided by VSNL through DOT, Kannur. Our e-mail address is kaupad@vsnl.com and the present account is for 250 hours. At present, we are able to establish connection with a speed up to 48000 bps.

8.5 SALES COUNTER

The Instructional Farm of the College has a sales outlet through which various planting materials are sold. The items sold are

- **Seedlings/Seed nuts/grafts**: Coconut hybrid seedlings, Coconut WCT seedlings, Coconut hybrid seed nut, coconut WCT seed nut, cashew graft, mango graft, arecanut seedlings, banana sucker, guava layer, bush pepper, star apple, pomegranate layer, pepper rooted cutting, moringa seedlings.

- **Vegetable seeds**: Ash gourd, Amaranthus, Bhindi, Brinjal, Bitter gourd, Chilly, Cowpea, Pumpkin, Snake gourd, Ridge gourd.

- **Ornamental plants**: Lawn grass, *Coleus, Dianthus, Maranda, Hibiscus, Phyllanthus, Calathea, Acalypha, Agave,* Ferns, *Dracaena, Heliconia,* Silver grass, *Croton,* Rose, *Pentas, Begonia, Hydrangea, Ixora, Thuja,* Cactus, *Chrysanthemum, Bougainvilla, Dieffenbachia, Cassia.*

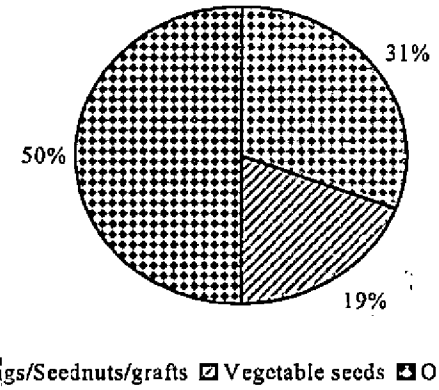


Fig 8.1. Items sold from the sales outlet of the Instructional Farm

8.6 ALL INDIA RADIO PROGRAMMES

The faculty members have delivered talks and interviews on various topics related to their respective field of specialization and relevant to the farmers and public.

Table 8.2 All India Radio programmes of the faculty

Department	Number
Agronomy	3
Plant Breeding & Genetics	16
Plant Physiology	2
Horticulture	10
Soil Science & Agrl. Chemistry	5
Agrl. Extension	2
Agrl. Entomology	2
Plant Pathology	2

8.7 PUBLICATION FOR FARMERS

The faculty members have published popular articles for farmers on various aspects of agriculture.

Table 8.3 Publication for farmers by the faculty

Department	Number of publications
Agronomy	26
Plant Breeding & Genetics	17
Horticulture	16
Soil Science & Agrl. Chemistry	2
Agrl. Extension	1
Plant Pathology	1

9. PHYSICAL FACILITIES

9.1 INFRASTRUCTURE

Central Public Works Department was entrusted with the task of planning, designing and construction of the College of Agriculture campus at Nileshwar. The design concepts of the buildings and the proposals were examined in detail by a high level committee of the University and the University approved the proposal. The Campus includes an Academic cum Administrative Block, hostels for men and women, residential quarters for Associate Dean, Assistant Wardens, faculty members, and other staff. Besides these, basketball courts, volleyball courts and stadium are also present. The construction of faculty residential quarters has been initiated and is nearing completion.

- The Academic cum Administrative Block being the main building is located in the front facing the National Highway.

- The Seminar Hall/Auditorium is located at the rear block from where it can function independently despite being an integral part of the main building.

- The hostels are placed at equi-distance from the main block. The men's hostel is located on the northwestern side and the women's hostel is situated on the southeastern side. Both the hostels are planned and designed in such a way that they have nice landscaped courtyards in front of the entrance and the service area to the mess is independent but part of the cluster.

- Associate Dean's residence is located close to the main building on the southeastern side with its won privacy. Assistant Warden's quarters are placed near to the Associate Dean's residence.

- The existing roads were retained while planning the general layout. Care has been taken to have the least combination of vehicular and pedestrian pathways and minimum destruction of the trees.

- The football ground and athletic tracks are placed along north-south axis in the vacant space available at southeastern side of the campus.

- The areas behind the main building and men's hostel is demarcated for future expansion of campus.

- The Academic cum Administrative Block building being the focal point of activity, is designed to dominate the other buildings by its sheer size and location. It also blends in harmony with the surrounding landscape. The entrance lobby with a helical grand staircase is at the core of the three wings. Smooth transition from lush green outdoor space to indoor space is effected by landscaped semi-enclosed areas. Entrance porch is well protected against rain. The pergola at roof level near the entrance provides additional semi-transparent cover adding grandeur.

- The basic requirements of academic activity are broadly classified into 12 groups and placed suitably in ground and first floors of three interlocking wings in the front. Each group consists of one laboratory along with rooms for one Professor, one Associate Professor, two Assistant Professors and one Instructor. Toilets are centralized to have easy access. The Administrative Office is kept in the first floor above the entrance, to keep away from disturbance but at the same time permitting easy accessibility. Associate Deans' Chamber is well placed in the first floor in a projected bay.

- The class rooms and seminar hall are grouped together in a separate block and placed on the rear side, equi-distance from the rest of the building, at the same time away from the busy national highway to avoid noise. An independent staircase approach the library above the classrooms and the inner organization of the library space is articulated in different levels to accommodate reading and stacking of books. The independent staircase will facilitate the functioning of library during late hours, while the other part of the building is closed. Parking space is provided in front of the building for the visitors.

- The Guest rooms, part of the hostel block, located at one end of longer wing, has its own entry to facilitate independent functioning. The interior design of the health care is all the more important in a campus like this which is situated in a backward area and far away from major hospital facilities.

9.2 FARMS

Instructional Farm at Padannakkad has an area of 27.23 ha with a stand of over 3700 coconut palms and several mango trees. A beautiful pond (Theerthamkara pond) with an area of 4.2 ha is available at the

Instructional Farm, Padannakkad. Farm office building, fertilizer and manure store, sheds for farm machinery and implements, waiting shed for labourers are to be constructed. The existing irrigation system laid out with GI pipes is very old (30 years) as most of the pipes have become rusty and have leaks at several points. There is one old overhead tank with a capacity of 50000 litres. Now it is used for supplying drinking water to the staff residential area. The present source of irrigation water is from six filter points.

9.3 BUILDINGS

There are three main buildings in the College campus. The main building is the Academic block that consists of classrooms, auditorium, library and administrative office. The other two buildings are the Ladies and Men's Hostels. In addition, there is a separate canteen building and a farm office. The flats for the faculty and other staff members are nearing completion.

Table 9.1 Buildings and facilities in the College

Infrastructure	No. of Units Available	Area (sq.m)	Capacity (number of persons)
Administrative Offices	1 unit	628	20
Class room and laboratory facility	6+12	2500	40 in classrooms & 20 each in labs
Library	1 unit	394	70
Housing for faculty	5 nos.	400	5
Boys Hostel (50 rooms)	1	2475	100 with guestroom facility for 8 persons
Girls Hostel (50 rooms)	1	2475	100 with guestroom facility for 8 persons
Guest house (3 rooms)	1	125	6
Canteen	1	60	30
Auditorium	1	700	250

9.4 FARM MACHINERY

During the past five years, very few machinery has been purchased for the Instructional Farm of the College.

Table 9.2 Farm machinery purchased during last five years

Sl. No.	Equipment	Quantity
1.	Greaves Engine pumpset	1
2.	Power tiller & accessories	1
3.	Crompton Greaves Motor & Pumpset	1

9.5 LAND

The College campus and part of the instructional farm attached to it are situated in Kanhangad Muncipality while the southern block of the farm comes under the Nileswar block. The entire College campus and Farm, with an area of 27.228 ha is divided into various numbered blocks (Fig. 13).

Table 9.3 Details of land under the College jurisdiction

Block No.	Area (ha)
I	2.023
II	2.023
III	2.023
IV	2.023
V A	0.528
V B	0.817
VI A	1.293
VI B	0.528
VII A	0.865
VII B	0.870
VII C	0.465
VII D	0.469
VIII A	1.028
VIII B	0.995
IX	0.477
X A	0.655
X B	0.753
XI	0.540
XII	3.965
XIII A & B	2.644
XIV	1.435
XV	0.809
Total	27.228

9.6 TRANSPORT

Besides a staff car, the college has at present only one 50-seater bus.

