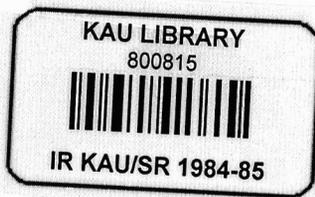


S U M M A R Y   R E P O R T  
1984-'85  
(1-4-'84 to 31-12-1984)



KERALA AGRICULTURAL UNIVERSITY  
VELLANIKKARA 680 654  
TRICHUR, KERALA,  
INDIA

KAV

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SUMMARY REPORT 1984-85  
(1-4-84 to 31-12-84)

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CHAPTER - I

GENERAL ADMINISTRATION

1.01: Mr T Madhava Menon, I.A.S., continued as the Vice-Chancellor.

The Vice-Chancellor participated in the Panel Discussion on "A Management Oriented Programme for Professional Programmes" at the Institute of Management in Government. He presided over the inaugural function of the Festival of Tribal Art Forms at the School of Drama. He participated in the Workshop on Eco-Development of Western Ghats. He inaugurated the "Agricultural Book Corner" at the Public Library, Trichur. The Vice-Chancellor discussed with the Minister for Forest & Animal Husbandry the possibility of increasing the intake capacity at the College of Veterinary & Animal Sciences. He participated in the deliberations pertaining to the Year of SC & ST at the Kanakakunnu Palace. He presided over the inaugural function of the Regional Centre for Cattle Infertility Scheme, Calicut. He attended the meeting of the ICAR Regional Committee held at Coimbatore. He inaugurated the Farm Clinic at Nellikunnu under the Village Adoption Programme. The Vice-Chancellor spoke at the Seminar on Eco-Development of Western Ghats held at the Kerala Forest Research Institute. He inaugurated the training programme for Tribal Youths in modern agricultural practices under the Extension Wing of the University. He participated in the Extension Seminar conducted by the PG students of the College of Agriculture at Vellayani and spoke on the challenges facing the professional nature of agricultural courses. He delivered extension lecture at Dr John Mathai Centre of the University of Calicut on "Dialectical Determinants of Agricultural Productivity in Kerala".

The Vice-Chancellor visited the Manipur State and discussed with the Chief Secretary and other officials the development of horticulture for which a team of experts from the University visited the State.

The Vice-Chancellor participated in the Seminar of Indian Veterinary Association, Indo-USSR Friendship meeting at Kerala Sahitya Academi, NSS Special Camp, College of Horticulture, at Poovanchira, the Police March at the Armed Reserve Camp, RV Puram and the meeting of the Technical Co-ordination Committee of Groundwater Studies in Coastal Kerala.

In the capacity of Chairman/Member, the Vice-Chancellor participated in the meetings of the following Committees of the State Planning Board:

- The High Level Committee on Land & Water
- The Sub-Committee on Harijan Welfare
- The Sub-Committee on Agro-based & Forest-based industries

The Vice-Chancellor participated in the Governing Body meeting of the Centre for Water Resources Development & Management and the Kerala Forest Research Institute and also presided and led the meetings of University bodies, viz., the General Council, the Executive Committee, the Academic Council, the FG Committee, the Works Committee, the NSS Advisory Committee etc.

Being the Chairman of the High Level Committee to Review Forest Policy the Vice-Chancellor presided over its meetings also.

1.02: Registrar, Comptroller, Director of Research,  
Director of Extension, Director of Physical Plant,  
Deans, Associate Dean

Mr Thomas C George, I.A.S., continued as the Registrar.

Mr KR Krishna Pillai continued as the Director of Physical Plant.

Mr NM Abdul Kadir continued as the Comptroller till 2-11-84. Mr PM Krishnankutty Nair held additional charge of the post of Comptroller from 2-11-84 to 31-12-84. Mr Nair retired from service on superannuation on 31-12-84.

Dr PC Sivaraman Nair continued as the Director of Research.

Dr MJ Sebastian, Dr M Krishnan Nair and Dr N Sada-  
nandan continued as the Deans of the Faculties of  
Fisheries, Vety. & Animal Sciences and Agriculture  
respectively.

Dr AGG Menon continued as the Director of  
Extension.

Dr PK Gopalakrishnan continued as the Associate  
Dean of the College of Horticulture.

1.03: General Council

There were no changes in the membership of the General Council. The General Council met twice on 30-7-1984 and 29-11-84. A special meeting was held on 27-10-1984 to discuss among other things, the report of the General Council members on their visit to the research stations and Institutions under the KAU.

The fourth report of the Assurance Committee was presented in the 32nd meeting of the General Council held on 30-7-1984. The interim and final reports of the Accounts Committee on the annual accounts for the year 1977-78 were presented before the General Council on 30th July 1984 and 29th November 1984 respectively.

1.04: Executive Committee

There were no changes in the constitution of the Executive Committee during the period. The Committee met 10 times on 6-4-84 (141st), 12-4-84 (142nd), 14-5-84 (143rd), 15-6-84 (144th), 18-7-84 (145th), 18-8-84 (146th), 29-9-84 (147th), 20-10-84 (148th), 17-11-84 (149th) and 23-11-84 (150th).

1.05: Statute amendments

The General Council issued amendments to the statute SR No.447/72 as assented by the Chancellor with effect from 5-1-84, creating a new Department of Home Science with the subjects Food Science and Nutrition with special reference to rural problems. (GA/20858/A3/83 dt.9th May 1984). The General Council has also issued further amendments to the statutes SRO 264/72 (Professors, Associate Professors, Assistant Professors) issued as per notification GA/60334/A3/79 dated 16-12-81 as assented by the Chancellor with effect from 1-6-84 ~~were issued~~ as per notification GA/18128/A3 dated 6-7-84. These amendments relate to the norm promotion of the teaching staff belonging to the above categories.

Amendments to the statutes SR No.1065/79 dt.22-8-79 as assented by the Chancellor with effect from 13-8-1984 were issued by the General Council as per Notification GA/7062/A3/83 dt.8-10-1984. This relates to change in designation of the Agricultural Demonstrators as Farm Assistant (Agri).

Amendments were also issued to the statute SRO 293/72 dt.15-6-1972 as assented by the Chancellor with effect from 5-7-1984 as per notification GA/7062/A3/83 dt.8-10-1984. These relate to the posting of employees from other Universities by transfer on reciprocal basis.

1.06: Officers meeting

The officers met thrice during the report period on 4-6-84, 28-8-84 and 18-12-84.

1.07: Academic Council

The term of the Academic Council expired on 5-11-84. The new Council was constituted on 6-11-84 for a period of 3 years.(GC/14986/84 dt.6-11-84). The Council met on 19-5-84 and 18-9-84 (34th and 35th meetings respectively).

The courses of MSc in Food Science & Nutrition, MFSc and Ph.D in Agricultural Extension were approved for offering from the concerned colleges. Steps for the preparation of the postgraduate course leading to MSc in Forestry were taken.

1.08: Board of studies

The Board of Studies in Agriculture was reconstituted on 21-8-84 (Acad B2/16451/83 dt.21-8-84) and the Board met at the College of Agriculture, Vellayani on 29-10-84.

1.09: PG Committee

The PG Committee meetings were held on 25-4-84 (25th meeting) on 6-8-84 (26th meeting) and on 5-12-84 (27th meeting).

1.10: Assurance Committee

The committee met six times during the period under report on 11-4-84, 29-6-84, 10-7-84, 5-12-84 and 31-12-84.

Besides the above, 15 posts were also created for the ICAR ad hoc schemes on 'Breeding rabbit for meat production', on 'Nutrient requirement of caged layers and for the Krishi Vigyan Kendra at Regional Agricultural Research Station, Ambalavayal.

	Prof	Assoc Prof	Asst. Prof.	Jr.Asst. Prof.	Total
ICAR ad hoc scheme on Nutrient Requirement of Caged Layers	-	1	-	-	1
Breeding rabbit for meat production	-	-	2	-	2
KVK Ambalavayal	1	4	6	-	11
ICAR ad hoc scheme on "Research on Cymbopogon"	-	-	1	-	1
Total	1	5	9		15

#### 1.12: Student statistics

No. of students admitted during the year was 333 for the UG programmes and 135 for PG programmes. There was no intake of students for the PG Diploma courses during the year. The details of students admitted during the year are as follows:

UG	B.Sc.(Ag.)	-	160
	B.V.Sc. & AH	-	113
	BFSc	-	31
	BSc (C&B)	-	29
	Total		333

PG	Ph.D(Agri)	-	13
	MSc(Agri)	-	80
	Ph.D(Horti)	-	6
	Ph.D(Vety.)	-	3
	MSc (Hort)	-	13
	MSc(Food Science & Nutrition)	-	7
	MVSc(Vety)	-	13
	Total		<u>135</u>

A total of 1577 students were on rolls of the various colleges on shown in Table

	UG	PG	PG Diploma	Diplo- (UG)	Total
a) College of Fisheries	110	-	-	1	110
b) College of Horticulture	290	70	-	1	360
c) College of Co-operation & Banking	138	-	-	1	138
d) College of Agriculture, Vellayani	272	122	-	1	394
e) College of Vety. & Animal Science	425	52	-		477
f) IAT, Tavanur	-	-	-	98	98
Total	1235	244	-	98	1577

CHAPTER - II  
E D U C A T I O N

2(a): COLLEGE OF FISHERIES, PANANGAD

2(a)1: Dr MJ Sebastian continued as the Dean. He continued as a member of the ICAR Society and the Senate of the Cochin University. He attended the ICAR fisheries expert panel meeting at New Delhi on 2-3 July 1984. He also attended the ICAR Regional Committee meeting held at Coimbatore on 9-10 July 84.

2(a)2: Academic positions

Out of the total number of 42 academic positions in the College, 17 posts remained vacant during the year (Table 2.1). Of the five temporary positions of Research Fellows, only 1 remained vacant.

Dr V Jayaprakash, Assistant Professor joined on 2-6-84 at the Instructional Farm, Panangad. Mr P Radhakrishnan Nair joined as Associate Professor and Head, Department of Fishing Technology on 19-7-1984. Dr Anna Mercy joined as Junior Assistant Professor (Agriculture) on 2-4-1984. Dr MC George, Assistant Professor (Fishery Microbiology) left on deputation to serve in the Amala Cancer Institute, Trichur for 2 years from 2-4-1984.

Ten posts of Research Fellows were created during the year from September 1984.

Table 2(a)1

College/ Departments/ Farms	Dean	Profs.	Assoc. Profs.	Asst. Profs.	Jr. Asst. Profs.	Total		
						San- ction ed	In posi- tion	Vaca- nt
<u>College of Fisheries</u>								
Dean	1					1	1	-
Professor (Fisheries Research)	-	1				1	1	-
<u>Departments</u>								
Aquaculture	-	1		4(1)	2	7	6	1
Fishery Biology	-	1(1)	1	4(1)	2(1)	8	5	3
Fish Process- ing Tech- nology	-	1(1)	1	4(3)	2(2)	8	2	6
Fishery Hydro- graphy	-	-	1	2	1	4	4	-
Fishery Engi- neering	-	-	1(1)	1(1)	1(1)	3	-	3
Fishing Technology	-	-	1	1(1)		2	1	1
Management Studies	-	-	1	-	3(3)	4	1	3
Instructional Farm, Panangad	-	-	1	-	-	1	1	-
Instructional Farm, Pudu- veypu	-	-	1	2	-	3	3	-
Total	1	4(2)	8(1)	18(7)	11(7)	42	25	17

\* Figures in parentheses are positions vacant

2(a)3. Paratechnical, Administrative, Ministerial and supporting positions

The total number of sanctioned posts belonging to these categories is 48 (Table 2(a)2) out of which only 10 remained vacant during the period.

Table 2(a)2

	Sanctioned	In position	Vacant
<u>Administrative &amp; Ministerial</u>			
Administrative Officer	1	1	-
Section Officer	2	2	-
Office Superintendent	1	1	-
Sr. Grade Typist	1	1	-
Office Assistants	9	9	-
Total	14	14	Nil
<u>Library Staff</u>			
Assistant Librarian	1	-	1
Reference Assistant	1	1	-
Total	2	1	1
<u>Para Technical Staff</u>			
Technician Grade II	1	1	-
Lab Assistant Grade III	6	-	6
Fieldman (Fisheries)	2	2	-
Total	9	3	6
<u>Supporting Staff</u>			
Driver Grade II (H.V)	2	1	1
(L.V)	3	3	-
Bus Attendant	1	1	-
Fisherman-cum-Watchman	5	4	1
Cleaner-cum-Conductor	1	-	1
Peons	3+1	3+1	-
Sweepers	3	3	-
Total	19	16	3

	Sanctioned	In position	Vacant
<u>Instructional Farm, Puduveypu</u>			
Office Assistant	1	1	-
Fieldman (Fisheries)	1	1	-
Fisherman-cum-Watchman	2	2	-
Total	4	4	Nil
Grand Total	48	38	10

2(a)4. Academic Programmes started

The University has approved the starting of the MFSc Programme in the disciplines of Aquaculture and Fishery Biology during 1984-85.

2(a)5. Faculty Improvement

Miss Elizabeth Joseph, Junior Assistant Professor continued to be on study leave undergoing the Ph.D programme in the Centre of Advanced Studies in Mariculture at the CMFRI Cochin.

Mr Sajan George, Junior Assistant Professor continued to be on leave without allowances undergoing the Ph.D programme in the College of Fisheries, Mangalore.

2(a)6. Civil works

The construction of the boys hostel, the fourth semipermanent academic block and dining hall for boy's hostel were completed during the period.

2(a)7. Seminars/Symposia/workshops/trainings conducted

Under the auspices of the Employment Information and Guidance Bureau, Kerala Agricultural University, a seminar on "Employment for Fishery Graduates" was held at the College on 21st July, 1984.

Under the extension education programme, a farmers' training programme was conducted in collaboration with the Kuttanad Integral Development Society and Ramankari Service Co-operative Bank at Ramankari during the period 21-6-1984.

2(a)8. Scientists deputed to attend seminars/workshops/training etc.

Nature of Seminars/Workshops	Venue & Date	Name of participants
Workshop on "Shrimp Farming"	Cochin, 23-5-84 Department of Fisheries, Kerala	Dr MJ Sebastian, Dean
Summer Institute on "Application of Indigenous Electronic instruments in Fishing and Fisheries Science"	Cochin, 17-5-84 to 16-6-84 - CIFT -	PS Mrithunjayan, Asst. Professor
NARP(Fisheries)Workshop	Kumarakom 21-8-84 NARP Region of Problem Areas	Dr MJ Sebastian Dr DM Thampy Dr PM Mathew Dr MV Mohan
Training Programme on "Acoustic Methods for Fish Detection and Abundance Estimation"	Cochin 12-25th September 1984 CMFRI	Dr MS Kurup
Seminar on "KAU 2000AD"	Vellanikkara 22-24/11/84 KAU Headquarters	Dean, Professor, Fisheries Research Head of the Depts., Dr K Jayashree & Sri.CG Rajendran
Seminar on "Fisheries in Kerala - Review & Future"	University of Cochin, 6-7/7/1984	Dr P Rabindranath, Dr TM Jose, Dr BM Kurup
Symposium on "Comparative Endocrinology"	Varanasi, 29-31/12/84 Bharat Hindu University	Dr TM Jose, Sri.PM Sherief

2(a)9. Important Meetings held

The reconstituted Board of Studies (Fisheries) met at Panangad on 12-9-1984. The Board recommended the starting of the MFSc course in the Faculty in the Aquaculture and Fishery Biology Departments. The third meeting of the Faculty Research Committee (Fisheries) met on 20-7-84.

2(a)10. Academic Programme - Under Graduate Courses

No. of students on rolls as on 31-12-1984 under each course.

A total of 110 students were on rolls in the College for the BFSc programme as shown:

Details of Course	Men	Women	Total	No. of foreign students
B.F.Sc 1979 Admission	7	-	7	1
1980	16	9	25	-
1981	17	9	26	-
1982	21	4	25	-
1983	20	7	27	-
-----				
Total	81	29	110	1

2(a)11. No. of students completing the course (UG)

Course	Men	Women	Total	No. of foreign students
B.F.Sc	10	8	18	Nil

2(a)12. Scholarships and other financial assistance to students

There were 31 students who were recipients of various fellowships/scholarships.

Name of Scholarship	Receipts		Total
	Men	Women	
Scholarship to scheduled caste students	3	1	4
Educational concession under KPCR	7	2	9
Fisheries Scholarship	3	-	3
National Merit Scholarship	1	2	3
Govt. of India Merit cu-Means Scholarship(ICAR)	1	-	1
Educational concession from Manipur Government	1	-	1
Educational concession to OEC/Christian convert students	9	1	10
Total	25	6	31

2(a)13, Study tour

The students were not taken on study tour during the year.

2(a)14. Hostel

The boy's hostel at Panangad started functioning on 14-5-84.

Sri.Syed Ismail Koya, Assistant Professor took charge as the Assistant Warden for men with effect from 2-4-'84 from Dr MC George who left the College on deputation.

Dr BM Kurup joined the men's hostel as Resident Tutor in September 1984.

There were 86 inmates in the hostels, 64 in the men's hostel and 22 in the women's.

2(a)15, Library

No. of books additionally purchased from 1-4-84 to 31-12-84	:	178
Total No. of books as on 31-12-1984	:	5759
No. of Indian and Foreign journals subscribed as on 31-12-1984		
	Indian	: 32
	Foreign	: 30
Back volumes of journals purchased during the period	:	39

2(a)16. Outreach Programmes

N.S.S.Activities

The strength of the NSS volunteers corps as on 31-12-84 was 74. During the period under report N.S.S. volunteers of the College were involved in the non-formal education activities. Several uneducated adults including women made use of the evening classes conducted by N.S.S. volunteers.

A sample survey was also conducted by the volunteers around the area to get information regarding the education level and income particulars of selected families.

Several NSS volunteers donated blood as and when requests came from hospitals at Ernakulam.

The World Literacy Day was celebrated by way of arranging a function, attended by several dignitaries like Sri.PN Panicker.

The NSS volunteers participated in the Social Forestry Programme. They planted and distributed several tree saplings.

The NSS Programme Officer attended the NSS University level Advisory Committee meeting held on 29-9-84 at Vellanikkara.

#### Lab to Land Programme

During the period under report, 25 farm families were selected under the Phase II Programme. Detailed Bench Mark Survey was conducted and list of extra inputs to be supplied was prepared. The fish ponds in the homesteads were readied for stocking. 3000 carp seed purchased for stocking in these ponds are being reared in nurseries.

#### 2(a)17. Important visitors

Names	Institutional affiliation	Date of visit
Mr VC Jacob, Director	Central Ground Water Board (SIDA Project), Trivandrum.	28-4-1984
Mr Carls F. Millern Project Advisor	"	"
Mr G Balasubramanyam, Hydrologist	"	"
Dr Ramakrishnan, IAS., Development Commissioner	Free Trade Zone, Thrikkakkara	21-7-1984
Sri.TKA Nair, I.A.S, Chairman	Marine Products Export Development Authority, Cochin	5-7-1984
Dr CV Kurian, Emeritus Scientist	Central Marine Fisheries Research Institute, Cochin	"
Sri.T Hariharan, Chairman	Kerala Fishermen Welfare Corporation	20-11-1984

Dr Sankaranarayanan,  
Head of the Department of  
Applied Economics

University of Cochin

20-11-84

Dr NR Menon,  
Head of the Department of  
Marine Biology and  
Biochemistry

''

''

2(a)19. Publications

Scientific

Dr MJ Sebastian - Fisheries Education - Theme  
paper presented in the Seminar on 'KAU 2000 AD'

Dr DM Thampy - New Horizons in Aquaculture  
Seminar on 'KAU 2000 AD'

Dr PM Mathew - Perspectives of Fisheries Research  
in Kerala - Seminar on 'KAU 2000 AD'

Dr PM Mathew - Prospects of Brackish water Fish  
and Prawn Farming on the South West Coast of India  
Workshop on Problems of Transfer of Technology in  
Aquaculture, National Institute of Rural Development,  
Hyderabad

PM Sherief - Invitro Effect of Con A II Fraction  
from Chum Salmon Pituitary on the goldfish ovarian  
cholesterol metabolisms and esterase activity

Symposium on 'Comparative Endocrinology'

Banaras Hindu University, Varanasi

Dr TM Jose, Dr MV Mohan and Dr MJ Sebastian  
Induced Breeding of Indian Carps using a Superactive  
Analogue of luteinizing Hormone

Symposium on 'Comparative Endocrinology'

Banaras Hindu University, Varanasi

MM Jose, PM Mathew and Susheela Jose

Prospects of Mixed Culture of Fresh and Brackishwater  
Fishes in Brackish water ponds in the South west  
Coast of India

Second international Conference on Warm Water  
Aquaculture - Finfish, Brigham Young University,  
Hawaii - 1985

2(a)19. Student Union Activities

The valedictory function of the students' union 1983-84 was held in the college on 5th July, 1984. Sri.TKA Nair, I.A.S., Chairman, Marine Products Export Development Authority, Cochin delivered the valedictory address. Dr CV Kurian, Emeritus Scientist, Central Marine Fisheries Research Institute, Cochin addressed the gathering and distributed the prizes to the winners of various competitions.