9.7 POWER SUPPLY

We have a 300 KVA substation installed for the College building, hostels and farm office.

9.8 SCIENTIFIC EQUIPMENT

Scientific equipment has been purchased based on the proposal received from each department and availability of funds. Since, the college is in its initial developing stage very little equipment has been purchased.

Table 9.4 List of equipment available in different departments of the College

Sl. No.	Equipment	Division	No.
1.	Hot air oven	Soil Science	1
2.	Conductivity bridge	Soil Science	1
3.	Variable volume disperser 10-50 ml	Soil Science	1
4.	Variable volume disperser 5-25 ml	Soil Science	1
5.	Variable volume disperser 5-10 ml	Soil Science	1
6.	Hot air oven 60x60x60	Soil Science	1
7.	Electronic balance (Mettler)	Soil Science	1
8.	Avery balance 2 kg with wts	Soil Science	1
9.	Constant voltage transformer (2 KVA)	Soil Science	1
10.	Refrigerator 310 lt capacity	Soil Science	1
11.	Wiley mill	Soil Science	1
12.	Avery balance electronic	Soil Science	1
13.	Electronic top balance 600 g	Soil Science	1
14.	Oven Memmert	Soil Science	1
15.	Vacuum pump	Soil Science	1
16.	Muffle furnace	Soil Science	1
17.	EPABX system	(CIL)Central Instruments lab	1
18.	Water cooler with uv filter	CIL	2
19.	Remi-Refrigerated centrifuge	CIL	1
20.	Flame photometer	CIL	1
21.	UPS (2 KVA)	CIL	1
22.	Electronic analytical balance	CIL	1
23.	UVvis spectrophotometer+PC+Printer	CIL	1
24.	Precision rotary microtome and knife	Plant Breeding	1
25.	Hot air oven (double walled)	Plant Breeding	1
26.	Microprocessor based electronic balance	Plant Breeding	1
27.	Distillation unit heater still (double)	Plant Breeding	1
28.	Willey mill	Agronomy	1
29.	Memmert oven	Agronomy	1
30.	Hot air oven	Horticulture	1
31.	Electronic balance	Horticulture	1
32.	Avery self indicating counter scale	Horticulture	1
33.	Water Cooler	Library	1

34.	Copier (MX 5216)	Library	1
35.	Copier (MX 5216)	Academic Cell	1
36.	Ahuja Amplifier (T2A 4000)	Physical Education	1
37.	Volleyball post	Physical Education	2
38.	Basketball board	Physical Education	2
39.	Portable heavy duty generator-2 KVA	Physical Education	1
40.	Electrical lawn mower	Physical Education	1
41.	Multi-gym (12 stations)	Physical Education	1
42.	Gymanstic mats	Physical Education	18
43.	Table tennis table	Physical Education	3
44.	Microscope	Plant Pathology	10
45.	Double distillation water still	Plant Pathology	1
46.	Vertical autoclave	Plant Pathology	1
47.	Horizontal laminar flow chamber	Plant Pathology	1
48.	Refrigerator with stabilizer	Plant Pathology	1
49.	Hot air oven	Plant Pathology	1
50.	Covered coil stove	Plant Pathology	1
51.	Mixer grinder	Plant Pathology	1
52.	Pressure cooker 20 l	Plant Pathology	1
53.	Gas stove	Plant Pathology	1
54.	Acupipette	Plant Pathology	3
55.	Stage micrometer	Plant Pathology	30
56.	Inclined monocular microscope	Plant Pathology	25
57.	Research microscope	Plant Pathology	1
58.	Nikon SLR camera	Plant Pathology	1
59.	Ocular micrometer	Plant Pathology	30
60.	LCD camera with 14" color monitor	Plant Pathology	1
61.	Digital camera	Plant Pathology	1
62.	Magnetic stirrer	Plant Pathology	1
63.	Water bath	Plant Pathology	1
64.	BOD incubator	Plant Pathology	1
65.	Electronic balance	Plant Pathology	1
66.	Voltage stabilizer	Plant Pathology	3
67.	CVT stabilizer 2KVA	Plant Pathology	1
68.	5 KVA stabilizer	Plant Pathology	1
69.	Dessicator,vacuum	Plant Pathology	1
70.	PA system (amplifier and 4 speakers)	Agrl. Extension	1/4
71.	Microphone	Agrl. Extension	2
72.	Microphone stand	Agrl. Extension	4
73.	Tie microphone	Agrl. Extension	2
74.	Cordless microphone	Agrl. Extension	1
75.	Slide projector	Agrl. Extension	2
76.	Overhead projector	Agrl. Extension	2
77.	Television	Agrl. Extension	1
78.	UPS 2 KVA	Computer Cell	2
79.	UPS (2 KVA)	Academic Cell	1
80.	UPS (2 KVA)	Admn. Office	1
81.	UPS (2 KVA)	Library	1

9.9 LIBRARY

The library is equipped with a personal computer with multimedia and CD-ROM attached to a dot matrix printer with uninterrupted power supply from 2 KVA UPS. The books available in the library have been catalogued using the *isis* software loaded in the system. The library also has a photocopier and a water cooler. Network cabling and lay out of I/O points has been completed in the room set apart for placing computers.

9.10 OFFICE EQUIPMENT

The office equipment available includes one Electronic typewriter (Model 1115 H), one Electronic typewriter (Model 100 H) and two Duplicating machines (Model 82 DX). The computer and peripherals available in the College are furnished below.

Table 9.5 Computers and peripherals available in the College

No. of terminals	Specification
2	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, 128 BIT SOUND CARD/MIC/2USB, SBS 20, SPKR/48 X IDE CDROM (one with e-mail/internet connection)
6	Celeron, 333 MHz, 32 MB RAM (2 systems with 16 MB RAM), 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor
5 printers	Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, SBS 20, SPKR/48 X IDE CDROM Printer DMP, 24 pin, 136 col, HQ-1040

9.11 STRENGTH AND SCOPE FOR IMPROVEMENT

Since the College is in its early developing stage very few equipment have been procured. However, though all the divisions have submitted proposal

for purchase of several equipments it has not materialized due to shortage of fund.

Improvements proposed include

- ***Renovation of Instructional farm and existing old buildings***: The existing layout of the south block of the farm along with the plan for newly proposed sales counter cum information centre is enclosed (Fig. 9.2). The existing extremely old irrigation system (30 years old) consisting of leaking and rusty GI pipes has to be replaced with PVC pipes. Only then can the farm be effectively used for the conduct of practical classes, Work Experience courses and other course-related programmes. It should be maintained under a separate establishment for its effective functioning. The farm also requires labour saving equipment, a tractor and a jeep.

- ***Strengthening and Maintenance of Theerthamkara Pond***: A beautiful pond (Theerthamkara pond) with an area of 4.2 ha. is available at the Instructional Farm, Padannakkad. The boundaries of the pond are to be strengthened by constructing laterite and concrete walls. This facility provides ample scope and potential for taking up projects on aquaculture and training programmes in fish culture. It also gives the much sought-after facility for launching research projects on management and other aspects of integrated production systems involving crop husbandry and fish culture. Roads are to be constructed connecting the pond with Instructional Farm for facilitating easy access and transport of the materials.

- ***Development of a Crop Museum***: It is important that a good collection of various crop species and latest varieties of crops is maintained at the Padannakkad Campus for educational purposes. This will help the students, extension personnel and farmers to enrich their knowledge of crops and to get familiarized with the crops and their cultivation practices.

- ***Establishment of Central Instrumentation Laboratory:*** The central facility that would cater to the analytical needs of every department is to be developed in the college. This facility is required for teaching and research purposes.

- ***Engineering Workshop***: In order to conduct the practical classes of courses in Agrl. Engineering, a well-equipped engineering workshop is

very much essential. It is also required for carrying out research work on development and design of farm machinery suitable to the northern region of Kerala. The workshop can also carry out the repair of pumpsets, tractor and other farm machinery/equipment, etc. A separate building for the workshop is to be constructed.

Faculty Club: A Faculty Club is a must in a backward area like Nileshwar for the recreational activities of the staff and their families. A faculty club building with facilities indoor games and cultural activities is needed.

Vehicle requirement: Jeep – 2; Car – 1; Mini bus cum field diagnostic laboratory– 1; Bus – 1; Power tiller – 1 and Tractor -1

Power supply: Standby diesel generator (50 KVA) needs to be installed to provide power supply to the laboratories, auditorium and hostels in case of power failures.

10. HUMAN RESOURCES

- The human resources consist of the Academic Staff, Administrative Staff, Supporting Staff, Technical Staff, Farm.Staff and labourers.

- The security staff is from private security firms who enter into contract with KAU and payment is made directly to the firm.

- The hostel mess employees are employed at the rate of one employee for every 20 students. There is a caretaker of the Men's Hostel and a Matron for the Ladies Hostel, both appointed on contract basis.

- The Family Benefit Scheme of the Government and the Welfare fund Scheme of KAU are in operation from which the nominees of an employee will get Rs.50000 from each scheme in case the employee dies while in service.

- Employment is provided to one successor of a deceased employee under the 'Dying in Harness' scheme. Residential quarters for the faculty and other staff are under construction and nearing completion.

- The sports and games facilities available in the campus are open to all. The faculty, students, administrative and supporting staff and labourers jointly organize and participate in various games and cultural programmes every year during the Onam festival. Similar functions and get-to-gethers are organized at different occasions.

11. FISCAL RESOURCES

11.1 BUDGET

The funds for the College come mainly through the Kerala Agricultural University, Grants from Government of Kerala, ICAR and Externally aided projects. Receipt from the Instructional Farm and Fee collection is the only sources of internal income..

Table 11.1 Expenditure details on salary of employees

Category	1996-97		1997-98		1998-99		1999-00	
	Amount (Rs.lakhs)	% of total	Amount (Rs.lakhs)	% of total	Amount (Rs.lakhs)	% of total	Amount (Rs.lakhs)	% of total
Scientists	15.73	23	18.41	11	27.93	20	28.60	19
Technical	7.97	12	9.22	5	11.39	8	13.30	9
Administrative	6.65	10	9.25	5	24.28	17	15.26	10
Labourers	13.2	19	14.88	9	13.04	9	11.88	8
Total	43.55	64	51.76	30	76.64	54	69.04	46

11.2 ACCOUNTING PROCEDURES

Accounts of the College of Agriculture are operated and maintained as per rules prescribed in the Kerala financial Code and Account Code of Government of Kerala. Instead of treasury payments University accounts are operated through State Bank of Travancore (SBT). The spending account and receipt account of the College is operated at SBT, Nileswar branch. Personal deposit account and Revolving fund account are also maintained. Separate cash books are maintained for each account. Monthly expenditure statements and receipt statements are forwarded to the Comptroller by 10th of the succeeding month. Annual Accounts are also prepared during April and forwarded to the Comptroller and Government Auditor. Preparation of bills, auditing, drawal of cheques, preparation of accounts and maintenance of all registers as per rules are maintained by the Accounts section of the College.

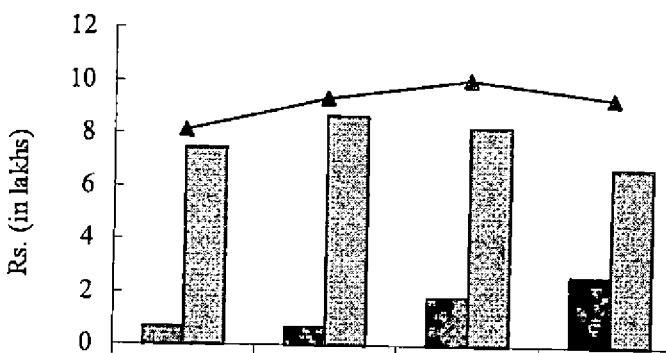
11.3 AUDIT

Internal Audit Circle of Kerala Agricultural University and Local fund audit wing of the Government of Kerala do the audit of accounts of the college.

	1996-97	1997-98	1998-99	1999-2000
Non Plan	0.16	57.02	68.88	0.7
Plan	69.219	59.62	91.203	137.092
ICAR	0	0	6.93	1.08

Non Plan Plan ICAR

Fig.11.1 Budget estimate of the College (1996-2000)



	1996-97	1997-98	1998-99	1999-2000
Fees	0.677	0.673	1.813	2.623
University property	7.447	8.669	8.228	6.713
Total	8.124	9.342	10.041	9.336

Fig 11.2 Income generated in the College (1996-2000)

The audit is conducted annually by a team of members under the supervision of Assistant Comptroller in the case of internal audit and Internal Audit Officer in the case of Local fund audit. In addition audit of accounts is also undertaken by the Accountant General of Kerala.

11.4 STRENGTH AND SCOPE FOR IMPROVEMENT

Despite the fact that this is a new College, we have been able to develop substantial facilities utilizing the funds received till now. However, more funds are required for further development. Moreover, in this short span after the start of this College we have been able to get some funding from external agencies. We are hopeful of getting more funds to flow in through the project proposals that have been submitted for external funding and are awaiting sanction.

12. INSTITUTIONAL ACCOMPLISHMENTS

12.1 LAND MARKS

- The following events indicate the major landmarks in the history of the College
- 03-06-1994: Special Officer for the new College of Agriculture joins.
- 16-11-1994: Course for first batch of students' starts
- 15-02-1995: Padannakkad (Nileshwar III) Farm of the Department of Agriculture taken over by K.A.U.
- 03-04-1996: Office of the Special Officer started at Padannakkad campus in an existing residential building
- 23-11-1996: Construction work of men's and women's hostels started.
- 04-12-1995: Courses for Second batch of students started.
- 12-12-1995: Associate Dean joins as the Head of the college
- 02-03-1996: Foundation stone for the Academic cum Administrative Block was laid by the then Hon'ble Chief Minister Mr. A.K. Antony.
- 02-03-1996: Formal inauguration of the college was carried out by the then Hon'ble Minister for Agriculture, Mr. P.P. Thankachan
- 08-04-1996: Construction work of Academic cum Administration Block of the college started.
- 02-08-1998: Students and staff shifted from RARS, Pilicode to the newly constructed academic block at Padannakkad
- 27-02-1999: New College building inaugurated by Sri.E.K.Nayanar, the Hon'ble Chief Minister of Kerala. Sri.Krishnan Kaniyamparambil, the Hon'ble Agriculture Minister attended the function.
- April 1999: First batch of B.Sc. (Ag) students pass out
- 03-02-2000: Dr.M.S.Swaminathan visits the college and addresses the staff, students and labourers

The College has been selected as one among the fourteen District Training Centres in the Kerala State as part of the Information Kerala Mission. The Information Kerala Mission is a project that envisages computerization of the local administrative bodies. The selected centre will be supplied with the necessary hardware, software and manpower for implementation of the programme. The training period is expected to last for one to one and two years after which the hardware (nearly 20 systems) will become the property of the centre.

12.2 FACULTY

The academic excellence and dedication of the faculty is reflected in the overwhelming and exceptional performance of the students of this College trained under their guidance both while studying in the University and after passing out. Despite, the remoteness of our College from the University headquarters and the other constituent Colleges of the KAU and the inadequate facilities our students have excelled and attained a prominent place in every sphere of activity of the University. The significant accomplishments of the entire faculty have been included in the personal profile of faculty appended in this report. Some of the outstanding achievements are given below.

Dr.P.A. Wahid, former Associate Dean (till 2000)

- Fellow of the National Academy of Agricultural Sciences
- Profiled in Marquis Who's Who in the world (USA)
- Profiled in Marquis Who's who in Science & Engineering (USA)
- Included in Dictionary of International Biography, Cambridge.
- Included in International Directory of Distinguished Leadership (USA)

Dr.P.C.Balakrishnan, Associate Professor (Plant Breeding & Genetics)

- Mainly responsible for the release of two coconut hybrids, **Kerasree** and **Kerasoubhagya**--the hybrids released by the Kerala Agricultural University during 1992-93 period.

- **Dr.K.M.Sreekumar, Assistant Professor (Agricultural Entomology)**

- Applied for patent in India for Manually operated egg card making machine for the mass production of *Trichogramma* spp.

Plate 12.1 Ceremony marking the laying of foundation stone of the College

Plate 12.2. Dr.M.S.Swaminathan visited and addressed the college community

13. SWOT ANALYSIS

The College of Agriculture, Padannakkad was started in 1994 as the third agricultural college under the Agriculture Faculty of Kerala Agricultural University. Six batches of undergraduate students have already been admitted and two batches have successfully completed the degree programme from this College

13.1 STRENGTH

The college besides fulfilling the general mandate of the University namely, agricultural education, research and extension has the specific mission of removing the backwardness of farming sector in the Northern Zone of Kerala.