Sri.T Hariharan, Chairman, Kerala Fishermen Welfare Corporation inaugurated the Students' Union activities 1984-85 in a function held at the College on 20-11-1985. The Planning Forum was inaugurated by Dr Sankaranarayanan, Head of the Department of Applied Economics, University of Cochin. Dr NR Menon, Head of the Department of Marine Biology and Biochemistry, University of Cochin gave the felicitation address on the occasion.

Inter class arts competition was held at the College during the period 19th to 22nd November, 1984.

2(a)20. Extra and Co-curricular Activities

The Hockey and Football teams of the College participated in the KAU Inter Collegiate Tournaments held at Mannuthy from 12th to 14th July, 1984. Seven men athletes of the College participated in the KAU Inter Collegiate Athletic Meet 1983-84, held at Vellayani, on 25th and 26th August, 1984 and secured 7 points. The inter class competitions in shuttle badminton and ball badminton were held at Panangad during the second week of November, 1984. The Table Tennis (Men), Shuttle Badminton (Men) and Shuttle Badminton (Women) teams of the College participated in the KAU Table Tennis and Shuttle Badminton Tournaments conducted at Mannuthy on 6th and 7th December, 1984. The Table Tennis Team (Men) secured 1st place and won the KAU Trophy for the year 1984. The Shuttle Badminton Team (Women) were the runners up for the year 1984.

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2(b): COLLEGE OF HORTICULTURE, VELLANIKKARA.

2(B): 1: General

Dr PK Gopalakrishnan continued as the Associate Dean during the period.

2(B): 2: Academic Position

One post of Professor of Agricultural Engineering has been shifted from the IAT Tavanur on 29-8-84. The posts created during the period were Associate Professor (Agri Engineering) 2 posts, Asst Professor (Agri Engg) one post, Jr Asst Professor (Agri Engg) 2 posts. All these posts remained vacant. Under the manpower development scheme of the coffee board, one post each of Professor of Horticulture and Asst Professor Horticulture was sanctioned during the period.

Of the 139 sanctioned academic positions, 43 were lying vacant on 31-12-1984 (Table)

Sri. John Thomas, Associate Professor was appointed as Professor of Agricultural Engineering against the newly sanctioned post. He assumed charge on 31-10-84.

Sri. P.V. Prabhakaran, Associate Professor (Agri Statistics) was transferred on appointment as Professor to the College of Agriculture, Vellayani. He was relieved on 31-5-84.

Dr NR Viswambharan, Asst Professor (Agri Engg) resigned from KAU service w.e.f. 1-9-84.

One post of Professor, Plant Pathology was temporarily shifted to the College of Agriculture, Vellayani and Dr KI Wilson, Professor (Plant Pathology) was transferred and posted against this post.

Dr B Mohankumar, Asst Professor (Agronomy) was transferred to RARS Pattambi and he was relieved on 8-11-84. Dr J Thomas was posted against that vacancy.

Details of academic position in the College of Horticulture  
as on 31-12-1984

College/ Departments	Associate Dean/ Director	Professors	Associate Professors	Asst Professors	Jr Asst Professor	Sanctioned	Total In position	Vacant
<u>College</u>								
Assoc Dean/DIN	2	-	-	-	-	2	2	-
Professor (Project Coordinator Soils & Agron)	-	1	-	-	-	1	1	-
<u>College Depts</u>								
Plantation Crops	-	2(1)	-	6	5(2)	13	10	3
Olericulture	-	1	-	4	5(4)	11	7	4
Processing Technology	-	1(1)	-	2(1)	3(2)	6	2	4
Nutrition	-	-	-	2	-	2	2	-
Pomology	-	1(1)	-	3	9(7)	13	5	8
Agronomy	-	1	1	3	3(1)	8	7	1
Agrl Chemistry	-	-	3	4	-	7	7	-
Agrl Botany (sugarcane scheme)	-	1	-	3	-	4	4	-
Agrl Entomology	-	-	1	4(1)	-	5	4	1
Plant Pathology	-	1	3	3	1	8	8	-
Agrl Economics	-	1	1	3(1)	3(2)	8	5	3
Agrl Extension	-	-	2(1)	3(3)	1(1)	6	1	5
Agrl Statistics	-	-	2(1)	1	-	3	2	1
Agrl Engg.	-	2	3(3)	5(2)	4(2)	14	7	7
Meteorology	-	1	-	1	-	2	2	-
Phy.Edn.	-	-	-	-	2	2	2	-
CRWDP	-	3	1	2	5(5)	11	6	5
KADP	-	5	2	6(1)	-	13	12	1
<b>Total</b>	<b>2</b>	<b>21(3)</b>	<b>19(5)</b>	<b>55(9)</b>	<b>42(26)</b>	<b>139</b>	<b>96</b>	<b>43</b>

\* Figures in parentheses are vacancies

Dr C Ramachandran, Asst Professor on completion of post-doctoral research was reposted in the Department of plantation Crops. He joined the post on 27-11-84.

Sri Jayaprakash Naik, Jr Asst Professor (Agrl Botany) was posted on working arrangement at KVK Manjeswar w e f 2-11-84.

Dr T Vilasachandran, Asst Professor (Horticulture) resigned from the KAU service w e f 21-5-84

The Instrumentation Centre of the College is bifurcated and the post of Instrumentation Engineer shifted to the College of Veterinary and Animal Sciences, Mannuthy. Sri PR Chandrasekharan, Instrumentation Engineer was transferred and posted at the College of Veterinary and Animal Sciences, w.e.f. 2-11-84.

Dr M Aravindakshan, Professor of Horticulture was appointed as Director of the Centre of Excellence for Humid Tropics Tree Crops and Environmental Horticulture.

Dr G Sreekandan Nair and Sri EV Nybe joined the Man power Development Scheme of Coffee Board as Professor of Horticulture and Asst Professor of Horticulture w e f 31-10-84.

Sri KP Ramachandran Nair, Associate Professor was transferred and posted against the post of Associate Professor (Agrl Extn) created for strengthening the Department of Agricultural Extension.

2(b): 3: Para technical, Administrative, Ministerial and supporting positions.

Of the 96 positions sanctioned for the College, only 15 remained vacant as on 31-12-84. The connected details are given in Table.

Details of Para technical, Administrative, Ministerial and supporting positions in the College of Horticulture as on 31-12-1984

	Sanctioned	In position	Vacant
<u>Administrative &amp; Ministerial</u>			
a) <u>College</u>			
Administrative Officer	1	1	-
Section Officer	3	3	-
Office Assistant	18	14	4
Typists	8	8	-
b) <u>KADP</u>			
Office Assistant	2	1	1
Typist	1	1	-
Total	33	28	5
<u>College Library</u>			
Assistant Librarian	2	-	2
Reference Assistant	4	3	1
Clerk	1	1	-
Typist	1	-	1
Total	8	4	4
<u>Supporting posts</u>			
a) <u>College</u>			
Farm Supervisor	5	5	-
Farm Assistant (Agri)	12	12	-
Lab Assistant	16	11	5
Duplicating Operator	1	1	-
Drivers	2	2	-
Peons	5	5	-
Total	41	36	5

b) KADP

Farm Assistant	4	4	-
Lab Assistant	4	4	-
Driver	6	5	1
Total	14	13	1
Grand Total	96	81	15

2(b): 4: Faculty Improvement Programme

Sri MV Rajendran Pillai, Assistant Professor entered on study leave on 10-4-1984.

Dr J Thomas, Assistant Professor (Agronomy) and Dr C. Ramachandran, Asst Professor (Horticulture) after completion of their post-doctoral programme at UK joined the College on 8-11-84 and 27-11-84 respectively.

2(b): 5: Details of seminars/symposia/workshops/trainings conducted.

Six batches (each batch consisting of 30 officers) of Junior Agricultural Officers were given one week training on Plantation Crops and Spices during September-October.

Five batches (each batch consisting of 30 officers) of Junior Agricultural Officers were given one week training on vegetable production.

Training on vegetable production was given to two batches of Agricultural demonstrators of Agricultural Department.

A six day training for the farm officers of Cardamom Board was conducted on identification and control of root knot nematode of Cardamom nurseries.

A one week training on tree planting and its maintenance was conducted for the railway staff.

A one week training on bio-fertilizers for the Junior Agricultural Officers in charge of seed farms was conducted by the Department of Plant Pathology.

2(b): 6: Details of scientists deputed to attend seminars/  
workshops trainings etc.

Dr K<sup>V</sup> Peter, Professor of Horticulture, attended the National Seminar on Genetic Engineering and Breeding for Stress Tolerance held at the Haryana Agricultural University, Hissar.

Dr M Aravindakshan attended the south zone Agro-forestry workshop conducted by ICAR and a seminar on eco-development on Western Ghats <sup>at</sup> by KFRI at Peechi.

Dr KI Wilson attended the National Seminar on Integrated pest and disease management at TNAU and presented a paper.

Dr KM Rajan attended the National Symposium on diseases of Plantation crops.

Dr G Sreekantam Nair, Professor of Horticulture, Dr Abi Cheeran, Professor of Plant Pathology and Dr PJ Joy, attended the sixth Annual Symposium on Plantation Crops at Kottayam held during 16th to 18th December, 1984.

Dr K Gopikumar attended the seminar on Eco-development of Western Ghats at KFRI, Peechi.

Dr C Sreedharan, Dr M. Aravindakshan and Sri EV Nybe attended the workshop on Farm Trials conducted at this College from 12th to 14th December, 1984.

Prof TP George attended the second Annual combined workshop of coordinated Research projects on Agricultural Drainage and Wells and Pumps.

2(b):7: Academic programmes

Under Graduate programmes

The total number of students on rolls on 31-12-84 in the College for the B.Sc (Ag) programme was 290 as shown in Table

Details of course	Men	Women	Total	No. of foreign students
I year	36	42	78	-
II year	32	25	57	-
III year	44	25	69	6 (Men)
IV year	58	28	86	-
Total	170	120	290	6

Post graduates

For the PG programmes there were 70 students on rolls as shown:

M Sc(Ag)	19	21	40	-
M Sc(Hort)	2	9	11	-
M Sc (Ag Engg)	4	6	10	-
Ph D	4	5	9	-
Total	29	41	70	-

No. of students completing various courses

A total of 53 students completed their B Sc(Ag) programme during the year. Twelve students completed their M.Sc (Ag) programme and 12 others completed their MSc(Hort) programme. One candidate completed the Ph D programme.

<u>Under graduate</u>				
B Sc(Ag)	19	34	53	1
<u>Post graduate</u>				
M.Sc(Ag)	3	9	12	-
M.Sc(Hort)	7	5	12	-
Ph D	-	1	1	-

2(b): 8: Scholarships and other financial assistance to students

The recipients of various scholarships and fee concession schemes were 176 during the period as shown in the Table.

Name of scholarship	Recipients		Total
	Men	Women	
Educational concessions to SC/ST students	19	14	33
Educational concession under KPCR to SCBC & FC students	36	6	42
Educational concessions to OBC/X'ian converts	4	3	7
ICAR Merit cum Means	-	13	13
KAU Fellowship	8	15	23
ICAR Jr Fellowship	12	14	26
ICAR Sr Fellowship	5	1	6
Stipend to students from states other than Kerala	14	10	24
Fellowships by agencies other than ICAR	-	2	2
<b>Total</b>	<b>98</b>	<b>78</b>	<b>176</b>

2(b): 9: Study tour

The III B.Sc(Ag) students comprising of 81 students were taken on All India study tour for a period of 28 days from 25-9-84 to 22-10-84.

The All Kerala study tour of II B.Sc(Ag) students (52 nos) was conducted from 12-8-84 to 21-8-84.

2(b): 10: Hostels

As on 31-12-84, there were 183 men and 165 women residents in the hostels. Dr S. Ramachandran Nair, Professor of Plantation Crops was the Asst Warden for upto 13-4-84 and Dr P Varadarajan Nair, Assoc Professor, Plant Pathology took over on 14-4-84 and continued for the rest of the period. Smt KC Marykutty, Asst Professor, Department of Agrl Chemistry continued as the Asst Warden of the Ladies Hostel

2(b): 11: Library

No. of books additionally purchased from 1-4-84 to 31-12-84	2656
Total No. of books as on 31-12-84	20488
No. of journals as on 31-12-1984	
Indian	136
Foreign	85
No. of back volumes of journals purchased during the period	431

2(b): 12: Important visitors

Very Rev. Mar. Gregorious, Arch Bishop of Trivandrum  
November, 1984

Dr OP Dutta, Head, Division of vegetable crops  
Indian Agricultural Research Institute, New  
Delhi - November, 1984

Dr Sheshadri, Coordinator, AICVIP, from IARI  
December, 1984

Dr B Choudhuri, Head, Division of vegetable crops,  
IARI, New Delhi - December, 1984

Dr Appa Rao, World Bank Mission, New Delhi,  
December, 1984.

2(b). 13: Publications

1. Scientific

Gopalakrishnan, PK, Salikutty Joseph, Gopalakrishnan TR, and Peter KV (1983) A better bittergourd for Kerala, Indian Hort. 28 (3): 11-12

Peter, KV (1984) statistics in Somatic and genetic analysis, Journal of Kerala statistical Association

Abi Cheeran (1984): Microflora of stored black pepper. Paper presented at the VI Annual symposium on Plantation crops at Kottayam from 16th to 18th Dec. 1984.

Semi Popular articles.

Peter KV (1984) supporting Structures - Hindu 29th April, 1984

Rajan S and Peter KV (1984) "Kaykanikal" - Research Bulletin-2, Communication centre, KAU.

Venkitesan TS (1984). "Neema virakal" - A technical bulletin on plant nematodes. Communication centre, KAU.

2(b): 14: Outreach programmes

NSS activities

The NSS students of the College of Horticulture took active part in the village adoption programme. They have frequently visited the houses in Mullakkara Harijan Colony and gave advice or improved methods of cultivation and suggestions for improvement of their conditions. The lady volunteers have contacted the housewives and discussed the problems of child care, health and sanitation.

The community centre of the NSS unit at Mullakkara continued to function with facilities for reading newspapers, pamphlets, leaflets etc.

The students took classes on functional literacy for illiterates in the adopted village. Twelve volunteers donated blood to the patients in the Government Hospital, Trichur.

A ten day special camping programme was conducted at the Girijan Colony, Poovanchira and Harijan Colony, Vilvattom from 10-8-84 to 19-8-84. The volunteers cleaned the premises of the colonies. A total of 100 coconut seedlings and 40 packets of vegetable seeds were supplied free of cost to the inmates of the colonies. They constructed a road (100 m length) in the Girijan colony, Poovanchira. A free medical camp was arranged for the Girijan families.

### T & V programme

The scientists of the College very actively participated in the T&V programme implemented by the Department of Agriculture. Dr C Sreedharan, Professor Agronomy continued as the Chairman for the monthly workshop of Trichur District. Dr G Madhavan Nair, Dr PJ Joy, Mr EV Nybe continued to serve as resource person in the workshops for Trichur and Ernakulam districts.

### 2(b): 15: Student Union activities

The activities of the Union 1983-84 were formally inaugurated by Dr S vasudev, Chairman, Department of Science Technology & Environment on 26th June, 1984. The Readers and Writers Forum was inaugurated by Sri Mullanezhi. "Dhara" a compilation of poems of internationally reputed poets was released on the occasion. Sri Trichur P Radhakrishnan inaugurated the Quiz club and Planning Forum.

The interclass arts competitions were held on the 30th, 31st of August and 1st September, 1984. The overall Arts championship went to the II B.Sc(Ag) students.

The Magazine Committee conducted an "All Kerala Magazine Competition" for the best contents, for the best cover design and the best overall performance. St. Alberts College, Ernakulam, bagged the first prize for the best.

A unit of the "Kerala Shastra Sahitya Parishad" was started in the College. Dr. A.I. Jose was nominated as the president of the Unit. The Parishad organised a seminar on "Bhopal tragedy and the threat to our environment" on 31-12-84. Sri. T. Madhava Menon, Vice Chancellor, KAU presented a paper on the subject.

2(b): 16: Extra and Co-curricular activities.

The interclass athletic competitions were held as per schedule. The College teams participated in various inter-collegiate events and won the following prizes:

Games:

Basket ball (Men)	-	Winners
" (Women)	-	"
Ball Badminton (Women)	-	"
" (Men)	-	Runner up
Volley Ball (Men)	.	Winner
Cricket (Men)	-	Runner up
Table Tennis (Men)	-	"
" (Women)	-	Winner
Shuttle Badminton (Women)	-	Winner

Athletics

Boys and Ladies secured third place in the inter-collegiate athletic competitions with an overall point of 24 and 21 respectively.

2(c) COLLEGE OF COOPERATION & BANKING, MANNUTHY

2(c) 1: General

Dr CA Jose, Professor continued to be in charge of the C&B programme during the year.

2(c) 2: Academic position

There are 30 sanctioned positions for the C&B programme out of which 11 have been filled up. Nineteen posts were lying vacant on 31-12-84. In the Westernghats development project (GOI) there are 8 sanctioned positions out of which only one is lying vacant on 31-12-84. The details are as follows:

	Sanctioned	In position as on 31-12-84	No. Lying vacant
<u>C&amp;B Programme</u>			
Associate Dean	1	-	1
Professor	1	1	.
Associate Professor	7	3	4
Asst Professor	18	6	12
Jr Asst Professor	3	1	2
<u>Western Ghats Project</u>			
Jr Asst Professor	1	1	-
Technical Assistant	1	-	1
Field investigators	6	6	-
Total	38	18	20

Dr CA Jose, Professor in charge took charge as Professor of Cooperation on 29-6-1984.

Dr N Rajan Nair joined duty as special officer on 25-4-84. He later assumed charge as Associate Professor commerce on 1-8-84.

Dr Sreekumaran Sreedharan entered on leave for five years to take up foreign assignment w.e.f. 1-7-84.

Mr T Paranjothi, Jr Asst Professor held charge as Asst Professor in cooperation on 24-7-84.

Dr U Ramachandran joined duty as Asst Professor (Economics) on 27-8-84.

Dr Thariyan K George and Dr. KA Suresh joined duty as Asst Professors in Economics on 12-9-1984.

Smt Molly Joseph joined duty as Jr Asst Professor (Banking) on provisional basis.

2(c): 3: Administrative and Ministerial staff

The details of positions sanctioned for the C & B programme are as follows:-

	No. sanctioned	No. in position as on 31-12-84	No. lying vacant.
Section Officer	1	1	-
Office Assistants	4	1	3
Typist	1	1	-
Duplicating Operator	1	-	1
Peon	1	1	-
Total	8	4	4

2(c): 4: Student statistics.

A total of 138 students were on rolls of the College on 31-12-84 as shown:

	Men	Women	Total
I year B.Sc. C & B	21	8	29
II "	19	13	32
III "	12	14	26
IV "	31	20	51
Total	83	65	138

A total of 14 students were receiving different scholarships:

	Men	Women	Total
KAU Merit	6	5	11
National Merit	-	1	1
District Merit	-	1	1
HRD Programme	-	1	1
Total	6	8	14

2(c) 5: Participation of scientists in seminars/workshops.

Details of seminar/ Workshop	Place	Date	Name of participants
National convention on studies in co- operation	Vaikunta Mehta National Insti- tute of Coopera- tive Management, Pune	October 20-22, 1984	Dr CA Jose

Special programme for University and College Teachers in Co-operation	Vaikunta Mehta National Institute of Co-operative Management, Pune	May 16 to 25, 1984	Philip Sabu
Eco-development of the Western Ghats	KFRI, Peechi	Octo.17 to 18, 1984	M. Mohandas

2(c): 6: Papers published

M. Mohandas - Seventh plan strategy for local level PlanningL The Economic Times, Aug. 6, 1984

2(c) 7: Outreach programmes

Under the Lab to Land programme, 25 households were supplied one goat each, Poultry, agricultural implements, 25 kg of feeds per family, 250 grams of Tefroli and 500 gm each of Rolundol, were also distributed.

2(d) COLLEGE OF AGRICULTURE, VELLAYANI

2(d) 1: General

Dr N Sadanandan continued as the Dean. Dr. MM Koshy continued as the Professor (Research Coordination) during the period.

2(d) 2: Academic position

Of the 127 academic positions sanctioned for the college, 35 positions were lying vacant as on 31-12-84 (Table)

The post of Professor of Agricultural Statistics was shifted back from the College of Veterinary and Animal Sciences.

The post of Associate Professor of Agronomy at the Agricultural Research Station Mannuthy was temporarily shifted to this College and converted as Associate Professor of Plant Pathology and Dr CK Peethambaran returning from deputation was posted against this vacancy.

The post of Professor of Plant Pathology, College of Horticulture was temporarily shifted to this college and Dr KI Wilson, Professor assumed charge on 24-11-84.

Table: Details of academic positions in the College of Agriculture, Vellayani

College Departments.	Dean	Professor	Assoc Professor	Asst Professor	Jr Asst Professor	Sanctioned	Total	
							In position	Vacant
<u>College</u>								
Dean	1	-	-	-	-	1	1	-
Professor (RC)	-	1	-	-	-	1	1	-
<u>Departments</u>								
Agronomy	-	1	6(1)	2	2(2)-	11	8	3
Agri Botany	-	-	1	3	2(1)-	7	6	1
Plant Breeding	-	1	2	3(1)	1(1)-	7	5	2
Agri Chemistry	-	1	3(1)	5(1)	2(2)-	11	7	4
Agri Entomology	-	1	3	6	2	12	12	-
Agri Extension	-	1	2	3	3(2)-	9	7	2
Horticulture	-	1	1	1	1(1)-	4	3	1
Plant Pathology	-	2	3	3	5(3)-	13	10	3
Agri Statistics	-	1	1(1)	4(4)	1	7	2	5
Agri Engineering-	-	1	1(1)	1(1)	1(1)-	4	1	3
Plant Physiology-	-	-	2	-	1	3	1	2
Ag Economics	-	-	1	2(1)	2	5	4	1
Home Science	-	1(1)	2	-	1(1)-	4	2	2
Animal Husbandry-	-	1	-	3	1	5	4	1
Nematology	-	-	1	1(1)	-	2	1	1
Insect Pathology-	-	-	1	1	2(2)-	4	2	2
Plant Pathology Herbarium	-	-	1	1	2	4	4	-
Micronutrient Lab-	-	-	-	-	1(1)-	1	-	1
AICRP on forage crops	-	-	1	2	2	5	5	-
Environmental Pollution scheme	-	1	-	-	-	1	1	-
Studies on grass-land flora	-	-	-	-	1(1)-	1	-	1
AICRP on Nematodes-Phy Education	-	-	1	-	2	3	3	-
	-	-	-	-	2	2	2	-
Grand Total	1	15(1)	33(4)	41(9)	37(18)	127	92	35

Dr R Muraleedhara Prasad, Assistant Professor (Extn) joined duty vice Sri R Prakash transferred to Communication Centre, Mannuthy.

Dr S Ramachandran Nair, joined duty as Professor of Horticulture on 18-4-1984.

Sri K. Jayaraman, Assistant Professor (Agrl Statistics) resigned from KAU service with effect from 30-4-84

Smt P Prabhakumari, Assistant Professor of Agrl Chemistry joined duty in the Department of Agricultural Chemistry on transfer.

Sri K. Vasanthakumar, Assistant Professor joined duty in the Department of Horticulture against the post of Associate Professor.

Sri PV Prabhakaran, selected and appointed as Professor of Agricultural Statistics joined duty on 1-6-84.

Smt Lizy Behanan joined duty as Junior Assistant Professor in the Department of Home Science on transfer.

Smt Jessy T Joseph (Provisional) joined duty as Junior Assistant Professor (Home Science) in the scheme "Integrated Development of Kannikkar tribals" on 27-10-84.

Sri M Abdul Salam, Assistant Professor (Agronomy) rejoined duty in the Department of Agronomy on 7-4-84 after the expiry of leave for study purposes

Sri Gokulapalan, Junior Assistant Professor (Plant Pathology) rejoined duty in the Department of Plant Pathology on 26-7-84 on completion of his Ph.D course.

Smt A Naseema Beevi, Assistant Professor joined duty in the Department of Entomology on 7-11-84 after completion of study leave.

Dr ET Jacob, Assistant Professor (AH) was granted leave without allowance for 5 years with effect from 27-12-84 for taking up employment elsewhere.

2(d) 3: Faculty improvement programme

Smt T Nalinakumari, Assistant Professor (Ent) was relieved with effect from 16-4-84 for undergoing Ph.D programme.

Smt Lekha Sreekantan, Assistant Professor (Agronomy) was relieved on 19-5-84 for undergoing Ph D course in the Tamil Nadu Agricultural University, Coimbatore.

Sri. B.K. Jayachandran, Assistant Professor (Hort) was relieved on 29-12-84 for undergoing Ph D Course.

Sri O. Abdul Rehiman Kunju, Associate Professor (Agrl. Extension) was relieved on 31-12-84 for undergoing Ph D course.

Dr ST Mercy, Associate Professor continued to be on leave for post-doctoral studies at IRRI, Manila.

Dr D Dale, Associate Professor (Entomology) has applied for study leave with effect from 11-6-84 in continuation of his deputation for Post-doctoral fellowship at IRRI, Manila.

2(d) 4: Para technical, Administrative and supporting positions.

There were 193 positions filled up as on 31-12-84 as against the sanctioned strength of 210. Seventeen posts were vacant on this date (Table)

Details of para technical, administrative, ministerial and supporting positions in the College of Agriculture, Vellayani

Name of Post	Sanctioned	In position	Vacant
Farm Supervisor (Ag) Gr.II	10	10	-
" (Vety)	3	3	-
Farm Assistant (Ag)	9	8	1
" (Vety)	2	2	-
Graduate Tech. Assistant	5	5	-
Technical Assistant (Stat)	2	2	-
Laboratory Assistant (Non-graduate)	13	11	2
Laboratory Assistant	27	24	3
Junior Technical Assistant	2	-	2
Administrative Officer	1	1	-
Section Officer	6	6	-
Senior Office Superintendent	4	4	-
Office Superintendent	3	3	-
Assistants	25	25	-
Typists	11	11	-
Librarian	1	-	1
Assistant Librarian	1	-	1
Reference Assistant	4	4	-
Artist	2	2	-
Steward	2	2	-
Matron	1	1	-
Clerical Attender	2	-	2
Duplicator Operator	2	2	-
Feon	24	24	-
Watcher	7	7	-
Farm Worker	4	3	1
Scavenger	4	3	1
Sweeper-cum-Scavenger	2	2	-
Lascar	1	1	-
Milk Recorder	1	1	-
Milker	1	1	-
Marker	2	2	-
Typists	11	11	-
Assistant Librarian	1	-	1
Reference Assistant	4	4	-
Artist	2	2	-
Steward	2	2	-
Matron	1	1	-
Clerical Attender	2	-	2

Herdsmen	1	1	-
Cook-cum-caretaker	1	1	-
Asst Agrl Engineer (M)	1	1	-
Technicians	8	7	1
<b>Drivers</b>	10	3	2
Tractor Driver	1	1	-
Oil Engine Driver	1	1	-
Pump Operator	3	3	-
Grand Total	210	193	17

2(d) 5: Seminars/Symposia/Workshops/Trainings held.

The following trainings were imparted in the College during the period.

T&V training for the Agricultural Demonstrators of the Department of Agriculture.

Training in Plant Protection to the Junior Agricultural Officers of the Department of Agriculture.

Training in Plant Protection to Agricultural Demonstrators of the Department of Agriculture.

Short term training in Mushroom cultivation to Farmers and Lady volunteers of Gandhi Smaraka Nidhi.

A training in Agriculture to the Field Supervisors of Land Mortgage Bank.

Training in Fodder Production and Preservation, to Junior Agricultural Officers of the Department of Agriculture.

Monthly workshops for Trivandrum district were held in the College under the Chairmanship of Dr V Gopinathan Nair, Professor Plant Breeding.

## 2(d) 6: Deputation of scientists to attend seminars/workshops/Trainings.

Nature of Seminar	Venue & Date	Name of participants
Kerala Agricultural University during 2000 AD	Vellanikkara 22-11-84 to 24-11-84	Sri PV Prabhakaran, Prof of Agrl Statistics Dr AN Rema Devi, Prof of Agrl Engineering  Dr N Mohandas, Prof of Entomology  Dr George Koshy, Assoc Professor (Ent)  Dr KI Wilson, Professor (Plant Path)  Dr MC Nair Professor (Plant Patho)  Dr SK Nair, Assoc Professor (PP)  Dr S Balakrishnan Assoc Professor (PP)  Smt G Padmakumari, Assoc Professor (PP)
International Symposium on Soil Erosion and its control measures	Bangkok, Thailand 10-11-84 to 19-11-84	Dr VK Sasidhar, Professor of Agronomy
AICORPO Annual Kharif Workshop	TNAU, Coimbatore, 23-4-84 to 27-4-84	Dr V Gopinathan Nair, Professor (Plant Breeding)
AICORPO Summer Groundnut Group meeting	OUAT, Bhubaneswar, 13-11-84 to 15-11-84	Dr V Gopinathan Nair, Professor (Plant Breeding)
National Symposia on Radio Isotopes in Agrl Research	TNAU Coimbatore June, 1984	Sri K. Harikrishnan Nair, Assistant Professor
Golden Jubilee Celebration & convention of Indian Society of Soil Science	IARI, New Delhi 7-12-84 to 10-12-84	Dr S Pushkala, Associate Professor  Sri C Sundaresan Nair, Asst Professor

Symposium on Soil Pests & Soil organisms	Benaras Hindu University 28-10-84 to 30-10-84	Dr A Visalakshy, Associate Professor  Dr KP Vasudevan Nair, Assoc Professor  Sri KK Raveendran Nair, Associate Professor  Dr Susamma Philip, Associate Professor
National Seminar on Integrated Pest and Diseases management	TNAU Coimbatore 5-6-1984	Dr PB Gopinathan, Asst Professor  Dr KI Wilson, Professor, Plant Path.  Dr MC Nair, Professor (PP)
PLACROSYM - VI	Kottayam 16-12-84 to 20-12-84	Dr CK Peethambaran, Associate Professor  Dr S Balakrishnan, Associate Professor
Annual workshop of the AICRP, Forage	IGFRI, Jhansi 23-9-84 to 25-9-84	Sri G Raghavan Pillai, Associate Professor  Smt J Sreekumari Amma, Assistant Professor
Advance training in Establishing & Maintenance of Herbarium	Centre for advanced studies in Botany, University of Madras 10-12-84 to 15-12-84	Smt G Padmakumari, Associate Professor
Advanced training in Mycological techniques	do.	Sri B Balakrishnan, Assistant Professor
Training on Identification & Collection of Mushroom flora	do.	Dr S Bhavani Devi, Asst Professor

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## 2(d) 7: Student statistics

There were a total of 272 students on rolls for the B.Sc.(Ag) programme as on 31-12-84. For the M.Sc(Ag) course there were 103 students on rolls on this date. For the Ph.D programme there were 19 students in all, on rolls.

The details are as follows:

B.Sc.(Ag)	Men	Women	Total	No. of foreign students
I Year	36	43	79	nil
II year	26	23	49	nil
III year	38	21	59	3
IV year	33	52	85	nil
Total	133	139	272	3

## PG Course (M.Sc.(Ag))

I Year	23	30	53	nil
II Year	26	24	50	2
Total	49	54	103	2

## Ph.D course

I year	6	2	8	nil
II Year	3	3	6	nil
III Year	3	2	5	nil
Total	12	7	19	

A total of 74 students completed the B.Sc.(Ag) programme during the period and a total of 23 students completed their PG programmes

	Men	Women	Total
U G	32	42	74
PG	11	12	23
Total	43	54	97

## 2(d) 8: Scholarships and other financial assistance.

A total of 159 students were recipients of various scholarships.

Recipients of scholarship and other financial assistance			
	Men	Women	Total
National Merit scholarship	7	16	23
National Loan scholarship	-	1	1
Education concession under KPCR	13	14	27
Education concession to ST students	2	3	5
Education concession to SC students	15	17	32
Educational concession to DEC students	1	-	1
Merit scholarship to the children of the school teachers	1	1	2
Merit scholarship to the child- ren of employees of Bhilai steel plant	-	1	1
KAU Junior Fellowship to PG students	10	8	18
ICAR Junior Fellowships	3	8	11
ICAR Senior Fellowship	5	3	8
Educational concession to Nepalee students by USAID, New Delhi	2	-	2
Edl concession to students of Tripura state	10	-	10
Edl concession to Lakshadweep students	4	-	4
KAU Merit scholarship	2	7	9
KAU Senior Fellowships	-	2	2
Edl. concession to Bhutan students	3	-	3
Grand Total	78	81	159

## 2(d) 9: Study Tours

An All India study tour was conducted for the third B.Sc.(Ag) students (81) from 10-9-84 to 3-10-84. The students were taken to places and institutions of agricultural importance of South and North India. They visited Tamil Nadu Agricultural University, Coimbatore; Sugarcane Breeding Institute, Coimbatore; UAS Bangalore; CFTRI, Mysore; Indian Horticultural Research Institute, Hassarghata; AICRIP, Hyderabad; ICRISAT, Hyderabad, Meteorological Observatory, Pune; BARC, Trombay and IARI, New Delhi.

The final B.Sc.(Ag) students were taken on a State study tour and the students visited Central Research Institutes and the Research Stations of Kerala Agricultural University.

## 2(d) 10: Hostels

Mr SP Pillai, Mr P Chandrasekharan and Smt K Saradamma continued as the Assistant wardens in the UG, PG and ladies Hostels respectively. There were 252 inmates in the hostels. The details are as follows.

	<u>Boys</u>	<u>Girls</u>	<u>Total</u>
UG Men's hostel	92	-	92
Ladies' hostel	-	121	121
PG hostel	39	-	39

## 2(d) 11: Outreach programmes

NSS

Dr Skariah Oommen, Associate Professor (AH) and Sri PA Rajan Asari, Assistant Professor (Entomology) continued as Programme officers of the NSS Unit of the College.

The student strength allotted to the College for the year 1984-85 is 250. The actual enrolment for the period is 250 volunteers.

NSS volunteers collected disease and pest affected specimens from adopted villages and recommendations obtained from Plant Protection Departments were conveyed to farmers.

NSS volunteers helped to conduct a Rabies vaccination campaign and a seminar on Rabies and its control.

A cleaning campaign was arranged to clean the hospital premises.

The women volunteers contacted housewives in the adopted villages and discussed their problems and rendered advice on Sanitation, child care, health and Nutrition.

A special camping programme of the NSS Unit was conducted from 11-8-84 to 15-8-84. The theme of the camp was "Youth for Rural Reconstruction".

#### Campaign

A one day campaign on better infant feeding practices were conducted in Small and medium town development project areas of Shertallai and Ka amkulam under the auspices of Home Science Department of this Institution.

#### Lab to Land Programme

Two day training in Bee keeping and also on fruit and vegetable preservation was imparted to selected farm youths of Muttakkad and Kalliyoor villages. An Agricultural Seminar was organised for the benefit of all the beneficiaries under Lab to Land programme. Extra inputs like chicks, bee hives and agricultural implements were distributed to the beneficiaries.

#### 2(d) 12: Visitors

Several reputed scientists and public men visited this Institution during the period under report. They included Dr D Kleiner, Professor of Microbiology from

West Germany, Sri Vakkom B. Purushothaman, now MP and former Speaker, Kerala Legislative Assembly and Smt Saraswathy Ammal, Deputy Minister for Agriculture, Utter Pradesh.

2(d) 13: Publications

Based on research conducted by academic staff in the various disciplines of this Institution 24 scientific papers were published in leading research journals. Ten popular articles were also published in news papers and other journals.

2(d) 14: Student Union Activities

The valedictory function of the students union was conducted on 12-11-84 and Sri Vakkom B Purushothaman, Speaker of the Kerala Legislature Assembly inaugurated the valedictory function and delivered the valedictory address.

2(d) 15: Extra and Co-curricular activities

Interclass competitions were held in almost all disciplines of athletics. The annual athletic meet was held on 23rd and 24th May, 1984 and trophies were given away to the winners. Kerala Agricultural University Athletic meet was held in our Institution on 25th and 26th August, 1984.

The College teams were the champions in KAU Athletic meet -- men and women. The College teams were the winners in Hockey (men) Football (women) and ball badminton (men) Open tournaments.

Open tournaments in Table Tennis for men and women were conducted.

2(d) 16: Tribal Area Research Centre, Amboori

Seeds were distributed to the Kannikkar Tribal families. Fertilizers and Cashew Planting materials were also given to them.

In the discipline of Animal Husbandry, Veterinary clinic-cum-cattle infertility camps were organised.

Under the health programme, ayurvedic clinics were opened for rendering medical aid to the tribal community.

Under the auspices of Home Science discipline, group discussions were held on the significance of balanced diet, low cost nutrition diet etc.

The small scale industries wing of the Project distributed bee hives to selected tribal people for establishing Bee keeping units.

2(d) 17: Library

No. of books additionally purchased from 1-4-1984 to 31-12-84	439 Nos
Total number of books as on 31-12-84	20254 "
No of journals -- Indian	52
Foreign	49
	-----
	101
Back volumes of journals purchased during the period	Nil

2(e): COLLEGE OF VETERINARY & ANIMAL SCIENCES,  
MANNUTHY

2(a)1: Dr M Krishnan Nair continued as the Dean, Faculty of  
Veterinary & Animal Sciences. Dr K Radhakrishnan  
continued as the Professor(RC).

2(e)2: Student Statistics

There were a total of 419 students on rolls of the  
college as on 31-12-84 for the BVSc & AH programme. For  
the Masters Programme there were 43 students in all,  
27 being for the MVSc programme and the remaining 16 were  
for the MSc Agricultural Statistics programme. There  
were 9 candidates on rolls for the Ph.D programme. The  
details are given in Table.

No. of students as on roll on 31-12-84 in the  
College of Veterinary & Animal Sciences

Course	Men	Women	Total	No. of foreign students
1	2	3	4	5
<u>BVSc &amp; AH</u>				
1984 Admn.	80	33	113	1
1983 ,,	48	12	60	
1982 Admission	51	14	65	2
1981 ,,	51	30	81	2
1980 & earlier admission	84	16	100	4
Total	314	105	419	9
P.P. Make up course	6	..	6	
Total	320	105	425	

	1	2	3	4	5
<u>P.G.Courses</u>					
MVSc. 84 admission		12	1	13	
83     ,,		12	1	13	2
Earlier   ,,		1	-	1	
		-----			
Total		25	2	27	2
-----					
<u>MSc (Ag.Stat)</u>					
84 Admission		2	4	6	
83     ,,		2	1	3	
82     ,,		3	4	7	2
		-----			
Total		7	9	16	2
-----					
<u>Ph.D</u>					
84 Admission		3	-	3	
83     ,,		4	-	4	
82     ,,		2	-	2	
		-----			
Total		9	-	9	

2(a)3:

A total of 45 students completed the BVSc & AH programme during the period. Two MSc Agricultural Statistics students and one Ph.D student have also completed their courses during the period. None completed their MVSc degree during the period. The details are as follows:

No. of students completing various courses

Course	Men	Women	Total
<u>U.G.Course</u>			
BVSc & AH	33	12	45
P.P.Make up course	3	-	3
Total	36	12	48
MVSc	-	-	-
MSc(Ag.Stat)	-	2	2
Ph.D	-	1	1
		3	3

2(e)4: College Library

A total of 486 books and bound volumes of Journals were added to the library during the period 1-4-84 to 31-12-84. As on 31-12-84, there were 18, 316 titles in the College Library. The Indian & Foreign Journals subscribed during the period were 185.