- Immense scope for development due the backwardness of farm sector in the locality..
- Could address the special problems of the region relating to agricultural production.
- Act as an effective centre for dissemination and transfer of technology to the farming community
- A group of well qualified dedicated faculty with average age of less than 35 years
- Teacher student ratio is best in the University
- The college campus along with RARS Pilicode, a constituent regional station of KAU provides three diversified soil types representing major soils of Kerala, in a compact locality.
- Proximity of the college to other research/ developmental centers like Central Plantation Crops Research Institute, Kasaragod, State Seed Farm, Aralam, Kannur District and Centre for Water Resources Development and Management, Kozhikode enable better faculty interactions and help students to get first hand information on the state-of-the art of agricultural technologies and obtaining practical experience.

- The largest fresh water pond of Kasaragod district which is in the college campus, give avenues for aquaculture and mixed farming.

13.2 WEAKNESSES

- Poor retention rate of the faculty as the campus is located in comparatively under developed area.
- Inadequate library facility in terms of space and information source
- No Post Graduate programme. Hence no contribution of students in the research activities.
- Research facilities in terms of equipment/instruments are inadequate.
- Inability of faculty members to undertake research projects due to high teaching load.
- Paucity of funds for developmental activities.

13.3 OPPORTUNITIES

- The soil is best suited for raising coconut nursery.
- Theerthamkara Pond which is a part of the College Campus is the largest fresh water pond in the district and has great potential for fish culture integrated with crop husbandry.
- Adequate exposure to irrigated agricultural system

Scope for research on :

- Root grubs in coconut and other crops with emphasis on biological methods
- Pesticide residues in plantation crops, especially export-oriented crops
- Management of *Phytophthora* diseases of plantation crops
- Evolution of dwarf coconut varieties/hybrids with desirable nut characteristics of tall varieties in view of the shortage of climbers for coconut harvesting
- Development of chemical and physiological methods of dwarfing coconut palm

13.4 THREAT

The major threats that pose problems for the sustained development of the college are

- Reduction of intake of students by the University
- Preference of faculty and students to other campuses
- Declining financial support

In order to overcome the weaknesses and threats and to make use of the opportunities the following remedial measures are suggested.

- Posting of more number of faculty
- Create facility for research
- Generate additional income from other activities like consultancy, seed production, revolving funds etc.
- Start self supporting courses on specialized subjects
- Intensify work on Agri-Business Management

14. SUMMARY

The College of Agriculture, Padannakkad was established in 1994 initially at the Regional Agricultural Research Station (RARS) of the northern zone at Pilicode. The first batch of students was admitted to the B.Sc. (Ag.) course in the year 1994. Later, the erstwhile Coconut farm, Padannakkad, under the Department of Agriculture was transferred to the KAU. On 02-08-1998 the students and staff shifted from RARS, Pilicode to the newly constructed academic block at Padannakkad. Presently, the college offers only bachelor degree programmes in Agriculture, B.Sc. (Ag.).

The objectives of the College, as envisaged in the Kerala Agricultural University Act, are imparting of education, advancement of learning, promoting research and undertaking extension education programmes in agriculture and allied subjects. The establishment of Agricultural College at Padannakkad will greatly help in removing the backwardness of northern Kerala, in solving field problems associated with agriculture and improving the production and productivity of crops grown in the Northern zone. The long-range plans of the college mainly include starting of post-graduate programmes in the emerging areas with an eye on the employment generation and to promote entrepreneurship. Besides the post-graduate research mentioned in the above areas, problem-oriented research in several identified areas will also be undertaken.

The governance of the college is intrinsically linked with that of KAU. The authorities of KAU are the General Council, the Executive Committee, the Academic Council, the faculties and the Board of Studies of Faculties. The Associate Dean is the head of the College. The College has fourteen departments. The senior most faculty member in the department acts as the head of department. The Administrative matters in the College are looked after by the General Administration, which is head by an Administrative Officer. The Staff council, consisting of Heads of Departments, Administrative Officer, Academic Officer, Assistant Wardens and Officer i/c Farm, advises on administrative matters of the College.

The first batch of students was admitted in 1994. There are thirty-seven seats for the undergraduate programme. In general, over the years, a predominance of female students has been observed. A few students from outside are also studying in this campus. They include nominees of ICAR, Andaman and Nicobar and Lakshdweep. The Directorate of Students Welfare (DSW) of KAU formulates programmes for the welfare of the students in KAU. The College has a Parent

Teacher's Association (PTA) and advisory system that looks into the welfare of the students. The first batch of B.Sc. (Ag) students passed out from this College in 1999. Some of the students of these batches appeared for the ICAR-All India JRF Exam and most of them succeeded in getting JRF.

The Associate Dean is the Head of the College. The faculty consists of Professors, Associate Professors and Assistant Professors working in the various departments of the college. Besides their normal duties of teaching, research and extension the Academic staff serve in other capacities such as Academic Cell in-charge, Instructional Farm (i/c), Library in-charge, Central Instruments lab in-charge, Career Development Cell in-charge, Office bearers of Parent-Teachers Association, Vehicles in-charge, Computer Cell in-charge, Nodal Officer of ARIS, Network Administrator, Assistant Warden (Men's and Ladies Hostel), Staff Advisors to students Union and its constituent clubs and National Service Scheme Program. co-ordinator. The faculty consists of a set of highly qualified and dedicated teachers. Nearly 58 per cent of the staff are Doctorate degree holders. Certain advancements in the fields of teaching, research and extension would aid in the professional development of the faculty and the college as a whole.

Presently, the college offers only bachelor degree programmes in Agriculture, B.Sc. (Ag.). The minimum prescribed duration for this degree programme is eight semesters. The last semester of the course is set apart exclusively for farm/field training viz., Rural Agricultural Work Experience Programme (RAWE). The total number of credits of all the courses for the B.Sc. (Ag) programme is 168. Post graduate programmes on certain special topics can be started in this college viz., Seed technology, Agri-business Management, Floriculture and Landscape Architecture, Environmental Sciences, Soil Biology and Ecology, Wasteland Management, Integrated Production Systems Management, Biotechnology and Crop Physiology.

The library though in its developing stage has a collection of 1862 books and about 54 periodicals. The books currently present in the library have been catalogued using the *isis* software. Since, the Central Plantation Crops Research Institute and RARS, Pilicode are situated near the college their library facilities are also being used. The RAWE programme has been included in the revised curriculum.

The funds for undertaking various research programmes in the College are currently received from the KAU, ICAR, STED (Science, Technology and Environment Department, Government of Kerala), Agricultural Department and

NATP. The faculty members have submitted various project proposals for funding under the Production System Research mode and Competitive Grant Programme.

The Campus includes an Academic cum Administrative Block, hostels for men and women, residential quarters for Associate Dean and Assistant Wardens. Besides these, basketball courts, volleyball courts and stadium are also present. The construction of faculty residential quarters has been initiated and is nearing completion. The future needs includes mainly renovation of instructional farm attached to the College.

The human resources consist of the Academic Staff, Administrative Staff, Supporting Staff, Technical Staff, Farm Staff and labourers. The security staff is from private security firms who enter into contract with KAU and payment is made directly to the firm. Employee welfare schemes like the family Benefit Scheme of the Government and the welfare fund Scheme of KAU are in operation.

The funds for the College come mainly through the Kerala Agricultural University, Grants from Government of Kerala, ICAR and Externally aided projects. Receipts from the Instructional Farm and Fee collection are the only sources of internal income. Accounts of the College of Agriculture are operated and maintained as per rules prescribed in the Kerala financial Code and Account Code of Government of Kerala.

Despite, the remoteness of our College from the University headquarters and the other constituent Colleges of the KAU and the inadequate facilities our students have excelled and attained a prominent place in every sphere of activity of the University. It would be however, desirable that post graduate programmes are offered in the campus so that the students can pursue higher education this college itself. The academic excellence and dedication of the faculty is reflected in the overwhelming and exceptional performance of the students of this College trained under their guidance both while studying in the University and after passing out. The College has contributed its share for the agricultural education, research and extension programmes in the Kerala State and particularly for the Northern zone thus justifying the very purpose for which this College was established.