2(e)5: Faculty Improvement

Dr KR Harshan, Assistant Professor continued in the Haryana Agricultural University undergoing his Ph.D programme. Dr KV Raghunandan and Dr B Nandakumaran, Assistant Professors entered on study leave for undergoing their Ph.D programmes in Animal Breeding and Genetics. Dr CK Thomas, Professor continued under post-doctoral programme in West Germany.

Dr CP Neelakantan, rejoined the Department of Animal Reproduction as Professor & Head on 1-6-84 after his Ph.D programme.

Dr UT Francis returned in August 84 after completing his Ph.D programme. In the Department of Microbiology Dr PC James continued to be on deputation for the Ph.D course. Dr R Madhusoodanan Pillai and Dr G Krishnan Nair were on study leave undergoing their Ph.D programmes.

Dr Jayaprakasan joined as Assistant Professor in the Microbiology Department on completion of his Ph.D Course. Dr KV Valsala, Associate Professor was deputed for the International PG Course in Veterinary, Pathology, Uppsala, Sweden from 1-3-84 to 30-11-84. She rejoined on 5-12-84.

2(e)6: Deputation of Academic staff to attend  
Symposia/Seminars/Workshops

Name of Scientists (1)	Details of Seminars, (2)	Venue & Date (3)
Dr E Sivaraman	National Seminar on Feeding systems for maximising livestock production	HAU, Hissar, 28-31 October 84
"	International Seminar on "which model for Community Development"	Belgium, 10-15 December 1984
Dr A Rajan	National Seminar on Methods on diagnosis	Madras Vety. College 28-8-84
"	ICAR Workgroup meeting on Mycotoxicosis	ICAR, New Delhi 11-9-84

1	2	3
Dr G Nirmalan	National Animal Physiology Research Workers' Conference	Karnal 3-6 December 1984
Dr PO George	All India Symposium of Indian Society for Vety. Surgery	PKVV Akola Maharashtra

2(a)7: Scientific papers published by members of Academic staff

Scientific papers

A total of 23 scientific papers were published during the period. The department-wise details are as follows:

Animal Breeding & Genetics	-	6
Animal Management	-	2
Animal Reproduction	-	5
Department of Animal Pathology	-	4
Department of Poultry Science	-	2
Department of Surgery	-	4

Popular articles

The members academic staff published five popular articles during the period:

Department of Dairy Science	-	2
Department of Extension	-	3
Department of Poultry Science	-	2

2(e)8:Diagnostic work carried out in the  
Department of Pathology

The details of diagnostic work carried out in the  
Department of Pathology are as follows:

Post-mortems(Poultry)	-	4824 Nos.
Large animal post-mortems	-	491 Nos.
Histopathological diagnosis	-	1438
Clinical pathological examination	-	749
Biopsy examination	-	1085
Feed sample for mycotoxins	-	120

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2(f). INSTITUTE OF AGRICULTURAL TECHNOLOGY,  
TAVANUR

2(f)1.General

Consequent on the retirement of Sri.K Karunakaran on superannuation with effect from 31-3-84, Sri.CP Muhammad, Associate Professor(Agrl. Engg) has been placed in full additional charge of the post of Director in this Institute with effect from 1-4-1984. Sri.CP Muhammad, Associate Professor was appointed as Professor of Agricultural Engineering and posted in this Institute against the post shifted from the College of Horticulture, Vellanikkara. He assumed charge of the post on 1-9-84.

One post of Administrative Officer has been created in this Institute. Smt.K Padmavathy assumed charge of the post on 7-6-1984.

2(f)2. Academic Positions

Of the 30 sanctioned posts of academic staff, 17 were lying vacant during the report period(Table).

Sri.M Venugopala Pillai has been provisionally appointed as Junior Assistant Professor(Civil Engg.) in this Institute and he assumed charge of the post with effect from 19-5-84 F.N.

Dr CK Sreedharan Unni, Assistant Professor(Ani.Husb.) has been transferred and posted to College of Veterinary & Animal Sciences, Mannuthy. He has been relieved of his duties in the Institute with effect from 25-6-84 A.N. Dr H Subramanian, Assistant Professor, College of Veterinary & Animal Sciences, Mannuthy has been transferred and posted in this Institute in the place of Dr CK Sreedharan Unni. He assumed charge of the post on 9-7-84 F.N.

Dr CM Aravindakshan, Junior Assistant Professor(AH) of this Institute has been transferred and posted in the

College of Veterinary & Animal Sciences, Mannuthy. He was relieved of his duties in this Institute with effect from 10-10-84 AN.

No Scientific staff has been deputed for P.G. programme. Details of staff are furnished below :

Academic Staff position of IAT, Tavanur as on 31-12-84

Designation	Academic positions sanctioned	No. of position	
		Filled	Vacant
<u>C.I.Plan DARE</u>			
Professor (Agrl. Engg)	1	1	-
Assoc. Professor(A.E.)	1	-	1
Asst. Professor(A.E)	1	-	1
Junior Asst. Professor	4	3	1
	7	4	3
<u>IV (a) Agrl. Education.</u>			
Director	1	-	1
Asst. Professor	4	2	2
Research Assistant	1	1	-
Jr. Asst. Professor	2	-	2
Asst. Engineer(Mech)	1	-	1
	9	3	6
<u>L.S.A</u>			
Junior Asst. Professor(AH)	2	-	2
<u>Diploma Course in Agriculture</u>			
Jr. Assistant Professor	3	2	1
<u>IV E. Extension Training Service</u>			
Asst. Professor(Agro)	1	1	-
Jr.Asst. Professor	2	-	2
	3	1	2

	1	2	3	4
<u>B. Instructional Farm</u>				
Asst. Professor(Agr. Chem)	1		-	1
Jr. Asst. Professor	2		2	-
	3		2	1
<u>N.A.R.P</u>				
Asst. Professor(One post each in Agronomy, Plant Breeding & Irrigation Engg.)	3		1	2
Grand Total	30		13	17

2(f)3. Para-technical, Administrative,  
Ministerial & Supporting positions

Of the 65 positions, 14 posts remained vacant.

Details are given in Table.

Para-Technical, Administrative, Ministerial and Supporting  
Staff position of IAT, Tavanur as on 31-12-84

Designation	Staff position sanctioned	Filled	Vacant
1	2	3	4
<u>IV (a) V.A</u>			
Administrative Officer	1	1	-
Section Officer	2	2	-
Senior Grade Assistant	4	3	1
Assistant Grade I	5	5	-
Office Supdt., (FC&D)	1	1	-
Stenographer Grade I	1	1	-
Farm Supervisor(Agri) Gr.I	1	1	-
Farm Assistant(Agri) Gr.I	3	3	-
Farm Assistant(Vety) Gr.I	1	1	-
Technician Gr.I	1	-	1
Technician Gr.II	4	4	-

	1	2	3	4
Technician Gr.III	1		1	-
Librarian	1		1	-
Lab. Assistant Grade II	1		1	-
Peon (Higher Grade)	2		2	-
Peon	2		2	-
Driver Grade I	1		1	-
Watchman	2		2	-
Gardener (Higher Grade)	1		1	-
Sweeper-cum-Marker	1		1	-
Scavenger	1		-	1
Sweeper-cum-Attendant	1		-	1
Library Attender	1		-	1
	41		36	5

C (1) DARE

Senior Grade Typist	1		1	-
Senior Grade Assistant	1		1	-
Assistant Grade I	1		1	-
Draftsman (Civil)	1		-	1
Trade Assistant	9		5	4
Lab. Assistant Gr.II	4		1	3
Driver Grade II	1		-	1
Peon	3		3	-
	21		12	9

A IV K Training

Typist Grade II	1		1	-
Senior Gr. Farm Asst.(Agri)	1		1	-
	2		2	-

D.A.Sc

Lab. Asst. Gr.III	1		1	-
Grand Total	65		51	14

2(f)4: Details of Seminar/Symposia/Workshop

One day seminar on promotion of self-employment was conducted at Institute of Agricultural Technology, Tavanur on 18-5-84, under the auspices of Employment Information Bureau of Kerala Agricultural University.

2(f)5: Details of training programmes conducted

The pre-service training for Agricultural Demonstrators (T&V) was held from 4-6-84 to 3-12-84. A total of 52 candidates were given this training.

2(f)6: Details of Scientists deputed to attend Seminars/Workshop/Training etc.

None of the scientists in this Institute has been deputed outside to attend seminars/workshop/training etc., during the period under report.

2(f)7: Academic Programmes

A total of 98 students were on rolls as on 31-12-84 as per details given below:

Details of course	Men	Women	Total	No. of foreign students	Total
III DARE	17	-	17	-	17
IV DARE	15	-	15	-	15
VIII DAsc.	50	-	50	-	50
IX DAsc.	16	-	16	-	16
	98	-	98	-	98

2(f)8: No. of students completing various courses

Thirty nine students completed the DAsc programme and 14 students completed the DARE Course.

2(f)9: Scholarships and other financial assistance to students

The details of recipients for the scholarships are given in the following Table.

Receipients	Harijan Welfare concession to SC/ST & OEC			KPCR concession to SEBC & FC students			Merit scholarship		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
DAsc., VII B	5	-	5	21	-	21	5	-	5
DARE II B	3	-	3	10	-	10	3	-	3
DAsc., VIII B	6	-	6	28	-	28	5	-	5
DARE III B	5	-	5	10	-	10	3	-	3
DAsc., IX B	3+2 (Laccadives)		5	6	-	6	-	-	-
DARE III B	3	-	3	13	-	13	-	-	-
	27	-	27	88	-	88	16	-	16

2(f)10: Study Tours

Study-tours for the students of DAsc. course have been conducted to the places of Agricultural importance such as Regional Agricultural Research Station, Pattambi, Horticultural Research Station, Ambalavayal, Cadburry Fry India Limited, Kalpetta, Rokusta Research Station, Kalpetta, Regional Agricultural Research Station, Pilicode, CPCRI, Kasaragode, the Indo-Swiss Project, Madupetty, FACT, Alwaye, Kerala Agro-Industries Corporation, Athani, etc.

2(f)11:Hostels

There were 72 inmates in the hostel as on 31-12-84.

2(f)12:Library

No. of books additionally purchased from 1-4-84 to 31-12-84	2 Nos.
Total No. of books as on 31-12-84	14625
No. of foreign and Indian journals subscribed as on 31-12-84	46 Nos.
Back volumes of journals purchased during the period	Nil

2(f)13:Lab to Land and Village Adoption Programme

Activities relating to the implementation of Lab to Land and Village Adoption Programme were initiated and intensified during the period. 38 families were provided with she-goats. As part of homestead development, all the families adopted under Lab to Land programme were provided with vegetable seeds for starting kitchen garden in their homesteads.

Three of the poor families were provided with necessary quantity of bamboo for making baskets as cottage industry. Inputs worth Rs 9000/- were purchased and distributed among the adopted families during the period under report.

The officers connected with the implementation of Lab to Land programme of the Institute attended the meetings of interdisciplinary team of Lab to Land programme of Central Zone, held at Regional Agricultural Research Station, Pattambi and Institute of Agrl. Technology, Tavanur on 4-7-84 and 8-8-84 respectively and reviewed the work done in the field so far.

2(f)14: Important visitors

The members of the Executive Committee of KAU visited the Institute on 9-10-84.

2(f)15: Students' Union Activities

<u>Date</u>	<u>Events</u>
15-5-84	Valedictory function of Students' Union 83-84.
19-5-84	Students' Union election
20-7-84	Inauguration of Students' Union
21-7-84	Inauguration of Arts Club
21-7-84	Inter-class quiz competition

2(f)16: Extra Curricular Activities

Annual Athletic Meet: Annual athletic meet of the Institute was conducted on 27th and 28th January, 1984 in a colourful manner. The inter-class matches were held before this and prizes and certificates were awarded to the winners.

Inter Collegiate Tournaments: The following teams were participated in the inter collegiate tournaments as per the details given below:

<u>Date</u>	<u>Event</u>	<u>Venue</u>
17th & 18th March, 1984	Cricket and Volleyball	Vellayani
25th February 1984	Basketball and Ball Badminton	IAT, Tavanur
14th July, 1984	Football	Vety. College, Mannuthy
26th August, 1984	Athletics Meet	Vellayani

To improve the performance of various teams, practice matches were arranged as detailed below:

Cricket match against Tavanur local team on 12-7-84.

Volleyball against Kadenchery Club on 15-1-84.

Football against Edappal team on 14-1-84.

Coaching Camp:

With the assistance of Malappuram District Sports Council, a Volleyball Coaching Camp was conducted to improve the performance of the players from 12-3-84 to 7-4-84.

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CHAPTER III  
R E S E A R C H

3.01: General

Dr PCS Nair continued as the Director of Research during the period. He continued as a member of many panels/committees such as the Inter Disciplinary Scientific Panel (IDSP), ICAR Scientific Panel for Fruits, Plantation and Medicinal Crops; Board of studies - Faculty of Horticulture, Tamil Nadu Agricultural University; Management Committees for CMFRI and CIFT; Horticulture Development Council, Directorate of Cashew Development, Cochin; ICAR Accreditation Team for starting BSc(Hort) Course in the APAU, Rajendra Nagar; Central Sub Committee on Release of Varieties of Horticulture Crops; Team for evaluation of the work of the Department of Horticulture (Pomology and Olericulture)TNAU; Editorial Board for Popular Journals - Indian Farming and Indian Horticulture, ICAR and Team for evaluating work of the Research Stations in the UAS.

Dr R Kalyanasundaram continued as the Associate Director of Research (V&AS) until 9-10-84 and he was later posted as Director, Centre for Advanced studies on Animal Diseases. Dr M Subrahmoniam took over as Associate Director of Research(V&AS) on 12-11-84.

Dr CC Abraham and Prof. PN Pisharody continued as the Associate Director of Research (M&E).and Associate Director of Research(AR&T) respectively. Dr Mrs Mary K George, Professor of Agricultural Botany continued against the post of Associate Director of Research(Plg).

3.02: Faculty Research Committees

Agricultural Faculty

The Faculty Research Committee of the Agricultural Faculty met twice during the period. The 24th meeting was held at the KAU Headquarters at Vellanikkara on 6-7 June 84. In this meeting a total of 85 projects were cleared for implementation. In the 25th meeting held on 31-7-84 at Vellayani a total of 24 projects were cleared.

efficient utilisation of energy in relation to agro-inputs, genetic Engineering and refinement of statistical methods in experimentation. In the 25th meeting, guidelines for the evaluation of new varieties of crops were formulated.

### 3.03: Faculty of Vety. & Animal Sciences

There were two meetings of the Faculty Research Committee of the faculty. The 15th meeting was held at the College of Veterinary & Animal Sciences on 18-7-84 and a total of 20 new projects were cleared for implementation. In the 16th meeting of the Faculty Research Committee held on 27-9-84, 12 new projects were approved.

### 3.04: Faculty of Fisheries

The Faculty Research Committee of the Fisheries Faculty met only once at Panangad on 20-7-1984. The Faculty Research Committee reviewed the ongoing research projects and cleared 13 new projects for implementation in the faculty. The total No. of projects as on 31-12-84 in the faculty is 46 which includes 3 adaptive trials. The question of forming co-ordination groups in the faculty was discussed and it was decided that for the present Project Co-ordination groups need not be constituted.

### 3.05: Project Co-ordination Groups

In the Agriculture Faculty, the Project Co-ordination groups on Soils and Agronomy met once on 10-7-84 at Vellanikkara. The group on Farm Economics Extension and Statistics met on 24-8-84 at Vellanikkara. The Plant Protection Co-ordination Group met at Vellayani on 16-10-84 and the group on Cropping Pattern and Farming Pattern met also at Vellayani on 19-7-84. The Project

Coordgroup on Oilseeds and Pulses met at Vellayani on 26-6-84. The Project Co-ordination Group on Vegetables and Tuber Crops met at Vellanikkara on 23-6-84.

The Project Co-ordination Groups on Sugarcane, Cashew, Post harvest Technology, Spices, Forage Crops, Fruits and Floriculture, Rice, Coconut, Cocoa and Other Beverage Crops/ <sup>and</sup> Soil Conservation & Farm Mechanisation did not meet during the year.

In the Faculty of Veterinary & Animal Sciences the Co-ordination Groups on Animal Diseases met thrice on 30-6-84, 3-7-84 and 20-8-84. The State Level Disease Committee met on 4-2-84 at Kottayam, on 19-5-84 at Thodupuzha, on 23-5-84 at Alleppey, on 27-6-84 at Quilon and on 25-9-84 at Cannanore. The Project Co-ordination Group on Cattle and Buffaloes met at Mannuthy on 4-9-84. The group on Animal Reproduction & Artificial Insemination met on 9-7-84. The group on 'Poultry' met twice on 8-7-84 and 3-9-84, both at the College of Veterinary & Animal Sciences, Mannuthy. The groups on Goats, Pigs, Unclassified projects, did not meet during the period.

### 3.06: Research Report

The Research Report 1982-83 was released in November 1984 and this was approved in the Research Council Meeting held on 23-12-1984.

The compilation of the Research Report for 1983-84 was taken up in December 1984.

### 3.07: Research Council

The Council was reconstituted on 26-6-84 (GA/A1/10335/84 dt.26-6-84). The VIII Research Council meeting of the Kerala Agricultural University was held at KAU Headquarters on 3-12-84.

### 3.08: VII Plan Proposals

The detailed VII plan proposals for the University were formulated in the Directorate of Research and the plan proposals amounting to Rs 59.98 crores were forwarded to the ICAR and State Planning Board for their consideration. The Director of Research participated in several meetings on VII plan at the ICAR, Planning Commission and at the State Planning Board.

### 3.09: National Agricultural Research Project

The NARP Projects for the Northern, Central, <sup>Special</sup> Region of Problem Areas, High Range Region, Southern Region and for strengthening of the Directorate of Research continued in full swing.

The Vth Zonal Workshop of the NARP Southern Region was held at the College of Agriculture, Vellayani on 12-13 September 84. One hundred and twenty delegates from the DOA, KAU, CTCRI, CPCRI, RRL etc. have attended this workshop.

The Vth Zonal workshop of the NARP Central Region was held at the Regional Agricultural Research Station, Pattambi on 17-18 August 1984.

The NARP Zonal workshop for the Special Region of Problem Areas was held at Kumarakom on 3-4 April 1984.

The VIth NARP workshop for the Northern Region was held at the Regional Agricultural Research Station, Pillicode on 24-8-84.

The NARP workshop on fisheries was held at the Regional Agricultural Research Station, Kumarakom on 21-8-1984 to formulate new research programmes relevant to the problems felt in the region.

The first Zonal workshop of the NARP High Range Region was held at the Regional Agricultural Research Station, Ambalavayal on 19-20 June 1984.

A review meeting on NARP was held in the Directorate of Research on 30-31 October 1984.

### 3.10: ICAR Co-ordinated projects and ORPs.

The University continued to operate 26 projects in the Agricultural Faculty, 3 in the Veterinary Science Faculty and one in the Fisheries Faculty. The operational area for the AICARP ECF Unit was shifted to Quilon and Palghat districts with effect from 1-4-1984. The Command Area Research Centre came to termination on 31-10-1984. The ORP on Integrated Control of Pests continued to be in operation in the Kuttanad area.

Sanction for the implementation of the ICAR Operational Research Project on Resource Development on Watershed basis in the Palghat District (Rs 6,04,572/-) was received during the period. The aim of this project is to optimise the productivity of all available resources in a given watershed and to refine, modify and promote adoption of location specific technology for the area.

### 3.11: Research Projects formulated

The following project proposals were formulated and these were forwarded to various funding agencies for their approval:

- Establishment
- 1- / of a centre of excellence for advanced studies on humid tropical tree crops  
(Rs 205-91 lakhs)
  - 2- Centre for advanced studies in tropical and indigenous vegetables  
(Rs 25-00 lakhs)

- 3- Mushroom flora of Kerala  
(Rs 5.33 lakhs)
- 4- AICRP on Micro-nutrients KAU Centre  
(Rs 10,94,008)
- 5- Mycorrhizal association and forest eco systems  
of Kerala  
(Rs 4.725 lakhs)
- 6- AICRP - KAU Centre on Soil Test Crop Response  
studies  
(Rs 10.54 lakhs)
- 7- AICORP - Centre on Groundnut and sesamum  
at Vellayani (Rs 7.928 lakhs) and at Kayamkulam  
(4.172 lakhs)
- 8- Centre for excellence for advanced studies in  
Animal Diseases
- 9- Preservation and nutritive quality of miscellaneous  
fodders with special reference to subabul  
(Rs 4,95,000)
- 10- Quality improvement of alcoholic and non-alcoholic  
beverages from cashew apple  
(Rs 2,77,218/-)

### 3.12: ICAR Cess fund projects

ICAR sanction for the implementation of the following cess-fund projects has been received during the period:

- 1- Tapioca consumption and goitre incidence in Kerala  
(Rs 55,200/-) Work on this has not commenced at  
Vellayani.
- 2- Scheme on toxic effects of industrial effluents on  
animals (Rs 2,73,600). This project was started at  
Mannuthy on 5-5-84.
- 3- Studies on the strains of the rhizobia of pulses, the  
effect of nutrients on them and standardisation of  
mass culturing techniques (Rs 37,800)

This was taken up in the Department of Plant Pathology, College of Agriculture, Vellayani.

4- Nutrient requirement of caged layers (Rs 3,27,482/-)

This was started in the College of Veterinary & Animal Sciences, Mannuthy on 7-5-1984.

The following Cess fund projects continued to be in operation during the year.

- 1- Karyological studies in Cattle of Kerala
- 2- Post-harvest technology of perishable foods
- 3- Marketing of coconut & cocoa in Kerala
- 4- Survey appraisal and control of major diseases of sugarcane.

Proposals for the following cess fund projects were forwarded to the Council during the period:

- 1- Research Project on reproduction in buffaloes  
(Rs 11,88,508/-)
- 2- Olfactory signals in the reproductive behaviour/physiology of goat and swine (Rs 5,20,420/-)
- 3- Microbial control of major pests of coconut palm  
(Rs 7,18,656/-)
- 4- Feed protein evaluation and expression of protein requirement of cattle based on semen degraded nitrogen (Rs 20.00 lakhs)

3.13: Projects funded by the Department of Environment and Department of Home Affairs, Government of India and other agencies

The four projects under the Western Ghats development project continued to be in operation

- a) Ecological studies and utilisation of the grassland flora available in the western ghats

This has started operation on 13-7-1984. A random survey/<sup>was</sup> conducted in the tribal hamlets of Karikuzhy, Sankin Kona<sup>m</sup>, Puravimala, Thenmala areas. Pennisetum polystachyon which is an annual grass was identified to be the cause for forest fires as it dries up in summer.

- b) Impact of development programmes on the western ghat region on the forest dependent population - A Case study of Wynad District of Kerala.

This project is in operation from 5-7-1983. Forest plantations, commercial plantations, integrated tribal development programmes have been identified for the survey. The questionnaire for the survey was finalised.

- 1- Development of viable models of Agro-ecosystems to harmonise with forest ecosystems of Tribal hamlets along the western ghats.

This project is under implementation from 4-8-83. The operational area of the project comprises five selected Kanikkar tribal hamlets located in the eastern banks of the Neyyar Dam reservoir. The aim is to bring about overall improvement of the ecosystem in this area.

- 2- Restoration of degraded environment in the Chambakkad tribal colony area

This project envisages restoration of degraded environment in and around Chambakkad tribal colony area located in the rain shadow area on the eastern slope of western ghats. The project is in operation from 16-11-83.

The ministry of Home Affairs cleared the research component of the project on 'Integrated development of Kanikkar tribals dispersed in hamlets situated in the slopes of the Agasthyamudy peak' at an estimated cost of Rs 50,000/-

The Department of Science and Technology, Government of India approved the project 'Action Research on the use of Labour saving devices in rural houses of Kerala' for implementation in the Department of Home Science at Vellayani for 2 years (Rs 23,500/-).

The Department of Science, ISRO, sanctioned the project 'Possibilities of using unsymmetrical dimethyl urea as a urea nitrification inhibitor for indreasing efficiency of nitrogenous fertilizers' in the Department of Soil Science & Agricultural Chemistry at an anticipated cost of Rs 49,600/-

### 3.14: Projects funded by World Bank, SIDA etc

The World Bank aided KADP and Multi-State Cashew Research Project (MSCRF) continued to be in operation. Administrative sanction for the SIDA funded project on ground water studies was issued during the period. This project costing Rs 13,12,900/- is to be implemented in the main campus at Vellanikkara, Odakkali and Panangad campuses. The main aims of this project are to develop suitable methods of irrigation for different toposequences and soil condition.

### 3.15: Research Projects

The total No. of projects in operation as on 31-12-84 was 1039 as per the following break up. A total of 101 projects were concluded during the period.

	<u>In operation</u>	<u>Concluded</u>
College of Agriculture, Vellayani	215	45
College of Fisheries, Panangad	32	2

College of Horticulture, Vella	145	24
Co-operation & Banking	1	1
College of Vety & Animal Sciences, Mannuthy	128	NA
Regional Agrl. Research Station, Ambalavayal	30	1
Rice Research Station, Moncompu	59	-
Pepper Research Station, Pannoor	17	2
Rice Research Station, Kayamkulam	27	4
Multi-State Cashew Research Centre, Madakkathara	6	-
Banana Research Station, Kannara	25	1
Cashew Research Station, Anakkayam	1	-
Rice Research Station, Vyttila	19	-
Regional Agrl. Research Station, Pattambi	79	9
University Poultry Farm, Mannuthy	3	-
Cardamom Research Station, Pampadumpara	15	-
AICRP Agricultural Drainage	5	-
NARP Southern Regional Station	51	-
Agronomic Research Station, Chalakkudy	10	-
Aromatic & Medicinal Plants Research Station, Odakkali	7	1

Agrl. Research Station, Mannuthy	38	3
Coconut Research Station, Balaramapuram	58	3
Cropping Systems Res. Station, Karamana	6	-
Sugarcane Research Station, Thiruvalla	18	-
Regional Agrl. Research Station, Kumarakom	40	8
Regional Agrl. Research Station, Pilicode	56	-
	-----	-----
	1039	101
	-----	-----

### 3.16: Academic Positions in the Research Stations and Research Centres on 31-12-84

As on 31-12-84, there were a total of 270 positions of Scientists in the NARP Zonal Stations and Research Stations and Research Centres, besides those in the constituent colleges. Of these a total of 107 positions remained vacant (Table and Abstract). Under the NARP out of the total of 270 <sup>163</sup> positions were filled up during the period.

ADRs	- 7	- Vacant	1 Nos.
Professors	- 10	- Vacant	1 ,,
Assoc. Professor	- 74	- Vacant	19 ,,
Asst. Professor	- 116	- Vacant	50 ,,
Jr. Asst. Professor	- 63	- Vacant	36 ,,
	-----		
Total	270	Vacant	107 Nos
	-----		

Academic Positions in the NARP Zones and  
Research Stations (Abstract)

Stations	Assoc. Director	Prof.	Assoc. Prof.	Asst. Prof.	Jr. Asst. Prof.	Total		
						Sanct- ioned	In posi- tion	Vacant
NARP Souther Region	1	-	5	11(1)	-	17	16	1
NARP Central Region	1	1	9(4)	18(11)	-	29	14	15
NARP Spl. Region of Problem Areas	-	-	5	18(5)	2(1)	25	19	6
NARP High Range Region	1	-	1	6(5)	-	8	3	5
NARP Northern Region	1(1)	3(1)	14(7)	8(2)	-	26	15	11
Strengthening of the Dire- ctorate of Research	3	-	-	-	-	3	3	-
Research Stations and Centres Other than NARP	-	6	40(8)	55(26)	61(35)	162	93	69
Grand Total excluding Colleges & IAT, Tavanur	5(1)	10(1)	74(19)	116(50)	63(36)	270	163	107

Academic Positions in the Research Stations and  
Research Centres as on 31-12-84

Stations	Profis. ASSOC. Dir.	ASSOC. PROFF.	Asst. PROFF.	Jr. Asst. Profis.	Sanct- ioned	Total In posi- tion	No Vacant
<u>NARP POSTS</u>							
NARP Southern Regional Centre, Vellayani	1(AD)	3	6	-	10	10	1
Spl. Station Kottarakkara	-	2	5(1)	-	7	6	1
Total	1	5	11(1)	-	17	16	1
<u>RARS, KUMARAKOM</u> (HQRs for Spl. Region of Problem areas)							
a) Kumarakom	-	3	10(1)	-	13	12	1
b) Moncompu	-	2	5(2)	-	7	5	2
c) Kayamkulam	-	-	1(1)	1(1)	2	-	2
d) For Pokkali area	-	-	1(1)	-	1	-	1
e) Spl. for Kole	-	-	1	1	2	2	-
Total	-	5	18(5)	2(1)	25	19	6
<u>RARS, PATTAMBI</u> <u>CENTRAL REGION</u>							
a) Pattambi	2	4(1)	11(5)	-	17	11	6
b) Mannuthy	-	4(2)	2(1)	-	6	3	3
c) Eruthiampathy	-	1(1)	1(1)	-	2	-	2
d) Water Manage- ment studies in Central Region (Eruthiam- pathy)	-	-	3(3)	-	3	-	3
e) ,, Alathur	-	-	1(1)	-	1	-	1
Total	2	9(4)	18(11)	-	29	14	15

	1	2	3	4	5	6	7	8
<u>RARS, AMBALAVAYAL</u>								
(HIGH RANGE REGION)								
a)Ambalavayal	1	1	4(3)	-	6	3		3
b)Pampadumpara	-	-	2(2)	-	2	-		2
Total	1	1	6(5)	-	8	3		5
<u>RARS, PILICODE</u>								
(NORTHERN REGION)								
a)Pilicode	3(2)	14(7)	5	-	22	13		9
b)Tavanur	-	-	3(2)	-	3	1		2
c)Pannioor	1	-	-	-	1	1		-
Total	4(2)	14(7)	8(2)	-	26	15		11
Strengthening Directorate of Research	3	-	-	-	3	3		-
Grand total for NARP	11(2)	34(11)	61(24)	2(1)	108	70		38

Academic staff in Research stations and Research Centres as on 31-12-84

	Profes.	Assoc. Profes.	Asst. Profes.	Jr. Asst. Profes.	Total		No vacant
					Sanctioned	In position	
<b>B. OTHER POSTS</b>							
<u>Coc. Res. Stn. Balaramapuram</u>		2			2	2	-
<u>Cropping systems Res. Centre, Karamana AICARP</u>	1		3	3(1)	7	6	1
<u>Other posts AICARP ECF Unit Palghat</u>			1	1	2	2	-
<u>AICARP ECF unit Quilon</u>		1			1	1	
<u>AICARP ECF unit Quilon</u>		1			1		
<u>Rice Research Stn., Kayamkulam</u>							
<u>Non-Plan rice CRWDP</u>		3	2(2)	2(1)	7	4	3
<u>Rice Res. Stn. Moncompu</u>		2	1		1	1	
<u>ORP</u>		1	2(1)*	2(2)	5	2	3
<u>Rice Non Plan</u>		1	2(2)		3	1	2
<u>Kuttanad eco system</u>				4(3)	4	1	3
<u>Fisheries Centre</u>				1	1		1
<u>Spl. Diseases &amp; Pests Research AICRIP</u>		1			1	1	
			3(1)	2(2)	5	2	3
<b>Total for Moncompu</b>		3	7(4)	9(7)	19	7	12

\* Includes the post of Junior Statistician - Figure in Parantheses are vacant posts

	Prof	Assoc. Prof.	Asst. Prof	Jr. Asst. Prof	Sanc-tioned	Total In posi-tion	Vaca-nt
<u>Sugarcane Res. Stn. Tiruvalla</u>							
AICRP on Sugarcane	---	1	---	1	2	2	---
KAU Non-plan	---	1	---	2(2)	3	1	2
Ad hoc scheme	---	---	1	---	1	1	---
<b>Total</b>	---	2	1	3(2)	6	4	2
<u>AICRP on Agri.</u>							
<u>Drainage, Karumadi</u> RARS, Kumarakom	---	1	2	3	3	3	---
CRWDP	1	2	4(2)	2	9	7	2
CRS Kumarakom (non plan)	---	---	1	1(1)	2	1	1
IRP on mixed farming	---	---	---	1	1	1	---
<b>Total</b>	1	2	5(2)	4(1)	12	9	3
<u>Cardamom Res. Stn. Pampadumpara</u>							
Stn. Non-plan	---	1(1)	1(1)	---	2	---	2
AICRP on spices cashew	---	3(1)	1(1)	---	4	2	2
CI-strengthening stn.	---	---	---	2(1)	2	1	1
<b>Total</b>	---	4(2)	2(2)	2(1)	8	3	5
<u>Aromatic &amp; Medicinal plants Res. Stn. Odakkali</u>							
Stn. Non-Plan	---	1	2(1)	2(1)	5	3	2
Ad hoc Scheme	---	---	---	1	1	1	---
<b>Total</b>	---	1	2(1)	3(1)	6	4	2

	Prof.	Assoc. Prof.	Asst. Prof.	Jr. Asst. Prof.	Total		Vacant
					Sanc- tioned	In po- sition	
<u>Agronomic Res. Stn.</u>							
<u>Chalakydy</u>							
Coord. Project on Water Management	1	3(1)	4(2)	---	8	5	3
Cattle Breeding Farm Thumburmuzhy	---	1	---	1	2	2	---
<u>AICRP Cashew Centre Madakkathara</u>							
AICRP on Spices- Cashew	---	1	1	1	3	3	---
MSCRP	1	1	---	2	4	4	---
<u>Rice Res. Stn.</u>							
<u>Vyttila</u>							
CRWDP	---	---	---	1(1)	1	---	1
Rice Res. A.P.M.	---	2(1)	---	---	2	1	1
AICRP on BFF	---	1	---	2(1)	3	2	1
<b>Total</b>	---	3(1)	---	3(2)	6	3	3
<u>Agri. Res. Stn.</u>							
<u>Mannuthy</u>							
KAU posts	1	---	---	5(3)	6	3	3
AICRP	---	---	1	---	1	1	---
Adhoc scheme	---	---	1	---	1	1	---
<b>Total</b>	---	---	2	5(3)	8	5	3
<u>Univ Poultry Farm Mannuthy</u>							
	---	---	---	1(1)	1	---	1
<u>Pig Breeding Farm, Mannuthy</u>							
	---	---	1	1(1)	2	1	1
<u>Univ Livestock Farm, Mannuthy</u>							
	1	1	---	1(1)	3	2	1
<u>Fodder Research Dev Scheme, Mannuthy</u>							
	---	1	1	1(1)	3	2	1
<u>Banana Research Stn., Kannara</u>							
AICRP	---	1	5(2)	5(3)	11	6	5
<u>Cashew Res. Stn. Anakkayam</u>							
	---	1	---	1	2	2	---

	Prof	Assoc. Prof	Asst. Prof.	Jr. Asst. Prof.	San-ction- ed	Total in po- sition	Vaca- nt
<u>RARS Pattambi</u>							
AICRP	--	4(3)	4(2)	--	8	3	5
Pulses Co-ord. Project	--	--	2(2)	4(4)	6	--	6
Coord Project on submerged soils	--	--	2(2)	--	2	--	2
N.S.P.	--	--	1	--	1	1	--
Hort unit	--	--	--	1	1	1	--
ORP on watershed	--	1	--	4(4)	5	1	4
<hr/>							
Total other than NARP	--	5(3)	9(6)	9(8)	23	6	17
<hr/>							
<u>Pepper Res.Stn. Pannoor</u>							
Stn.Non-Plan	--	1	1(1)	1(1)	3	1	2
AICRP on Spices & Cashew	--	1	3(1)	--	4	3	1
Total	--	2	4(2)	1(1)	7	4	3
<hr/>							
<u>RARS Ambalavayal</u>							
KAU - Non-Plan	--	--	3(2)	--	3	1	2
AICFIP - Citrus Centre	--	1(1)	1(1)	2	4	2	2
<hr/>							
Total other than NARP	--	1(1)	4(3)	2	7	3	4
<hr/>							
Grand Total for Res. Stns. other than those in colleges & IAT Tavanur	6	40(8)	55(26)	61(35)	162	93	69

Note: Details of Non-NARP positions in the Pilicode centre not included.

## 3.19: RESEARCH ACCOMPLISHMENTS

## A. FACULTY OF AGRICULTURE

## 3.19(i) - VARIETIES RELEASED

During the period the following new rice varieties were released for cultivation:

MO-7 - Karthika Recommended for growing in single and double crop wet lands in Kuttanad and in Onattukara during all the three crop seasons. This can be grown in other parts of the State as well. The duration of this variety is 115-120 days. The yield potential is 5423 kg/ha. This is tolerant to BPH and moderately resistant to sheath blight, sheath rot and BLB.

PTB-44 - Reshmi This is the awnless, photosensitive mutant developed from Oorpandy. It is recommended for growing in the second crop season where PTB-4 and Co-25 are grown. The advantages of this variety are its tall stature, high photosensitivity with short bold red grains, non-lodging nature and higher grain yield. The variety is tolerant to saline conditions and can be grown in deep illdrained regions.

Vytttila-3 This is an improvement over Vytttila I and II. It outyields Vytttila-1 by 20%. This variety has the same duration as Vytttila-1 and 2 and is suited to the pokkali system of cultivation.

PTB-43-Swarna Prabha This is a photosensitive variety suited for the viruppu, mundakan and punja seasons and also for the modan cultivation in dry sowing in the viruppu season. It is semi tall, high yielding white kernelled and <sup>of</sup> short duration. The duration is 100-105 days. This variety is resistant to blast and can be grown in uplands, palliyals and DC wet lands in all the three seasons.

Kayamkulam-2 (Bhagyaa) It is a photoinensitive and highly resistant to the drought conditions in the first 30-35 days after direct sowing in the first crop season in the Onattukara region. The duration of this culture is 100 days. It outyields Jyothi and PTB-23. In MLT this variety gave 4000 kg/ha.

Kayamkulam-3 (Onam) This is a photoinensitive variety recommended for growing in the first crop season in the Onattukara region. It is non-lodging, highly resistant to drought conditions in the first 30-35 days after sowing. The rice colour is red and the duration is 95 days. This is moderately resistant to blight, sheath blight and blast diseases and moderately resistant to stemborer, leaf roller and case worm.

The following sesame varieties were also received during the period:

ACV-1 (Soma) Recommended for growing in Summer rice fallows and in uplands in the rabi season. It is white and bold seeded. The duration of this variety is 83 days in rice fallows and 85 days in rabi uplands. It gives 700 kg yield/ha in rice fallows and 350 kg/ha in rabi uplands. Oil content is 51.2%.

ACV-2 (Surya) The duration of this is 87 days in rabi uplands. Seeds grey coloured. This variety is specifically recommended for growing in the rabi seasons in uplands. The yield is about 350 kg/ha.

The following groundnut varieties (bunch) have been recommended for extensive growing in the State:

TG-3 - Duration 100 to 110 days. Recommended for growing in Summer rice fallows. Yield 2745 kg/ha - can also be grown in kharif uplands.

/TG-14/ The duration of this variety is 105-150 days. This is also recommended for growing in summer rice fallows. The average yield of this variety is 2472 kg/ha. It can also be grown in Kharif uplands.