Annexure I - Steering Committee and Task forces

Members of the Steering Committee

1. Dr. U. Ramachandran (Associate Dean) : Chairman
2. Dr. P.C. Balakrishnan, Assoc. Professor : Co-ordinator & Member Secretary
3. Administrative Officer : Member
4. Associate Patron : Member
5. Officer i/c Academic : Member
6. Assistant Warden (Men's Hostel) : Member
7. Assistant Warden (Ladies Hostel) : Member
8. Officer i/c Instructional Farm : Member
9. Dr. Latha Bastine. C., Assoc. Professor : Member
10. Dr. A. Rajagopalan, Assoc. Professor : Member
11. Dr. K. Abdul Kareem, Assoc. Professor : Member

Task forces and Convenors

1. Library & Learning Centres : Dr. A. Rajagopalan, Assoc. Professor
2. Academic Programmes and Curriculum : Dr. P.C. Balakrishnan, Assoc. Professor
3. Goals & Objectives, Staff position : Dr. V.P. Neema, Asst. Professor (up to 24-7-2000)
   Smt.P.S.Abida, Asst. Professor (from 25-7-2000)
4. Faculty : Dr. A. Anilkumar, Asst. Professor
5. Students' Development : Assoc. Patron, College Union
6. Fiscal Resources : Dr. Latha Bastine. C., Assoc. professor
7. Physical Facilities : Dr. Jacob John, Asst. Professor
8. Research & Development : Dr. K. Abdul Kareem, Asst. Professor
9. Accomplishments : Smt. Susy V. John, Assoc. Professor
10. Editor : Dr. P.R. Suresh, Asst. Professor

Annexure II-LIST OF TEACHING STAFF AS ON 31-03-2001

Sl. No.	Name	Designation	Discipline (Department)
1.	Dr. U. Ramachandran	Associate Dean & Head	Agrl. Economics
2.	Dr. Jacob John	Asst. Professor & Head	Agronomy
3.	Mr. P.K. Retheesh	Asst. Professor	Agronomy
4.	Mrs. Sheeba Rebecca	Asst. Professor	Agronomy
5.	Dr. P.C. Balakrishnan	Assoc. Professor & Head	Plant Breeding & Genetics
6.	Mrs. P.S. Abida	Assistant Professor	Plant Physiology
7.	Mrs. Sujatha. R.	Assistant Professor	Plant Breeding & Genetics
8.	Mrs. Swapna Alex	Assistant Professor	Biotechnology (on long leave)
9.	Mrs. Jiji Joseph	Assistant Professor	Plant Breeding & Genetics
10.	Dr. P.R. Suresh	Asst. Professor & Head	Soil Science & Agrl. Chem.
11.	Dr. A. Rajagopalan	Assoc. Professor & Head	Horticulture
12.	Dr. K.N. Satheesan	Asst. Professor	Horticulture
13.	Mrs. Ancy Joseph	Asst. Professor	Horticulture
14.	Dr. K.M. Sreekumar	Asst. Professor & Head	Entomology
15.	Dr. G.K. Mahapatro	Asst. Professor	Entomology
16.	Dr.D.V.Sairamkumar	Asst. Professor	Entomology
17.	Mr.M.Joy	Asst. Professor & Head	Plant Pathology
18.	Dr.K.Abdul Kareem	Assoc. Professor & Head	Agrl. Extension
19.	Dr.A.Anil Kumar	Asst. Professor	Agrl. Extension
20.	Dr.Latha Bastine	Assoc. Professor	Agrl. Economics
21.	Mrs. Mini P.K.	Asst. Professor	Agrl. Engineering
22.	Mrs. Krishnakumari Amma	Professor	Agrl. Statistics
23.	Mrs. Sucy V. John	Assoc. Professor	Physical Education
24.	Dr.P.V.Nandini	Asst. Professor	Home Science

Annexure III- Proforma of ICAR for SELF STUDY REPORT

1. State : KERALA

2. Name of the University to which college belongs : **KERALA AGRICULTURAL UNIVERSITY**

3. Name of the College with address : **COLLEGE OF AGRICULTURE**
P.O. PADANNAKKAD
KASARAGOD DIST
KERALA-671 328

Telephone : (0499) 780616 /782699
Fax : (0499)782699
E-Mail : kaupad@vsnl.com

4. Name of the Dean/ Associate Dean/ Principal of the College) : Dr. U. Ramachandran
Associate Dean i/c

5. Date of Establishment : November 1994

6. Goals and objectives (please refer chapter 2 of Report)

7. Programmes offered with duration

Level	Programmes	Duration
UG	B.Sc. (Ag.)	8 Semesters (4 years)
PG	-	-

7.1 Are the programmes implemented on schedule as prescribed in the prospectus?

Yes [✓] No [ ]

8. **TOTAL STAFF POSITIONS**

Category of Staff	Number
Faculty	24
Technical	06

Administrative | 10

Supporting | 06

Over and above this, teaching and other supporting staff are engaged on temporary basis for the smooth functioning of the college.

8.1 Whether all faculty including Research and Extension participate in teaching?

Yes [✓] No [ ]

9. ADMINISTRATIVE STRUCTURE OF THE COLLEGE (Flow chart given in chapter 1 of the report)

10. PLANNING PROCESS: (please see section 1.5 and chapter 3)

11. FACULTY

11.1 Core Faculty

Is there a core faculty concept existing?

Yes [ ] No [✓]

11.2 Department wise Faculty Positions

Department	Number of Faculty		
	Professor	Assoc. Prof.	Asst. Prof.
1. Agronomy	-	-	3
2.Horticulture	-	1	2
3.Biotechnology	-	-	1
4.Soil Science & Agrl. Chem.	-	-	1
5.Entomology	-	-	3
6.Pathology	-	-	1
7.Plant Breeding & Genetics	-	1	2
8.Plant Physiology	-	-	1
9.Agrl.Economics	-	2	-
10.Agrl.Extension	-	1	1
11.Agrl.Engineering	-	-	1
12.Agrl. Statistics	1	-	-
13.Computer Science	-	-	-
14.Physical Education	-	1	-
15.Home Science	-	-	1
16.Animal Husbandry	-	-	-
17.Agrl.Meteorology	-	-	-
Total	1	6	17

11.3 Faculty Credentials

Department	Ph.D	M.Sc.	Others, if any
1.Agronomy	1	2	-
2.Horticulture	2	1	-
3.Biotechnology		1	-
4.Soil science & Agricultural Chemistry	1	-	-
5.Entomology	3	-	-
6.Pathology	-	1	-
7.Plant Breeding & Genetics	2	1	-
8.Plant Physiology	-	1	-
9.Agrl. Economics	2	-	-
10.Agrl.Extension	2	-	-
11.Agrl.Engineering	-	1	-
12.Agrl.Statistics	-	1	-
13.Computer science	-	-	-
14.Physical Education	-	1	-
15.Home Science	1	0	-
Total	14	10	

11.4. How is the appointment of Dean/Director (Instruction)/ Assoc..Dean/ Principal done?

Direct Selection ✓

Rotational

Other (Specify)

11.5 Does the Dean/Associate Dean/Principal teach? Yes

If yes, how many classes in a year

Lectures 36

Practicals 18

Two courses in a year.

11.6. How is the Head of the Department appointed?

Direct Selection	☐
Rational	☐
Other (Specify) Based on seniority.	✓

11.7 Tenure of Head of the College (Years) [5]

11.8 Tenure of Head of the Department ☐ No tenure

11.9 Promotional policies for faculty.

Direct Merit Promotion/Career advancement as per the University/ICAR norms.