/Spanish Improved/ Recommended for growing in the uplands during the Kharif season. The duration is 100-110 days. The average yield is 2326 kg/ha.

The cashew type Anakayam-1 has also been released for cultivation in the State.

/Anakayam-1/ This is<sup>a</sup> high yielding type selected from the seedling progenies of BLA-139 of Bapatla, apart from giving higher yields of nuts (mean 29.68 kg/nuts/tree/year) this variety possesses some additional desirable attributes such as early flowering (October-November), short flowering phase (30 days) and early harvesting potential. The nuts are medium sized with shelling percentage above 28%.

### 3.19(ii) TECHNOLOGIES GENERATED FOR ADOPTION

The following new technologies have been generated for adoption in the State.

a) Optimum proportion for virippu and mundakan seeds for the Koottumundakan system

The proportion of 70:30 is recommended for the viruppu and mundakan seeds.

b) Conjunctive application of urea and carbofuran

Whenever carbofuran is needed at around 20 DAP in rice, conjunctive application of carbofuran at 0.75 kg/ha and urea to supply 10 kg N/ha is recommended in hot spot areas for better protection from pests.

c) Control of weeds in kole lands

Application of benthocarb at 1 kg ai/ha at 6 DAS is recommended for control of weeds in the kole lands.

d) Storage of rice seeds

Methods to store paddy seeds standardised.

e) Sheath blight control

Benomyl 500 g/ha is recommended for sheath blight control in rice.

f) Spray volume discharge rates for paddy crop

Spray volume requirements for the paddy crop at different stages have been standardised and specific pesticide application methods have been formulated.

g) Control of sheath blight and sheath rot of rice by applying higher doses of Potash and carbofuran

Application of carbofuran 3% G at 35 kg/ha and keeping N:K ratio at 1:1.5 have been recommended for adoption in hot spots where sheath blight and sheath rot are serious endemic problems.

h) Seedling root dip in chlorpyrifos

Dipping seedlings in chlorpyrifos 0.02% suspension recommended for the control of gall midge, infesting rice.

i) Soaking paddy seeds in Cu- and Zn-sulphate solution

Soaking paddy seeds in a mixture of 1% zinc sulphate and 0.25% copper sulphate solution for 24 hours and keeping them for sprouting will help to increase yields.

j) Fertiliser recommendations for Mashoori

Recommended N-P-K dose of 50-25-<sup>25kg</sup> /ha for Mashoori variety as against the hitherto recommended dose of 70-45-45 of NPK/ha.

k) Water management practices for rice

For the second crop season wherever water scarcity is felt, application of 5 cm irrigation water once in 6 days recommended.

l) Control of Cockchafer beetles in coconut

Specific recommendation of Heptachlor and Chlordane for Cockchafer beetle control has been formulated.

m) Raising of rooted cuttings

Middle 1/3rd portion of runner shoots has been recommended for planting.

n) Seradix B2 for root inducement in pepper

This method has been recommended for root inducement in pepper.

o) Underplanting in pepper

Specific recommendations for underplanting in varieties given.

p) Fertilizer recommendations in cardamom

NPK recommendations revised on 75-75-150 kg/ha.

q) Control of bacterial leaf spot of betel vine

Control with 1% Bordeaux mixture recommended as a replacement of <sup>the</sup> antibiotic treatment.

r) Control of bacterial wilt in cassava

H-97, H-226, H-1687 and H-2304 have been found to be tolerant and these are recommended for cultivation in diseased prone situations.

s) Intercropping in pineapple in new cashew plantations

Pineapple has been found to be a promising intercrop for growing in young cashew plantations.

t) Waiting periods for insecticidal applications in vegetables

The waiting periods to be allowed for recommended insecticides have been worked out.

u) Control of banana aphid

New recommendation to apply 25g phorate 10% g at 25 g/plant first 20 DAP followed by soil application on 95 DAP and 165 DAP formulated for adoption in red banana.

v) Integrated control of pests and diseases in banana

When the aphids, nematodes and the rhizome weevil occur concurrently application of carbofuran granules/phorate granules in the soil followed by application of any of the two materials in the leaf axils on 75 and 165 DAP recommended.

w) Irrigation in Nendran banana

Specific recommendation for low water table situations formulated.

x) Fertiliser recommendation for Nendran

Application of N in 6 split doses, P in 2 doses and K<sub>2</sub>O in 5 split doses recommended in Nendran bananas.

y) Intercropping in banana var Nendran

Cucumber (cucumis melo) recommended as an intercrop for banana planted in September-October.

z) Recommendations in sugarcane

New recommendations on varieties, season, intercropping, Plant protection have been formulated.

z-i) Recommendation of new fodder cowpea and guinea grass varieties

Fodder cowpea varieties UPC-5287 and UPC-5805 and PGG-4 of guinea grass recommended for cultivation in Kerala.

3.19 (iii) Research highlights from Res stations and college DepartmentsRICE

\* The rice isolate of Rhizoctonia solani could not infect cowpea plants and vice-versa. This shows that by cultivating cowpea in rotation with rice <sup>this</sup> will not aggravate sheath blight disease intensity in the succeeding rice crop.

( NARP - Southern Regional Station, Vellayani )

\* Among the different paddy varieties evaluated in the first crop season in Wynad, a local selection 'Edavaka' outyielded improved varieties both in grain (393) kg/ha) and straw (4062 kg/ha) (NARP-RARS, Ambalavayal).

\* The rice culture 1727 (Triveni x IR 2061) developed at the RARS Pattambi out yielded the renowned IR-36 variety by 0.5 t/ha in 43 locations in 18 countries. The Director General IRRI has commended the superior performance of this culture.

(( NARP - RARS, -Pattambi ))

- \* The short duration culture 13 was found to be moderately resistant to BPH, BLB and SB and appeared to be quite promising. This along with culture 126 has been nominated for PVT II in AICRP for national level testing (RARS, Moncompu)
- \* The variety Karthika gave highest grain yield at 110-55-55 kg N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O/ha and appeared to highly fertiliser responsive (RARS, Moncompu).
- \* Tile drainage system was found to be better suited to the soil conditions of Kari lands in terms of better rice crop performance and successful control of sub soil and surface soil acidity and salinity.  
(AICRIP on Agri.Drainage, Karumady)
- \* Application of benthocarb at 2 kg ai/ha was found to control weeds in the Onattukara rice fields during the viruppu crop season. (RRS, Kayankulan)
- \* Four dwarfing genes designated as sd 1, sd 2 sd 3 and sd 4 were located in nine induced plant type mutants. Sd-1 is ~~dis~~allelic with DGWG dwarfing gene whereas the others were non-allelic. Sd-1, Sd3 and Sd 4 are additive while Sd 2 is non additive with other 3 genes.  
(Dept. of Pl Breeding, College of Agriculture, Vellayani).
- \* The rice root nematode Hirshmanniella Oryzae occurred widely in Quilon district with a range of upto 96 nos/100 g soil and 4-101 in 10 g root samples.

#### COCONUT

- \* Foliar yellowing of coconut seedlings of 1-2 years age was found to be caused by N-deficiency caused by low efficiency of applied fertilizers. Widening the planting pit right from 1 year of planting for fertiliser applications is suggested to improve the efficiency of absorption of applied nutrients.  
( KADP - Radio Tracer Laboratory, College of Hort., Vellanikkara).

- \* Extreme deficiency of gibberellic acid and accumulation of abscisic acid was implicated in the degeneration of root(wilt) affected coconut palms.  
(Section of crop Physiology, College of Agriculture, Vellayani).
- \* Soil application of zinc and boron and leaf application of boron and molybdenum were found to be beneficial in reducing the intensity of the root(wilt) disease.  
(CRWDP, College of Horticulture, Vellanikkara)
- \* Sree sahya and M4 varieties of cassava have been found to excel others as intercrops in coconut plantations  
(NARP - RARS - Kumarakom)
- \* Carbaryl 0.2% gave the best control of the coreid bug infesting coconut. HCH 0.1%, endosulfan 0.1% and carbaryl 0.1% were on par with carbaryl at 0.2%.  
(NARP - Southern Regional centre, Vellayani)
- \* For getting optimum yield from coconut palms grown in the red loam soils of southern Kerala, 680 kg N+ 225 g of  $P_2O_5$  + 900 g of  $K_2O$  /palm/year was found to be the best treatment. For highest marginal returns, 340 g N + 225 g  $P_2O_5$  + 900 g  $K_2O$ /palm/year is found to be the best.  
( CRS Balaramapuram - NARP - Southern Region)

#### CASHEW

- \* In a CYT of the existing high yielders of cashew (seedlings) based on pooled data for 4 years it was found that the Vriddachalam type M-76/1 (5.637 kg/nut/year/tree) excelled others.  
( CRS, Madakkathara)
- \* Among the 47 clonal and 43 seedling types maintained at Anakkayam from 1963-64, BLA-139-1 continued to outyield all others (mean yield of nuts for 15 year - 35 kg/tree/year). (CRS, Anakkayam).

SPICES

- \* Most of the feeding roots of black pepper vine were found restricted within 30 cm of the stem. Absorption of radiophosphorus was impaired when it was applied in a full circle at a radial distance 30 cm away from the stem. It is suggested that the best method of applying fertilizer in pepper is in a semi-circle facing the vine.  
( KADP - RTL-COH, Vellanikkara)
- \* Absorption of P-32 was found to be 20-30% less in the case of pepper vines trailed on Erythrina indica as compared to the absorption in vines trailed on teak standards.  
( KADP - RTL - College of Hort., Vellanikkara)
- \* Nitrogen and Potassium deficiencies are found to be involved in the slow wilt disease of pepper. Potassium deficiency was found to be coincident on the infestation of roots by the root knot nematodes.  
(KDAP-RTL- College of Hort., Vellanikkara)
- \* In multilocational trials of curmeric, Wynad local type excelled all others (College of Hort., Vellanikkara)
- \* Among the 21 types of ginger evaluated, Wynad Kunnamangalam type excelled others.  
(College of Horticulture, Vellanikkara)
- \* Endosulfan at 0.05% gave better control of the pollu beetle (Longitarsus) infesting Pepper vines,  
(NARP Southern Regional Centre, Vellayani)
- \* Results of the field trial for control of fungal pollu disease showed that application of 1% Bordeaux mixture in the last week of June and first week of August was quite effective in controlling the disease  
(Pepper Research Station, Pannioor)

PULSES & OILSEEDS

- \* The optimum fertiliser requirement for horsegram was found to be N, P, K at 15 kg - 25kg - 20kg/ha.  
(College of Agriculture, Vellayani)
- \* In a varietal evaluation of groundnut under partially shaded conditions in coconut plantations, Pollachi-1 and EC-35999 recorded high pod yields when grown as a floor crop.  
(Dept. of Pl. Breeding, College of Agriculture, Vellayani)
- \* Among the sesamum varieties tested at the RRS Kayamkulam, RAUSS-17-4 and TNAU-2 were found to be quite suitable for growing in the Onattukara region.  
(RRS, Kayamkulam)
- \* In a CYT, C6, a culture evolved at Bhubaneswar yielded 470 kg/ha and showed resistance to leaf spot disease. The variety is found to be a good donor for leaf spot (Sercospora, Corynespora and Alternaria) resistance. (RRS, Kayamkulam)
- \* Alchor at 0.75 kg ai/ha was found to be very effective in controlling the troublesome weed Cleome viscosa occurring in sesamum crop.

VEGETABLES & TUBER CROPS

- \* The chilli cultures 57 and 51 registered 30.33% and 21.63% increase in yield over the standard Vellanotchi. The culture 33 had erect appealing fruit and attractive plant type. (NARP Southern Regional Stn., Vellayani).
- \* The brinjal hybrid SM-I x PPL was found to be fully resistant to the bacterial wilt and this gave 85% more fruit yield. (Dept. of Pl. Breeding, College of Agriculture, Vellayani)

- \* Among the nematicides evaluated against the root knot nematodes infesting brinjal nursery, Aldicarb at 0.3 kg ai/m<sup>2</sup> recorded the maximum efficiency. (AICRP on Nematodes, College of Agriculture, Vellayani)
- \* The chilli varieties CA-10, CA-52, CA-48 and CA-47 were found to be most tolerant against the leaf curl complex. (Dept. of Agri. Bot., College of Agriculture, Vellayani).
- \* Mass selection and single plant selection were found superior to other selection methods to improve economic characters in brinjal. SM6-7 was found to be immune to bacterial wilt while SM-6-2 and SM 6-4 were found to be highly resistant. (Dept. of Olericulture, College of Horticulture, Vellanikkara)
- \* Maximum yield of rhizomes in amorphophallus was obtained when corms of size 750 g were planted at 50 x 50 cm spacing. (College of Horticulture Vellanikkara)
- \* The <sup>promising</sup> hybrid selection 2412, 2416, 2743, 4021 and 4126 of Sweet Potato continued to be under evaluation at the College of Agriculture, Vellayani and other centres.

#### FRUITS & FLORICULTURE

- \* Multiple shoot production and rooting was obtained in jack by meristem culture. (Dept. of Pln crops, College of Hort. Vellanikkara)
- \* Stone grafting <sup>in mango</sup> was found to be superior in terms of survival of the grafts, on planting. (Dept. of Pomology, College of Hort., Vellanikkara)
- \* The results of studies conducted at Kannara showed that in Nendran and Zanzibar varieties ~~showed~~ that application of lime at increased bunch weight significantly (BRS, Kannara)

- \* In studies on interclonal hybridization in banana, one of the seedlings from the Cross Agnisuai x Pisanglilin was found to be seedless. The production of a seedless hybrid in the first generation is of considerable value in banana breeding.  
(Dept. of Pomology, College of Hort., Vellanikkara)
- \* A high yielding, large fruited Phyllanthus emblica was located in the Champakkad area of Idukki district and a method has been standardised for raising seedlings of this species.  
(Western Ghats Development Project Chambakkad & Dept. of Pomology, College of Hort., Vellanikkara)

#### ESSENTIAL OILS & MEDICINAL PLANTS

- \* In Gymbopogon coloratus oil, both benzyl acetate and citronellal were found to occur together.  
(AMPRS, Odakkali)
- \* Two unidentified aromatic grasses have been collected from parts of Idukki district. These contained easily recoverable geraniol and geraniol acetate.  
(AMPRS, Odakkali)
- \* The two year crop of Dioscorea floribunda is found to be more economical than a one year crop, in terms of biomass production and outturn of active ingredient  
(AMPRS, Odakkali)

#### SUGARCANE

- \* In a varietal trial, Co 771 continued to be the best yielder with an average of 85.3 t/ha in the ratoon crop also. As regards quality Co 7704 which is resistant to the red rot recorded the maximum pol value of 18.9%. The maximum juice recovery was from 62175 (69.5%). (SRS, Tiruvalla)

- \* Red rot disease was found in a severe form in the Pamba River Factory zone, taking a heavy toll of the crop upto 100%. <sup>in</sup> The red rot evaluation trial using 173 varieties, resistant genotypes were identified. (SRS, Tiruvalla).

#### FODDER CROPS

- \* Three pre-release mutant clones of guinea grass were evaluated at two locations. The clone MC-2 was on par with the popular variety Mackuenii in forage yield.  
(Dept. of Pl Breeding, College of Agriculture, Vellayani)
- \* The Variety FR-600 of guinea grass gave the highest fodder yield among twelve varieties evaluated.  
(Dept. of Pl. Breeding, College of Agriculture, Vellayani)
- \* A survey on the grass land flora in the tribal hamlets of Karikuzhy, Sankinkonam, Paravimala, Thenmala and kunnathumala led to the identification of many plants of fodder value. These include Brachiaria sp., Themeda sp., Chrys pogan sp., Digitaria sp. and Panicum sp.

#### SOILS AND AGRONOMY

- \* The wet land rice soils of Kerala showing a pH of less than 6.0 were found to contain appreciable amounts of exchangeable aluminium.  
Flooding of these soils generally decreased the content of water soluble exchangeable Aluminium.  
The use of steatite and organic materials (cattle manure, green leaves) along with lime was found to be very effective in suppressing the release of exchangeable aluminium in these soils.  
  
(Dept. of Soil Science & Agrl. Chemistry, College of Agriculture, Vellayani.)

PLANT PROTECTION

- \* The NPV of the coconut blackheaded caterpillar Opisina arinosella at  $22.14 \times 10^7$  PI bodies/ml was found to be on par with endosulfan 0.05% in controlling the pest.  
(Dept. of Entomology, College of Agriculture, Vellayani)
- \* The two accessions SM-67 and SM-88 of brinjal were found to be moderately resistant to the fruit and shoot borer.  
(Dept. of Ent., College of Agriculture, Vellayani)
- \* The two accession SM-67 and SM-88 of brinjal were found to be moderately resistant to the fruit and shoot borer.  
(Dept. of Ent., College of Horticulture, Vellanikkara)
- \* The aquatic weevil Cyrtobagons singularis have become established on Salvinia molesta in several locations in Trichur, Alleppey and Kottayam district. The impact of the weevil on the weed is found to be adequate to suppress the weed population.  
(AICRP on BCCP, College of Hort., Vellanikkara)
- \* Polyhedrosis virus disease of the red palm weevil infesting coconut palms was recorded from a few locations in Trivandrum district. A bacterial disease incited by Bacillus cereus was also recorded on the grubs of the weevil.  
(Dept. of Ent., College of Agriculture, Vellayani)

POST HARVEST TECHNOLOGY & NUTRITION

- \* Treatment of malta lemon with hot solution of sodium bicarbonate removed the bitterness of the fruit and gave promising results on pickling.  
(Dept. of PT, College of Hort., Vellanikkara)

- \* For retention of green colour of dehydrated pepper, blanching using various levels of chemical treatments with Magnesium sulphate and  $\text{Na}_2\text{HPO}_4$  were found to be effective.

(College of Hort., Vellanikkara)

- \* Tapioca tubers stored in dealwood boxes interlayered with cassava leaves compared well with fresh tubers in respect of their table quality. The percentage of whole tuber damage was lesser (30%).

When the tubers were stored at a depth of 45 cm in soil column, the tubers were kept for 3 weeks without substantial spoilage.

(NARP Southern Regional Station, Vellayani).

#### FARM ECONOMICS, EXTENSION STATISTICS

- \* Statistical techniques for pre-harvest prediction of sugarcane yield have been standardised based on growth parameters for the crop at 5 months after planting. (Dept. of Ag. Statistics, College of Agri. Vellayani)
- \* Evaluation of the training programmes under the T&V systems in Kerala showed that the Agri. Demonstrators and Jr. Agri. Officers did not have full understanding of the training methodology. (Dept. of Agri. Extn., College of Agri., Vellayani)

#### SOIL CONSERVATION & FARM MECHANISATION

- \* Investigations on the design and development of a propeller pump revealed that at design head of 1.5 m, the maximum efficiencies were 33 and 29.5% at discharges of 121 L/sec and 114 L/sec respectively. (Dept. of Agri. Engg, College of Agri., Vellayani)
- \* The paddy winnower (IRRI model) fabricated under the NARP programme was found to be very efficient and useful. It can clean a quantity of 100 kg/hour for grain purposes and 600 kg/hour for seed purposes. (NARP - Central Region - ARS Mannuthy)

## B. FACULTY OF FISHERIES

- \* The phytoplankton Chlorella isolated from local ponds and cultured in bulk in the laboratory was found to be a good feed for important zooplanktonic fish food organisms (Moina sp. and Brachionus spp. A suitable technique for the mass culture of Moina and Brachionus was evolved during the period. Moina can be successfully cultured in plastic pools of 300 L capacity filled with pond water using manures such as groundnut cake (100 mg/L), rice bran (100 mg/L), Urea (12 mg/L) and single superphosphate (24 mg/L). Brachionus was cultured in a plastic pool filled with pond water using poultry manure (100 mg/L), Urea (12 mg/L) and single superphosphate (24 mg/L).
- \* Azolla pinnata when cultured in artificial nitrogen free medium was found to release substantial quantity of nitrogen. This may be of significance as culture of Azolla in fish ponds can help in reducing the quantity of nitrogen fertilisation.
- \* The larvae of Microbrachium rosenbergi were successfully reared upto the 9th stage in plastic pools upto 28 days after hatching. During the period, they were fed mainly with Brachionus and Moina.
- \* In studies to identify promising alternatives to the currently used pituitary extract for induced breeding of fishes, a synthetic analogue of the natural mammalian neurohormone, LA-RH dissolved in 0.6% NaCl was found to be effective. In Cirrhinus mrigala the females intramuscularly received a total of 80 mg/kg body weight and the males received 40 mg/kg. The hormone was administered in two injections at 8 hours apart in females and in one injection in males. In C. mrigala, there was complete spawning in all individuals 12 hours after the second injection and the fertilization was 70%. In Labeo fibriatus, the females were administered a total of 100 mg/kg

and males 80 mg/kg body wt., intraperitoneally. There was complete spawning in 80% fish by 6 hours after the second injection and there was 95% fertilization.

#### C. FACULTY OF VETERINARY AND ANIMAL SCIENCES

- \* Field trials of the newly developed vaccine against the Ranikhet disease in chicken from a mesogenic strain of the virus isolated from a mynah was continued. A total of 28000 doses of the vaccine ~~was been~~<sup>were</sup> utilised during the year. The duration of immunity in birds vaccinated with this vaccine lasted for more than one year.
- \* Studies on the virus isolated from cases of infections Otorrhoea among buffaloes were continued. The virus isolate was at its 11th passage in chick embryos.
- \* Salmonella spp were isolated from 13.3% of the diarrhoeic piglets below 8 weeks of age. Two strains of Salmonella gallinarum were isolated from chicken and turkey.
- \* Antibodies to Brucella abortus, infectious bovine rhinotracheitis virus and spermatozoal agglutinins were detected in bovine serum samples to the extent of 51%, 20%, 16.25% respectively.
- "  
\* Selenosis was experimentally induced in eight cross-bred male calves. The tonic manifestation recorded were anorexia, loss of condition, anaemia, inability to stand lack of rumination and finally death. Histopathological studies in organs collected from experimental animals revealed degeneration changes in liver, brain and cardiac muscle.

A arsenical preparation, essential fatty acid supplements and sodium thiosulphate proved effective as ameliorative and curative therapy for the necrosis of extremities in cattle and buffaloes.

A combination of Ketamine and Xylazine was found useful to produce immobilisation and surgical anaesthesia in a monkey.

\* Staphylococci could be isolated from 16.67% of the milk samples taken from cases of mastitis. These included both coagulase positive and coagulase negative strains.

## 3.20: SERVICES RENDERED TO FARMERS

The following kinds and quantities of seeds and planting materials were distributed during the period under report.

Paddy seeds	71,024 kg
Sugarcane setts	6,16,555 nos
Vegetable seeds	41.36 kg
Coconut seedlings	16,254 nos
Coffee seedlings	50,578 nos
Pepper rooted cuttings	2,24,280 nos
Rose budlings	5,910 nos
Fruit plants	6,173 nos
Tree spices	1,453 nos
Sesamum seeds	401.25 kg
Groundnut seed	114.5 kg
Cowpea	196.5 kg
Cashew seeds	1,307 kg
Cashew seedlings	663 nos
Cashew airlayers and grafts	2,732 nos
Ornamental plants	4,504 nos
Banana suckers	4,693 nos
Lemongrass seeds	64 kg
Palmarosa seeds	33 kg
Guinea grass slips	4,000 nos
Fish fingerlings	13,440 nos

At the University Veterinary hospital Kokkalai a total of 18,032 out-patients were treated for various ailments. There were 758 operations, 29 castrations and 65 PAR vaccinations done in the hospital. The number of one-day old chicks distributed was 4532. Preventive vaccinations were done to poultry in 3500 cases. A total of 36,124 eggs were distributed for breeding purposes. Under the AICRP on goats, a total of 12 cross bred kids were sold to farmers. Artificial insemination were given to 128 does of local farmers.

3.21: PARTICIPATION OF SCIENTISTS IN WORKSHOPS/SEMINARS/  
SYMPOSIA

Details of Seminars/ Workshops/Symposia/ Meetings	Venue & Date	Names of Partici- pants
Seminar on Forestry Rese- arch and Education	College of Vety. & Ani. Sciences, Mannuthy 28-5-1984	Dr PCS Nair Dr N Mohanakumaran Mr PR Ramasubramo- niam Dr CC Abraham Prof PN Pisharody
State level Technical Committee Meeting of the T & V Programme	Directorate of Agricul- ture, Trivandrum 11-4-84	Prof U Mohammed Kunju Prof PN Pisharody Dr CC Abraham Dr CA Joseph Prof N Rajappan Nair Dr VG Nair Dr N Mohanakumaran
PLACROSYM - VI	Kottayam 16-19, December, 84	Prof U Mohammed Kunju Dr James Mathew Mr D Joseph Mr G Mathai Mr P Sivaprasad Mr Abraham Varghese Mr TP Manomohana Das
All India Workshop on the Coordinated Pro- ject on Sugarcane	Navsari Gujarat 1-4, Nov. 1984	Dr N Neelakantan Potti
AICARP Annual workshop	Jaipur 27-31, August, 84	Dr E Tajuddin
Tenth All India Workshop on Coordinated Project for Research on Water Manage- ment	Rahuri, Maharashtra 10-14 September, 84	Dr GR Pillai, Mr Jose Mathew

Second Annual Combined workshop of the Coordinated Research Project on Agricultural Drainage, wells and Pumps	Adyar, Madras 27-29, November, 84	Prof TP George Mr U Jaikumaran
All India Coordinated Rice Improvement Project, workshop	OUAT Bhubaneswar 14-16, April, 84	Mr N Rajappan Nair Mr MRC Pillai Mr Baby P Skariah Mr A Sreedharan Dr CA Joseph Dr L Rema Devi Dr K Karunakaran Mr Jim Thomas Mr MS Nair Dr K Karunakaran
All India Pulses workshop	Kanpur 29-5-84 to 1-6-84	Mr N Rajappan Nair
International conference on rainfed low level rice (IRRI & ICAR)	OUAT Bhubaneswar	Mr N Rajappan Nair
Workshop on marine toxins in bivalve molluscs CMFRI	Tuticorin May, 84	Mr IS Bright Singh
First International conference on the culture of penacid prawn shrimps	SE Asian Development Centre, Philippines December, 84	Mr IS Bright Singh
Annual Kharif Oilseeds workshop	TNAU Coimbatore 24-27, April, 84	Dr VG Nair Smt G Santhakumari
Seminar on eco-development of western ghats	KFRI Peechi 17-18 October, 84	Mr G Raghavan Pillai
National Seminar on Integrated pest and Disease Management	TNAU Coimbatore 5-6, Sept- ember, 1984	Dr CC Abraham Dr KI Wilson Dr Abi Cheeran Dr KM Rajan Dr MC Nair Dr N Mchandas

3.22: Trainings and Summer Institutes - Deputation of academic staff

Details of summer Institute/Training	Venue & Date	Participants
Summer Institute on water Management Practices for humid tropics	CWRDM Calicut 2-22, May, 84	Mr VS Deva Das Mr PA Joseph
Summer Institute on approaches to Research and Development of Dry Lands on Watershed basis.	APAU, Hyderabad 2-26, May, 84	Mr KC Aipe
Training on groundnut breeding	ICRISAT Hyderabad 26-3-84 to 5-4-84	Mr Sunny K Oommen
Summer Institute on Recent Techniques in seed science and Technology	IARI New Delhi 17-4-84 to 5-5-84	Smt CA Rosamma
Summer Institute on Bio-fertilisers	TNAU, Coimbatore from 27-6-84	Mr M Govindan

3.23: Important meetings arranged and held.

The work group meeting on Agro-forestry was held on 5-4-84 and 2-6-84 to finalise details of the technical programmes for the research projects on Agro forestry.

The ORP consortium meeting was held at Rice Research Station, Moncompu on 6-7-84. The Zonal workshop meeting of Agro forestry project was hosted by the University and this was held at Vellanikkara on 10-12, July, 1984.

The University variety release committee met at Vellanikkara on 19-7-84 to consider proposals for release of new varieties of rice, sesame, cashew and groundnut.

The Editorial Board of the Agri Res Kerala met on 19-7-84. The Editorial Board for the Kerala Veterinary Research Journal met on 16-4-84 and 12-10-84

The state Level workshop on farm trials was held at the KAU Headquarters during 12-14, December, 1984.

### 3.24: Papers published and radio talks given

A total of 25 scientific papers, 8 semi popular articles and 16 popular articles were published during the period. A total of 23 radio talks were given on subjects of topical importance. The details are as follows:

Details of papers published by academic staff of research wing

	Scientific	Semi- Popular	Popular	Radio talks
RARS Ambalavayal	-	-	5	7
RARS (SR) Vellayani	4	-	-	1
RARS, Pattambi	1	-	-	12
RARS Kumarakom	8	-	3	-
RRS, Kayamkulam	-	-	-	-
AICRP on Drainage	-	-	-	-
AICRP on Forage Crops	1	2	-	-
MSCRP, Madakkathara	1	-	-	-
CRS Anakkayam	-	2	-	-
CRS Pampadumpara	-	-	-	-
RRS Vyttila	3	-	-	-
BRS Kannara	1	-	-	-
ARS Chalakudy	2	2	1	-
CRS Balaramapuram	-	-	-	-
CSRC Karamana	-	-	-	-
SRS Thiruvalla	4	-	-	-
ARS Mannuthy	-	-	7	-
Directorate of Research	-	2	-	3
Total	25	8	16	23

## 3.25: Important visitors

Names	Stations visited	Date of visit
Dr TC Jain, Asst Director General (NARP) ICAR	NARP SOUTHERN REGION Vellayani & KAU Headquarters	17-19, September, 84
Dr A Balasubramaniam Sr Scientist, ICAR		
Dr VV Dhruva Narayanan Director, Central Soil & Water Conservation Research and Training Institute Dehra Dun	KAU Headquarters	12-7-84
Dr Tom Hargrove IRRI	RARS Pattambi	15-7-84
Mr TS Santhanam, Director of Works, ICAR	Pilicode, Pattambi, Kumarakom, KAU Headquarters, Vellayani, Moncompu	25-28, April, 84
Dr A Appa Rao, IBRD, Resident Mission, New Delhi	RARS Kumarakom Moncompu Kayamkulam Vellayani	11-12, June, 1984
Prof JA Ascenso, EMBRASCA, Brazil	CRS Madakkathara	6-4-1984
Mr JS Michael, King John House, Surrey, UK	"	10-11-84
Dr SS Bains, Joint Commissioner, Ministry of Agriculture, Govt of India	"	19-12-84
Dr PK Agarwal, Scientist IIHR Bangalore	BRS Kannara	29-30, October, 1984

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Dr AS Purohit, Project Coordinator, IIHR, Bangalore	BRS Kannara	23-11-84
Dr Jacob Lamp, World Bank	RARS Pattambi	11-6-84
Dr K Gopalakrishna Pillai, Project Coordinator, AICARP, Bangalore (ICAR)	CSRC Karamana	18-19, October, 84
Dr Sekhon, Director, Indian Potash Research Institute, New Delhi	CSRC Karamana,	31-5-84
Dr TR Raman, Joint Secretary, Department of Electronics, Govt. of India	KADP & KAU Headquarters	22-12-84
Dr SM Prasad, Joint Director, Department of Electronics, Govt. of India	do.	17-22, December, 84
Dr JS Gill, Dr Abrar, M.Khan and Dr JC Edward (ORT members for AICRP on nematodes)	AICRP on Nematodes and NARP Southern Regional Centre, Vellayani	11-12-84
Dr Vishnu Swarup, Former Project Coordinator (Vegetables)	NARP Southern Region, Vellayani	20-9-84
Smt Mythili Jaganathan, Joint Director (Information) Ministry of Agriculture, Govt. of India	RARS Kumarakom	27-9-84
Mr DS Vyavahare, Agriculture Information Officer, Maharashtra	do.	27-9-84

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## CHAPTER IV

EXTENSION DIVISION

4.01: Dr AGG Menon continued as the Director of Extension. Dr GR Nair and Mr RT Ravi Varma continued as the Associate Director of Extension and Editor (Publications) respectively. Out of the 67 sanctioned academic positions for the Extension wing, 46 were in position.

	<u>Staff position</u> No. sanctioned	<u>Technical</u>	
		No. in position	Vacant
Director of Extension	1	1	--
Assoc Director of Extension	1	1	--
<u>Farm Advisory service</u>			
Professors	2	2	--
Assoc Professors	5	5	--
Asst. Professor	1	--	1
<u>Communication Centre</u>			
Assoc. Professor	1	--	1
Asst. Professors	4	3	1
Jr. Asst. Professor	2	1	1
<u>Publication Unit</u>			
Editor (Publication)	1	1	--
Asst. Professor	3	3	--
Language Editor	2	1	1
<u>Exhibition &amp; graphic services</u>			
Assistant Professor	1	1	--
Jr. Asst. Professor	1	1	--
<u>Inservice Training Scheme</u>			
Assistant Professor	1	--	1
<u>Training Unit Tavanur</u>			
Assistant Professor	1	1	--
Junior Asst. Professor	2	--	2
<u>KVK Pattambi</u>			
Professor	1	1	--

Professor	1	1	1
Assoc Professor	5	5	---
Assistant Professor	4	4	---
<u>KVK Ambalavayal</u>			
Professor Extension	1	---	1
Assoc Professors	4	---	4
Asst Professors	6	3	3
<u>SC Area Research Centre, Nilambur</u>			
Assoc Professor (Extn)	1	---	1
Asst Professor	3	1	2
<u>TARS Amboori</u>			
Coordinator	1	1	---
Assoc Prof (Extn)	1	1	---
Asst Professor	6	5	1
<u>NDS, Sadanandapuram</u>			
Assoc Professor	1	1	---
Asst Professor	3	2	1
Total	67	46	21

#### 4.02: National Service Scheme

Dr AGG Menon, Director of Extension continued as the Programme Coordinator. There were 8 programme officers in the college of Agriculture (M/s. Skariah Oommen & Rajan Asary), College of Horticulture, (Dr P Balakrishna Pillai and Dr M Achuthan Nair), College of Vety. & Ani. Sciences (Dr MK Rajagopalan and Dr G Mukundan), College of Fisheries (Mr TM Sankaran) and in the College of Coop. & Banking (Dr U Ramachandran).

#### 4.03: Lab-to-Land Programme

Mr AI Thomas, Prof of Agronomy continued as the Coordinator for the Lab-to-Land Programme.

#### 4.04: Training Programmes

A total of 32 training programmes were conducted during the report period. A total of 1794 persons from the various departments such as Department of Agriculture, Dept. of Animal Husbandry, Cardamom Board, Southern Railway, Gandhi Smarak Nidhi and Land Mortgage Bank and defense personnel were given training on different subject matter areas. Tribal leaders (30) rural women (60) and farmers (46) were also given training in Agriculture and Fruit & Vegetable Preservation and Post-harvest technology and induced breeding of fishes. The total number of persons trained during the period was 1930.

The details of the training programmes are as follows.

<u>Name of training</u>	<u>Venue</u>	<u>Dates</u>
1. Advanced training course in Disease investigation for Asst. Directors/ Vet Surgeons (7) *	CV & ASci	23-4-84 to 21-7-84
2. Training in Lab Technicians for Livestock Assistants (5)	"	26-3-84 to 25-9-84
3. Advanced Training on Biological standardisation for Veterinary Surgeons of the Dept. of Animal Husbandry (7)	"	23-4-84 to 21-7-84
4. Advanced Training in Vety. Public Health for Asst. Directors/ Vety. Surgeons (7)	"	23-4-84 to 21-7-84
5. Advanced Training courses in Poultry Breeding and Genetics (7)	CV & ASci	23-4-84 to 21-7-84
6. State Level Training on rice production Technology for JAOs ADs of the DOA, Kerala (40)	RARS, Pattambi	10-19 May 84 8-11 Oct 84
7. Training in Plant Protection to JAOs (17)	COA, Vellayani	18-23 June 84 20-25 Aug. 84 10-15 Sept. 84 24-29 Sep. 84

\*Persons trained are given in parenthesis

8. Training on Goat Rearing for workers of the Gandhi Smarak Nidhi (7)	AICRP on Goats COV & ASci	5-30 June 84
9. Training in Dairying for Pre-release defense personnel	COV & ASci	5-30 June 84
10. Training in Agriculture, Animal Husbandry and Nutrition (10)	Directorate of Extn.	9-18 July 84
11. Training in Social Forestry to Asst. Directors (31)	"	23-25 July 84
12. Training in Rice Production Technology to Assoc Directors of the DOA (320)	RARS, Pattambi	23-28 July 84 23-25 Sep 84 27/8 to 1/9 84 24-29 Sep 84
	RRS Kayamkulam	23-28 July 84 20-25 Aug 84
	RARS Kumarakom	10-15 Sept 84 24-29 Sep 84
13. Training in Horticulture x Tree planting for staff of Southern Railways	COH Vellanikkara	30-7-84 to 4-8-84
14. Training in Vegetable Production for Agri. Demonstrators (80)	COH Vellanikkara	30-7-84 to 4-8-84 15-10-84 to 20-10-84
15. Farmers' Training course in Post-harvest Technology (30) to	Directorate of Extn	7-10 Aug 84
16. Training in Agri./Supervisors of Primary Land Mortgage banks (10)	COA, Vellayani	2-30 July 84
17. Training in Plantation crops for JAOs of the DOA (150)	COH, Vellanikkara	18-23 June 84 20-25 Aug 84 10-15 Sep 84 24-29 Sep 84 15-20 Oct 84
18. Training in Fodder Cultivation for JAOs (90)	COA, Vellayani	21-23 June 84 1-3 Nov 84 7-9 Nov 84

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|--|-------------------------|--|
| 19. Training in vegetable cultivation for JAOs (60)  | COH<br>Vellanikkara     | 10-19<br>Sep 84<br>24-29<br>Sep 84   |
| 20. Training in the identification and control of root knot nematodes in Cardamom nursery for field officers of the Cardamom Board (3) | COH<br>Vellanikkara     | 24-29<br>Sept.84   |
| 21. Training in Bio-fertilizers for JAOs (30)  | COH<br>Vellanikkara     | 24-29<br>Sep 84  |
| 22. Training on Dry Land farming for Asst.Directors of the Dept. of Agriculture(29)  | Directorate<br>of Extn. | 8-12<br>Oct 84   |
| 23. Training on Water Management for JAOs of the DOA(30)   | ARS, Chalakudy          | 15-20<br>Oct<br>84   |
| 24. Training on Pulses & Oilseeds for the ADs of the DOA(280)  | RRS, Kayamkulam         | 8-12<br>Oct 84<br>16-20<br>Oct 84<br>5-11 Nov.<br>84<br>20-24Nov<br>84                     |
|  | RARS Pattambi           | 26-30 Nov<br>84<br>10-14 Dec<br>84<br>18-22<br>Dec 84                                      |
| 25. Training in Plant Protection for Agri.Demonstrators of the DOA (240)   | RARS, Pilicode          | 29-10-84 to<br>31-11-84<br>12-17<br>Nov 84<br>19-24<br>Nov 84<br>26-11-84<br>to<br>1-12-84 |
|  | COA, Vellayani          | 15-12<br>Oct 84<br>29-10-84<br>to<br>3-11-84   |
| 26. Training in Agriculture & Ani. Husbandry for Tribal leaders(30)  | Directorate<br>of Extn. | 28-10-84 to<br>11-12-84  |

27. Dry Land farming for JAOs (30)	Directorate of Extn	29-10-84 to 3-11-84
28. Training in Pulses & Oilseeds for JAOs of the DOA (120)	RRS, Kayamkulam	24-27 Oct 84 14-17 Nov 84 19-22 Dec 84 26-29 Dec 84
29. Training in Meteorology for the Jr Agri. Officers of the DOA (60)	COH, Vellanikkara	12-11-84 to 17-11-84 19-11-84 to 24-11-84
30. Training on Fruit & vegetable processing for rural women (60)	COH, Vellanikkara	19-24 Nov 84 26-11-84 to 1-12-84 10-15 Dec 84 17-22 Dec 84
31. Training in Poultry management for pre-release defenses personnel (16)	COV & Ascii	3-12-84 to 3-1-84
32. Training in induced breeding of carps and hatchery production of seed for farmers (18)	Ramankari, Alleppey	21-27 June 84

#### 4.05: Regional Workshop-cum-training on Agri. Journalism

A workshop-cum-training programme was conducted in the Directorate of Extension Mannuthy during 10-12-84 to 15-12-84 for the subject matter specialists of the DOAs from the states of Kerala, Tamil Nadu, Karnataka, MP and Maharashtra. A total of 25 officers participated in this workshops.