11.10 Incentives and rewards for good performance. Please give the examples:

Management Staff - Good Service Entry
Academic Staff - Best Teacher Award

a. Recruitment

Advertised Nationally	Yes	✓	No	☐	Others	☐
ICAR prescribed norm NET followed	Yes	✓	No	☐	Others	☐

b. Transfer Policy

Transferable between Teaching, research and extension as approved by the University from time to time

11.12 Faculty composition for last 4 years:

Number of faculty positions

Year	Professor		Assoc.Professor		Asst.Professor	
	From within the state	From out of the state	From within the State	From out of the State	From within the state	From out of the state
1997-1998	1	-	6	-	16	-
1998-1999	-	-	6	-	17	-
1999-2000	1	-	6	-	15	2
2000-2001	1	-	6	-	15	2

11.13 Faculty Development

a) Give brief description of the policy

Teachers will be given opportunity for acquiring Ph.D. and Post Doctoral qualification through deputation, study leave etc. Opportunity for participating in Summer/Winter/Short courses, management development programmes and other training courses at national and international levels will be given to teachers according to their area of interest and specialisation and also in the fields of further requirement of the College and University.

b) Indicate the percentage of faculty who attended various development programmes during the last 4 years

Department	Faculty development programmes									
	Refresher course/Summer &Winter course		Study leave		Sabbatical leave		Workshop/ Seminar/ National symposium		Int. symposium or foreign visits	
	Faculty									
	No.	%	No.	%	No.	%	No.	%	No.	%
Agronomy	2	8.3	-	-	-	-	6	-	3	-
Entomology	2	8.3	-	-	-	-	10	-	4	-
Soil Science	2	8.3	-	-	-	-	-	-	-	-
Hosticulture	1	4.2	-	-	-	-	-	-	-	-
Agrl. Economics	2	8.3	-	-	-	-	-	-	-	-
Agrl. Extension	1	4.2	-	-	-	-	1	4.2	1	4.2
Agrl. Engg.	1	4.2	-	-	-	-	1	4.2	-	-

*(i) No. means number of faculty participating in the programme
(ii) %age means percentage of the total faculty in the college

c) Is the faculty development experience used in the area of training?

Yes [✓] No [ ]

The faculty members after attending the programme present the salient points in a seminar, which open to faculty and students and share the experience. In addition, the knowledge acquired will be disseminated to the farming community also depending on the relevance.

11.14 Faculty Achievements: Indicate the number of faculty members who received recognition for last 4 years

Dr.P.A. Wahid, Associate Dean

College Level	University Level	National Level	International Level
		1.Fellow of the National Academy of Agricultural Sciences	1.Profiled in Marquis Who's Who in the world(USA) 2.Profiled in Marquis Who's who in Science & Engineering(USA) 3.Included in Dictionary of International Biography, Cambridge. 4.Included in International Directory of Distinguished Leadership(USA)

11.15 Faculty Training:

Number of faculty with highest degree received locally, nationally and internationally.

Cadre	Highest degree from same University	Highest degree from other University within the State	Highest degree from out of the State university	Highest degree from Foreign Country
Professor	-	-	-	-
Assoc.Professor	-	-	6	-
Asst.Professor	6	2	10	-
Total	6	2	16	-
Percentage	25	8.3	67.7	-

1.16 Faculty strengths

a. National and International conferences organised

Nil

b. Does your faculty possess competence to conduct international training programmes? Indicate the departments, which have competence to conduct international training programmes.

No. All the departments are in the initial stage of establishment

12. STUDENTS AND STUDENT DEVELOPMENT

12.1 Details of Undergraduate and Postgraduate Programmes in the college

Department	Year Started	Approved Seats	Actual enrolment	
			Year Established	Current Year
B.Sc. Agri.)	1994	37	28	41

12.2 Student retention data for last 4 years

Year of admission	Admitted		Dropped out		Appeared in Final Exam *		Failed to appear in final exam		Percentage passed out	
	M	F	M	F	M	F	M	F	M	F
1994	13	16	4	4	9	12	9	12	100	100
1995	12	21	1	5	11	16	9	14	81.8	87.5
1996	10	16	3	2	7	14	7	14	100	100

M=Male F=Female

* Students admitted in 1994, 1995 and 1996 passed out in the year 1999, 2000 and 2001 respectively

12.3 Composition of Students

Students from	Undergraduate		Post Graduate	
	Year established	Current Year	Year established	Current Year
Within the State	28	162	Nil	-
Out of the State	-	05	-	-
Foreign	-		-	-
Total	28	167	-	-

12.4 Admission Policy

a. Are student admission policies clearly defined and conforms to the ICAR norms — Yes [✓] No [ ]

b. Basis for Admission

	UG	PG
Qualifying Examination	-	-
Entrance Examination	✓	-
Others (Specify)	-	-

12.5 Student Reservation

Category	Number
State Merit	10
Malabar	3
Ezhava	2
Muslim	1
OBC	1
SC	2
ICAR	4
CA CO	1
CA CE	1
Andaman & Nicobar	1
Lakshadweep	2
Serving Defence	1
Total	29

12.6 Student Evaluation

Examination	UG	PG
Internal (percentage)	40	-
External (percentage)	60	-
Other(specify percentage)	-	-

12.7 Frequency of Student Evaluation

	UG	PG
Monthly	-	-
Quarterly	-	-
Semester wise	✓	-
Others(specify)	-	-

Semester evaluation is done through internal as well as external examinations. Internal examination consists of quiz, midterm and practical examinations including viva-voce.

12.8 Mode of Student Evaluation

Mode	UG	PG
Quiz/Test	✓	-
Assignment	✓	-
Term Papers	✓	-
Seminars	✓	-
Others(specify)	Viva-voce and practicals	-

12.9 Student involvement in RAWE/equivalent programme:

a) Is there a separate co-ordinator for the programme?

Yes [✓] No [ ]

b) Is there a student feedback mechanism established?

Yes [✓] No [ ]

If yes, provide examples of feedback received

The RAWE programme is operated in 11 modules covering different aspects and in the interaction and experience sharing modules, questionnaires are collected from the students and their perception about the programme is critically analysed. The students are also provided an open forum for an appraisal of the RAWE. (please see section 7.4 of report).

12.10 Students achievements in national competitions

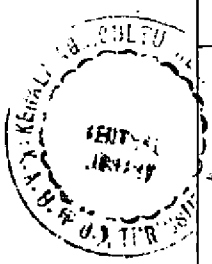
Only two batches of graduates have come out of the college.

Number of students from the college

Year	JRF	SRF	ARS-NET
199- to	-	-	-
199- to	-	-	-
1999-2000	3	-	-
2000-01	10	-	-
2001	5	-	-

12.11 Sports and Physical Education

Give the following details of physical education facilities



803095

Facilities Available	Equipment and infrastructure
Volleyball courts: 2 Basketball court : 1 Cricket pitch : 1 (Under construction)	Table Tennis: 3 Nos. Weight Training Equipment Complete set of cricket gears for Two teams

12.12 Participation of Students in Sports

Level of participation	Name of Sport	Awards/ Recognition			
		1999-2000		2000-01	
		Men	Women	Men	Women
Inter Collegiate level	S.Badminton	II	-	II	-
	Cricket	-	-	-	-
	Table Tennis	I	-	I	-
	Track & Field	-	-	-	-
	Basketball	-	-	II	II
	Volleyball	II	II	II	II
Inter University level	Athletics (long jump)	-	-	III	-

The college Table Tennis team represented KAU in the Inter University TT tournament during 1999-2000 and 2000-2001.

12.13 Does the college have a Physical Education Instructor?

Yes [✓] No [ ]

12.14 Student involvement in NCC

Is the NCC compulsory? Yes [ ] No [✓]

If yes, percentage of students participating [ ]

12.15 Does the college have cultural activities programme?

Yes [✓] No [ ]

If yes, please give a brief description

The College union of the College organises cultural programmes as extra-curricular activities to develop artistic talents. Inter-class competitions on several items will be conducted and the winners will be participating in the University arts/youth festival every year.

12.16 Student Financial Aid

Indicate the number of students who received financial aid during the last year

Source	Undergraduate Students No.	Postgraduate Students No.	Research Scholars No.
Central Govt.	-	-	-
ICAR	3	-	-
State Govt.	22	-	-
University	3	-	-
College	-	-	-
Others	-	-	-
Total	28	-	-

12.17 Student counselling and placement services:

Does the college maintain a student counselling and placement services?

Yes [✓] No [ ]

If yes, please provide year wise data for following categories for last 4 years:

Total number of graduates | 65 | out of which:

a) Joined in Government Services | 5 |

b) Joined in Industry | 4 |

c) Self-employed Farming | - |

Business | 1 |

d) Further Education | 41 |

e) Other (Temporary service) | 14 |

12.18 Alumni affairs:

a) Alumni association
Is there an Alumni association of the college?

Yes [✓] No [ ]

b) Alumni achievements

Two batches of undergraduate students have come out and many of them are pursuing higher education.

Name the Alumni holding top national and international positions: Nil

13. ACADEMIC PROGRAMMES AND CURRICULA

13.1 Medium for Instructions:

English [✓]

Hindi [ ]

Regional Languages [ ]

(Specify) [ ]

13.2 Does your institution follow academic regulations, course curricula and courses recommended by Deans committee as accepted by ICAR?

Yes ✓

No

If the answer is no, please describe the curricula followed along with the name of the approving authority

Curricula recommended by ICAR and approved by KAU incorporating local situations.

13.3 (a) Mechanism/Bodies for course curriculum development at college level

- The course curriculum will be first discussed in the departmental staff meetings. The Heads of departments with the Associate Dean will discuss again for finalisation.

(b) Mechanism / Bodies for course curricula development at university level. Indicate the involvement of faculty, students and community groups

The proposal from the colleges will be discussed in Board of Studies and Academic council of the University. In both bodies, students, faculty members and other representatives are members.

(c) Describe the PG Thesis evaluation system

Not started at this college

	Internal	External
MSc.		
PhD		

13.4. Please provide the course/curricula approval process:

Name of the Course/ Curricula	Date of intimation of the course	Date of approval by the Board of Studies	Date of approval by Academic Council	Date of imple-mentation of the programme
B.Sc(Ag.)	As and when the necessity arises	Once in three months	Once in three months	As decided by the Academic Council

13.5 How are the course/curricula communicated? Provide a copy of the relevant publication: At University level:

a) College hand Book ✓

b) College Prospectus -

c) Academic Calendar ✓

d) Annual Report

e) Others

13.6 Indicate the methods the college uses to encourage teaching-learning process:

a. Instructional methods

Conventional Class Room Instruction ✓

Special Lectures ✓

Seminar ✓

Home Assignment ✓

Field Work ✓

Computer Arrangement ✓

Others ✓

Participation in Agroclinics, farmer-student interface, study tours and visits to various Institutions/Organisations

b. Instructional material

i. Are the lecture schedules distributed in the beginning of the course?

Yes ✓ No

ii. Is the Instructional material distributed in the beginning of the course?

Yes ☐ No ☑

13.7 Number of required students for seminar:

M.Sc. ☐

Ph.D. ☐

13.8 Teacher-Student ratio:

Department	Undergraduate	Postgraduate
B.Sc(Agri.)	1:7	-

13.9 Has the teaching programme been evaluated before?

Yes ☐ No ☑

If yes, has it been evaluated by Alumni or external reviewers?

13.10 Does the Dean get feedback from Alumni about teaching programmes?

Yes ☑ No ☐

If not, why?

14. LIBRARY AND LEARNING CENTRES

14.1 Does the college have a central library?

Yes ☑ No ☐

Number of books 1862

Number of Periodicals 54

Number of professional journals subscribed

National 18

International -

Over and above this the library facilities of RARS, Pilicode are also utilized by the faculty and students. The books available as personal possession of the faculty are also provided to students for reference. The books currently present in the library have been catalogued using the *isis* software. It is loaded in the system placed in the library.

14.2 Does the Library have Internet connectivity?

Yes ☐ No ✓

14.3 List the various educational material available in the library/media centre

Type of Material	Description of material	Application
Reference	Printed books Video cassettes	Lending "

14.4 Does the library/media centre maintain a record for utilisation of various materials? Yes ✓ No ☐

14.5 List the training programmes encouraging faculty, staff and student for the use of library and media centre

Training Program	Duration
-	-

14.6 Indicate library holdings at department level:

Department	Text Books	Other Books	Periodicals	Journals	Magazine
-	-	-	-	-	-

14.7 Percentage of the Library functions computerised:

Purchase of books 50

Lending of books

Lending of A/V material	
Inventory	100

14.8 Extent of Library use by various clients during last year

Facilities	Faculty (%age)	Student (%age)	Staff (%age)
Computer	30	20	100
Micro-films	-	-	-
A/V Material	-	-	-
Photocopying	70	100	-
Fax	-	-	-
E-mail	-	-	-
Others	-	-	-

14.9 Computer Centre

Is there a central computer facility in the college

Yes ✓ No

If yes, fill the following details

No. of terminals	Specification
2 6 5 printers	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, 128 BIT SOUND CARD/MIC/2USB, SBS 20, SPKR/48 X IDE CDROM (one with e-mail/internet connection) Celeron, 333 MHz, 32 MB RAM (2 systems with 16 MB RAM), 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	Celeron, 333 MHz, 32 MB RAM, 4.3 GB, 1.44 FDD, AGP 4 MB, WIN 98, 15" color monitor Printer DMP, 24 pin, 136 col, HQ-1040
1 with printer	P II 350 MHz, 512 K, 32 MB RAM + additional 32 MB RAM, 4.3 GB, 1.44 FDD, AGP VGA 4 MB, WIN 98, SBS 20, SPKR/48 X IDE CDROM Printer DMP, 24 pin, 136 col, HQ-1040

14.10 Retreat and other faculty/student interaction forums:

Please describe briefly if the college has retreats for faculty and students to provide opportunity for free interaction and communication of ideas.

Farm days, Annual get-togethers, festival celebrations.

15. FISCAL RESOURCES

15.1 Total college budget (in lakhs)

a) Non-Plan Rs. 62.975

b) Plan Rs.102.474

c) Internal resources Nil

d) Others Nil

Head of Account	1996-97	1997-98	1998-99	1999-2000
Non Plan	0.160	57.020	68.880	0.700
Plan	69.219	59.62	91.203	137.092
ICAR	-	-	6.930	1.080

15.2 Source of financial support

Source	Amount (Rs. In lakh)	% age
State		81.16
ICAR		7.29
Others		11.55

15.3 Internal resources

Year	Income from Fees (lakhs)	Income from University property (lakhs)	Total (lakhs)
1996-97	0.677	7.447	8.124
1997-98	0.673	8.669	9.342
1998-99	1.813	8.228	10.041
1999-2000	2.623	6.713	9.336

15.4 Library Budget (Rs. in lakh)

Year	Budget	Expenditure
1997-98	5.75	2.206
1998-99	12.0	8.714
1999-2000	5.95	3.761

15.5 Departmental breakdown of annual budget (Rs. in lakhs)

Department	Non Plan	Plan	Internal resources	Others
Academic programme	61.625	-	-	-
Strengthening UG Programme	-	13.297	-	-
Strengthening Departments	-	29.241	-	-

15.6 Basis of budget allocation to each department:

Departmental requirements are met from the funds allocated to the College

15.7 Provide the budget allocation under the following sub-heads

Head of Account	1996-97	1997-98	1998-99	1999-2000
Establishment	30.428	42.908	52.635	58.471
TA	0.864	0.827	1.342	1.305
Recurring contingencies	5.581	13.349	38.741	33.863
Works	295	11.16	12.00	47.00
Maintenance and others	0.535	0.796	1.786	2.487
Cost of labour	13.312	14.877	13.049	11.877
Non-recurring contingencies	7.165	40.910	33.60	21.855

15.8 College fees and other charges

Particulars	Semester fee in Rs. (UG)
Tuition fee	750
Library fee	100
Stationery fee	75
Academic handbook/calendar	20
Athletic fee	40
Association fee	20
Magazine fee	20
University Union Fee	15
Rent	50
Electricity charge	60
Water charge	20
Examination fee	100
Insurance policies	70
Total	1340

15.9 Indicate the year of the last revision of fees and other charges — 1995

15.10 Accounting and Record keeping

(Please see section 11.2 and 11.3 of report)

15.11 Powers of the Head of the college for sanctioning:

	Full	Partial	Amount Rs. In lakh
Equipment	✓		5 lakhs
TA for staff	✓		No limit
Recurring contingency	✓		1 lakh
Others	✓		*

* As delegated by the University from time to time.

15.12 Powers of Head of the Department for sanctioning:

Nil

	Full	Partial	Amount Rs. in lakh
Equipment			
TA for staff			
Recurring contingency			

16. PHYSICAL FACILITIES

16.1 Total land area in hectare

Academic Campus	27.23 ha
Farm	27.23 ha.

16.2 Does the college have an Estate Officer? Yes [✓] No [ ]
(Instructional Farm)

16.3 Enclose the site plan of the college indicating the existing buildings and the other planned for future:

Facility	Hectares/Sq.m
Academic Buildings	4879.0 sq.m
Students Hostels	4950.1 sq.m
Housing for staff	400 sq.m
Play grounds	9800 sq.m
Administrative Buildings	628 sq.m
Gardens and Farms	27.23 ha.
Library	394 sq.m

16.4 Give the following infrastructure information:

Infrastructure	No.of Units Available	Capacity wherever applicable (number of persons)
Administrative Offices	1 unit	20
Class room and laboratory	6+12	40 in classrooms & 20 each in labs
Library	1 unit	70
Housing for faculty	5 nos.	5
Boys Hostel	1	100 with guestroom facility for 8 persons
Girls Hostel	1	100 with guestroom facility for 8 persons
Sports complex	Nil	
Guest house	1	6
Canteen	1	30
Health clinics		
Workshops		
Faculty club		
Auditorium	1	250
Others		

17. RESEARCH AND EXTENSION EDUCATION

17.1 Is there a separate Dept.of :

a. Research Yes [ ] No [✓]

b) Extension Education Yes [ ] No [✓]

Not at college level. This is available at the University level.

17.2 Annual Budget for Education, Research and Extension

Not available separately for the college

Budget	Resident Instruction	Research	Extension
Non Plan			
Plan			
Internal sources			
Others			

17.3 Faculty involvement in Research and Extension Education

Department	No. of faculty with joint responsibility for teaching and research	No. of faculty with joint responsibility for teaching and extension
1. Agronomy	2	3
2.Horticulture	1	3
3.Biotechnology	-	1
4.Soil Science& Agrl. Chemistry	1	1
5.Entomology	2	3
6.Pathology	-	1
7.Plant Breeding & Genetics	-	3
8.Plant Physiology	-	1
9.Agrl.Economics	1	2
10.Agrl.Extension	-	2
11.Agrl.Engineering	-	1
12.Agrl.Statistics	-	1
13.Physical Education	-	1
15.Home Science	-	1

17.4 Name the *ad hoc* research scheme presently in operation in the college

1. Nitrogen Use efficiency in Plantation crops – ICAR concluded
2. Investigations on the allelopathic effects of certain multipurpose trees commonly planted in the homesteads of Kerala
3. Price policy models for coconut- an economic approach- ICAR.
4. Evaluation studies on people's campaign for decentralised planning – State Planning Board

17.5 Publications for 4 years

Department	Number of research publications	Number of extension publications	Manuals and Books
Agronomy	24	26	-
Agrl. Economics	3	-	-
Agrl. Engineering	1	-	-
Agrl. Entomology	29	6	-
Agrl. Extension	2	1	-
Horticulture	8	16	-
Plant Breeding & Genetics	7	17	-
Plant Pathology	9	1	-
Soil Science	4	2	3

17.6 Research symposia, Extension programmes and other activities held during the last 4 years

	Number
Research workshops and symposia	5
Extension Fairs	5
Training Programmes organised	23
Other important activities	
a. Radio talks:	42
b. Resource persons in the training programmes organised by others	24

17.7 Mechanisms for student involvement in research and extension programmes. Please give specific examples

Students participation in Agroclinics, NSS camps, exhibitions/fairs and layout and implementation of adaptive trials.

17.8 Public information

i. Public forums

Does the college hold open house to receive community input?

Yes [✓] No [ ]

If yes, indicate the number of such annual event held [1]

ii. List the publications of the college that impart information on:

Done at University level

a. Educational programmes
b. Admission policies
c. Learning resources
d. Student policies
e. Fees and other charges
f. College calendar
g. Faculty Directory
h. Personnel manual
i. Others

18. ACCOMPLISHMENTS

1. Teaching

The college was started in 1994 with the admission of first batch of students under the B.Sc(Ag.) programme. As of today, six batches have been admitted to this programme. Three batches of B.Sc(Ag.) graduates have come out from this Institute.

2. Research

Some primary studies, adaptive trials, field trials in NWDPRA programmes have been conducted. These trials were started only recently.

3. Extension Education

Various training programmes for farmers, agricultural officers and unemployed SC/ST youths are conducted. The teaching staff of the college also participates actively in the people's campaign for planning programmes at Grama Panchayath, Block Panchayath and State levels. Students will be involved in the technology dissemination process through Village Adoption programme and National Service Scheme.

The College has been selected as the District Training Centre in Kasaragod District, of the Information Kerala Mission of the Government of Kerala.

Fig 13. FIELD MAP OF THE CAMPUS

Scale: 1 cm:15 m

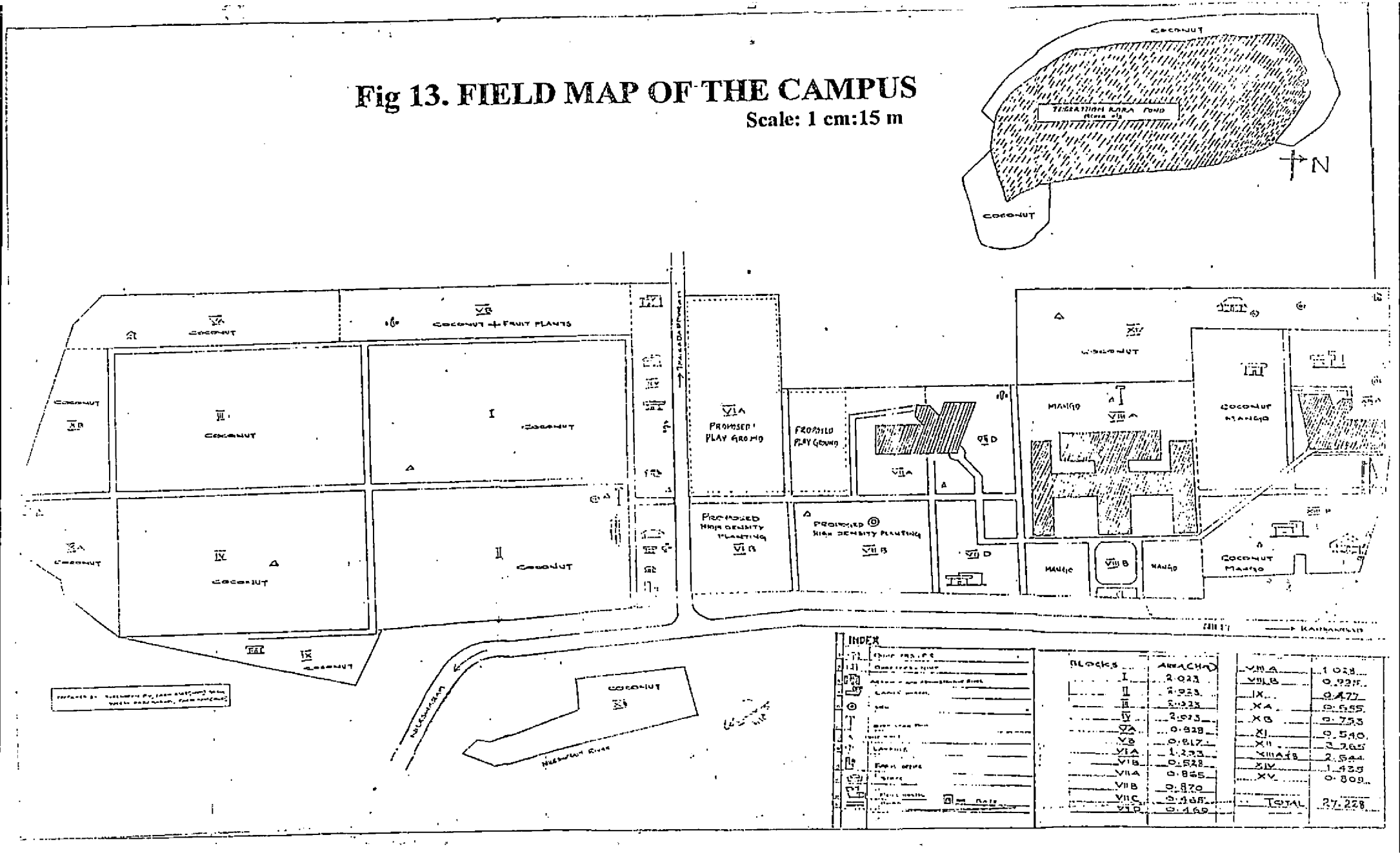


Fig 14. **FIELD LAYOUT OF THE PROPOSED SALES COUNTER CUM INFORMATION CENTRE-SOUTH BLOCK OF THE COLLEGE INSTRUCTIONAL FARM (Scale: 1 cm:15 m)**