#### 4.06: FARM ADVISORY SERVICE

Experts from the FAS participated and served as resource personnel in the seminars held at Thudangandu (30-4-84), Karayamuttom (18-5-84) Kavassery (2-6-84), Cheerankuzhy (8-6-84), Kolencherry (14-6-84),

Moozhikulam (4-8-84), Poovanchira (10-8-84), Vadakkan-cherry (25-8-84), Nadathara (15-9-84), Chittilappalli (22-9-84), Mylom (28-9-84), Kottiyam (14-10-84), Thani-kukudom (20-10-84), Karukutty (27-10-84), Kodassery (30-10-84), Rajakkad (12-11-84) Mattanur (17-11-84) and at Kalloppara (17-11-84). The FAS organised 4 days seminar on Post harvest Technology at Mannuthy during 7-10-Aug.84 in collaboration with the Warehousing Corporation. Two farmers' seminars were also organised one at Moorkanikkara on 19-9-84 and another at Nellikunnu on 7-10-84. Two farm clinics were organised at Moorkanikkara and Nellikunnu. Replies to queries from farmers were given through the Q & A programme through the Dailies.

#### News paper Programmes

A total of 71 feature articles on agriculture and allied subjects were published in leading dailies.

Three serialised lessons were given to newspapers during the period:

Rice production Technology	Veekshanam (8 lessons)
Cashew apple production	Deepika (8 lessons)
Tips for Coconut farmers	Deepika (5 lessons)

Sixteen Research highlights in capsule form were given to leading newspapers. A serialised documentary on the KAU research stations was published in the Mathrubhumi in 19 articles. Eleven detailed development news items on KAU were issued to leading newspapers & radio. The correspondence course on dairying was completed during the period. The new course on ornamental garden is in progress.

#### 4.07: Technical Bulletins

Seventeen technical bulletin were published during the period.

#### 4.08: Text book

A text book on 'Diseases of crop plants of Kerala' was published during the period.

4.09: Leaflets, folders released

Three primary leaflets were released during the period.

4.10: Periodicals Kalpadhenu (Quarterly), KAU Newsletter (monthly) were brought out regularly. Agri Abstracts, Ani-Vet abstracts and Hort abstracts were also published during the period.

4.11: All India Radio Programmes

The university personnel participated in the farm schools on AIR programme on coconut management and on 'Cooperative Movement in Kerala'. Two documentary programmes on the University Poultry Farm and backyard poultry rearing were given through the Trichur station.

4.12: Doordadarshan programmes

Script for Rose gardening was prepared and supplied to Doordarshan Trivandrum. This was telecast on 17-1-85.

4.13: Exhibition and Graphic Services

Major Exhibitions

The Kerala Agricultural University participated in the Trichur Pooram Exhibition and it was inaugurated on 30.4.1984. The main theme of the exhibition was "Homestead Development by Mixed farming". Slide show, consultancy services were arranged in the Pavilion. Sales counter was also opened. Over 7 lakhs people visited the KAU Pavilion. The KAU Pavillion bagged the Best Pavilion Special Prize.

The University also participated in the All India Exhibition held at the Marine Drive, Cochin from 12th March to 28th April '84.

### Mini Exhibitions

Three mini exhibitions were arranged in the adopted villages of Moorkkanikara, Nellikkunnu, and Nadathara in connection with the inauguration of Village Adoption/ Lab to Land Programmes. The unit also participated in the exhibition arranged at Regional Agricultural Research Station, Pattambi in connection with 'Krishi Darshan' programme on 25-9-1984.

During the period under report, 320 black and white exposures, 95 colour exposures, 425 colour transparencies 475 black and white transparencies and 150 black and white copies were prepared in the colour processing laboratory. Other items such as panels, cover designs, illustrations, graphs, posters, display boards for exhibitions were also prepared from this Unit.

### P.A. System

The public address system was used for all the University functions including the recording of the proceedings of the General Council meetings, Lab to Land Programmes, Advisory Committee meetings, slide shows and film shows etc.

### Miscellaneous

Undergraduate courses for students of the College of Horticulture, College of Co-operation and Banking, College of Veterinary and Animal Sciences, were offered by the academic staff of Directorate of Extension.

#### 4.14: Kerala Agricultural University Press

The Kerala Agricultural University Press at Mannuthy caters to almost all printing requirements of the University. Special attention was paid to complete the publication of the both periodicals and non periodicals in time. There are now two automatic Printing machines and one treadle machine in the press. About 150 items of printing works involving 8,91,522 copies were completed during the period under report. Items printed include Text Books, technical bulletins, folders, registers, cover pages,

journals, Annual reports, Research reports etc.

The KAU Press has been awarded a prize for excellence in printing by the AllIndia Printers Conference 1985.

#### 4.15: Krishi Vigyan Kendras

During the year a KVK was established at Manjeshwar for the benefit of the Kannada speaking farmers of that area.

#### 4.15 (a) Krishi Vigyan Kendra Pattambi

The following fifteen training courses were conducted during the period under report.

<u>Agriculture</u>	<u>No. of farmers trained</u>
1. Scientific cultivation of paddy	1119
2. Scientific cultivation of Banana	269
3. Scientific cultivation of vegetables	82
4. Scientific cultivation of coconut	747
5. Scientific cultivation of pepper	16
6. Scientific cultivation of sweet potato	15
7. Scientific cultivation of ginger	17
8. Scientific cultivation of arecanut	24
9. Scientific cultivation of sesame	7
 <u>Animal Science</u>	
10. Backyard poultry management	75
11. Management of milch animals	110
 <u>Fisheries</u>	
12. Composite inland pisciculture	115
13. Processing of fish	170
 <u>Home Science</u>	
14. Balanced low cost meal	20
15. Preservation of Banana	10
	-----
	2796
	-----

#### 4.15(b): Krishi Vigyan Kendra for Tribals, Ambalavayal

The following 25 training programmes were conducted during the period.

Sl.No.	Name of training programme	Duration (days)	Place	No.of trainings	No.of trainees attended
1	2	3	4	5	6
1.	Identification of the pests and diseases of the ginger and their control	1	Edackal Malika Thekkankolli	3	38
2.	Ginger cultivation	1	Malika and Thekkenkolli	2	25
3.	Identification of pests and diseases of rice and their control	2	Thekkankolli Thaloor and Edackal	3	87
4.	Calf rearing	1	Malika, Edackal, Pambla	3	44
5.	Training on principles and methods of plant protection	1	Edackal, Thaloor	2	30
6.	Refresher training course for the tribals in plant protection	2	Malika, Thekkankolli Edackal	3	85
7.	Training on management of pepper		Edackal and Malika	2	30
8.	Training on pests and diseases of pepper and their control	1	Thekkankolli Malika and Edackal	3	42
9.	Refresher training in coffee cultivation	1	Malika	1	15
10.	Training on integrated methods of plant protection	1	Thaloor and Erulam	2	28
11.	Training on plant protection equipments, their use and maintenance	1	Thaloor, Vettipura and Perinchola	3	44
12.	Clean milk production	1	Kalathuvayal, Manikuni and Thanipura	3	45
13.	Training on preparation and use of plant protection chemicals	1	Thaloor, Kurukkanmoola and Pazhapa- thoor	3	42
14.	Training on soil testing for higher crop production	1	Thaloor and Punchavayal	2	29
15.	Rice cultivation in Wynad	1	Erulam and Kaithavally	2	28

1	2	3	4	5	6
16.	Training on balanced diet	1	Punchavayal, Kalathuvayal	2	30
17.	Training on soil and water conservation	1	Kurukkanmoola Perinchola	2	29
18.	Public Health	1	Thanipura, Kattayad and Pazhpathoor	3	45
19.	Cultivation of summer vegetables	1	Thaloor and Malavayal	2	30
20.	Plant protection in summer vegetables	1	Malavayal	1	15
21.	Training on multiple cropping in paddy fields	1	Kattayad and Pazhpathoor	2	29
22.	Management of goats	1	Kattayad and Pazhpathoor	2	30
23.	Kitchen gardening	1	Veettipura	1	15
24.	Intercropping pulses with tapioca	1	Thaloor, Edakkal and Pambala	3	45
25.	Training on application of fertilizer and lime in intercropped areas.	1	Thaloor, Edackal and Pambala	3	45
Total				58	925

#### 4.16: Tribal area Research Centre, Amboori

Following were the activities undertaken during the period under report.

A field office has been established at Karikuzhi.

##### Education

A number of training programmes were organised to impart necessary skills and knowhow to Kanikar tribals in agriculture, animal husbandry, home science, health small scale industries etc.

##### Research and development activities

##### Agriculture

Suitability studies of different crops like maize, jowar, sorghum, vegetables, tubers etc., were undertaken and the programme is in progress.

Agronomic trials for soil conservation in this slopes by planting Subabool along the contours have been taken up. Planting cashew seedlings were also undertaken during this period.

#### Animal Husbandry

A Veterinary clinic was opened at Karikuzhi so as to cater to the needs of the tribals residing that locality.

Kadakkanath Poultry and goats were supplied to the tribal beneficiaries. Their performance in this locality is being evaluated by the staff.

#### Health

Health clinics at the Field office and clinical camps in different hamlets were conducted. A survey of medicinal plants is in progress. Species identified so far are being grown to establish a herbal museum.

#### Home Science

The home science programmes include open school education on nutrition, and other aspects such as deficiency diseases, health and hygiene, kitchen garden etc. A survey on the dietary pattern of the tribals was also conducted. Training programmes for the Balwadi children are in progress. Tailoring classes were also arranged for tribal girls.

#### Small Scale Industries

Technical assistance and inputs were supplied for clean honey production. Bee-hives were supplied to the beneficiaries.

Leaf cup making machine is being used to test the locally available leaves to find out the best suited one for plate making.

#### Extension programmes

Training programmes were organised at the time of implementation of field programmes. Field demonstration programmes on raising vegetable gardens (Nutrition gardens) were conducted.

#### 4.17: Scheduled caste Area Research Centre, Nilambur

The Kerala Agricultural University Project Centre is implementing the All India Co-ordinated Project on Scheduled Castes Area Research, among the selected 277 Harijan families and 23 Girijan families, in the Nilambur Community Development Block.

##### Agriculture

During the month of April mini trials were conducted at Jawahar Harijan Colony with new varieties of rice PTB.28,29,30, Suvarnamodan and Cul.1907. In the month of September a scheme on developing suitable modules for year round production of vegetables was started and a training programme on essential practices in Vegetable cultivation for selected 10 Harijan women was conducted. The scheme for identifying Sesamum varieties suitable to the area and to standardise management techniques commenced in September 84 at <sup>the</sup> Jawahar Colony. Tapioca stems of H.197 and H.225 were distributed. Cashew seedlings, under social forestry, were also distributed to the Project beneficiaries.

##### Animal Husbandry

Training classes on clean and scientific milking were conducted at Jawahar Colony and Chokkadu Girijan Colony. The participants got convinced that by scientific milking, the yield of milk can be increased without increasing feed ration. In collaboration with the Regional Artificial Insemination Centre, 5 infertility camps were conducted in the Project Area during the period under report. The scheme on adaptability of cross bred milch goats is continued at Jawahar Colony. Routine field visits to examine the animals of the beneficiaries in early months had to be discontinued as the Centre does not have Veterinary expertise with it currently.

Homestead vocations

The scheme on Introduction of Improved Potter's wheel and Training programmes in modern trends of pottery was commenced at Boodan Colony on 1st November. 6 Wheels, purchased from Central Village Pottery Institute, Khanpur were used for training of 8 trainees and one master potter. A scheme on Tailoring and Embroidery was introduced at Vellakketta from October onwards with 12 trainees and one Instructress. At Thampurattikkallu a training-cum-production scheme on clay modelling for the Project beneficiaries was started in the month of October with 8 trainees and one Instructress. Scheme on Agriculture, Handicrafts with reeds and bamboos were being launched during the end of the period under report.

Health and Nutrition

Medical camps for tribal people in collaboration with Jaycees International, Forest Department and Kalkulam Girijan Society were conducted and medicines were given to the needy. In unison with Health Department a medical camp on 20th August, 1984, and lecture class on Nutrition on 30th November 1984 were conducted at Vellakketta.

Training Programmes

Training programmes, on Cashew cultivation and bee-keeping at Appankappu on 4th April and 2nd May, on Coconut cultivation on 7th August at Vellakketta, on Sesamum cultivation at Jawahar Colony on 17th September and one week programme on Goat Management at Jawahar Colony during the month of April '84, were conducted during the period under report.

Co-ordination activities

The Centre participated in the tapioca cultivation scheme of Integrated Tribal Development Project and the coconut seedling distribution scheme of Department of Agriculture in the Project area and 2 N.S.S. camp in the months of April and September conducted by NSS units of Providence Women's college, Calicut and

Marthoma College, Chungathara. The Centre participated actively in the IRDP Mela at Manjeri on 27th July. With the assistance rendered by the Centre 15 Harijans of Jawahar Colony were given financial assistance to the tune of Rs.700/- each by Nilambur Canara Bank and 16 Project beneficiaries at Vellakketta were covered under IRDP through the South Malabar Gramin Bank, Vazhikkadavu. The Centre has been evincing keen interest in the activities of Nilambur Community Development Block and the shifting of office to the Block building on 1st November 1984 has added greater impetus to this linkage.

4.18: National Demonstration Scheme, Sadanandapuram

A total of 25 demonstrations were laid out during the year as per the following split up:

Three crop-demonstrations (rainfed)	-	9
Two crop	-	5
Problem soil demonstration	-	1
Entire farming	-	10

As per the directions of ICAR vide letter No.F.12-11/84 Edtn.Edn.dated 17.9.1984, three Entire Farming demonstrations were discontinued. The maximum grain yield obtained during the first crop season was 48.5 Qt/ha in the plot of Mr Koshy Panicker at Kundara.

4.19: Extension Education Centre, Kayamkulam - Project for intensification of Research and Training on Pulses and Oil Seeds

This ICAR Project was functioning at the station from 3-10-1979 onwards. Continuance sanction was accorded to this project by ICAR only upto 31-3-1984. This Project was continued upto 30-6-1984 with Kerala Agricultural University funds.

Off-campus training to Agricultural Demonstrators

Six, one day off-campus, training were conducted to Agricultural Demonstrators of Alleppey, Quilon and Chengannur sub divisions in production technology of pulses and oil seeds. 125 demonstrators participated in these camps. Three Nutrition Education classes

for Balwadi teachers of Kayamkulam and Shertallai Municipality were also conducted. In these camps 50 teachers and 120 mothers attended.

#### Demonstrations in cultivators' fields

Twenty demonstration plots on Sesamum were laid out in cultivators' fields to popularise improved cultivation practices. Capital inputs were supplied free of cost.

#### 4.20: Lab to Land Programme

During the 2nd phase of the lab to land programme 1100 families were selected as beneficiaries through 32 transfer technology centres. The scheme has been extended to Attappady area also from August 1984. The beneficiaries of the programme include marginal farmers, scheduled castes, scheduled tribes and landless labourers etc.

Bench mark survey and production plan of these farm families were completed. Based on the production plan, inputs are being supplied to the beneficiaries so as to improve their income level and standard of living.

During the current phase (III phase) of the lab to land programme also 1100 farmers were selected as beneficiaries.

Inter disciplinary teams were constituted on regional basis so as to give guidance to the working of the programme at local level.

#### 4.21: Village Adoption Programme

During the period two villages . . . Nellikunnu and Kalathode were additionally adopted by Kerala Agricultural University as its demonstration centres.

Bench mark surveys of the adopted villages were completed. Inputs were supplied to carry out demonstrations on recommended practices. Nutrition gardens, community nurseries, crop demonstrations were established in many adopted villages.

4.22: T & V Monthly Workshops

Kerala Agricultural University Scientists regularly attended the T&V monthly workshops of all districts as Resource Personnel.

4.23: National Service Scheme

During the period under report on more NSS Unit started functioning in the College of Co-operation and Banking raising the number of NSS Units in Kerala Agricultural University to 8. The total number of NSS volunteers in the University was 850.

4.24: Extension Lecture Series

During the period under report five extension lectures were arranged.

<u>Topic</u>	<u>Name of lecturer</u>	<u>Date/Venue</u>
Genetic Engineering	Dr CK Krishnan Nair, Babha Atomic Research Centre, Trombay, Bombay	9--4--84 College of Vety.& Animal Sciences, Mannuthy
Recent theories on Asthma	Dr CS Venugopal Assistant Professor	4--7--1984 College of Vety.& Animal Sciences
Forest tree breeding	Dr S Kedarnath, Director, KFRI, Peechi	24--7--1984 College of Vety. & Animal Sciences, Mannuthy
Tissue culture Coconut tissue culture	Dr CR Raju, Scientist, CPCRI Kasaragod	15--11--1984 & 16-11--1984 College of Horti- culture Vellanikkara

4.25: Seminars/Workshops/Meetings conducted/attended

A workshop on vocationalisation of Higher Secondary Education in collaboration with State Department of Education was held at the Directorate of Extension during June 1984.

The Extension Advisory Committee meeting of KAU was held at the Directorate of Extension on 26..5..1984.

The Agro-forestry Scheme of the University was inaugurated by the Hon.Minister of Forests on 26..6..1984 at University Headquarters.

Smt.N.P.K.Sushama, Assistant Professor, Communication Centre, attended the National Seminar on Status of Women held at the University of Kerala, Trivandrum from 9..4..1984 to 12..4..1984.

Shri.R Prakash, Assistant Professor, Communication Centre, attended the training programme of slide story production for 10 days during May-June 1984 at Karnal.

Shri.Joy Mathew, Assistant Professor, Communication Centre, attended one week's training programme at Extension Education Centre, Rajendranagar from 17th to 23rd June 1984.

Shri.R.Prakash, Assistant Professor, gave a talk on slide story production on 6..8..1984.

A workshop for the writers who contributed lessons for the Farm School on AIR programmes on "Cooperation" was conducted on 27--9--1984 at the Directorate of Extension.

#### Seminar on "KAU 2000 AD"

A Seminar on "KAU 2000 AD" was conducted at the Headquarters of the University from November 22th-24th 1984. Over 300 delegates participated in the Seminar. The Seminar was inaugurated by His Grace Mar Gregorios, Arch Bishop of Trivandrum. In all, more than 70 papers were presented in the Seminar.

#### 4.26: Campaigns/Camps

The Kerala Agricultural University conducted model campaigns on the competence of better infant practices at Shertallai and Kayamkulam Municipal areas on 14th and 16th September 1984 respectively. A Veterinary Camp was organised at Anthikkad Milk Co-operative Society on 20..7..1984. Animal Husbandry Seminars were organised

at Puthoor, Valakkavu, Vilvattom and Kalady during the period under report.

4.27: Field days/Krishi Darshan Programme

A field day was conducted on 25..9..1984 at the Regional Agricultural Research Station, Pattambi. On this occasion the "Krishi Darshan" programme was also inaugurated. Over 500 farmers participated in this programme.

4.28: New Extension Programmes

Free Horticultural Therapeutic Aid

"Free Horticultural Therapeutic Aid" programme in the Cheshire Home, Trivandrum and "Santhivanam", Athani, were started to rehabilitate mentally and physically handicapped people. Necessary technical guidance was rendered by the Kerala Agricultural University Scientists.

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CHAPTER V  
ENGINEERING WING

5.01. Mr KR Krishna Pillai continued as the Director of Physical Plant. Mr PO Thomas continued as the Executive Engineer for the Northern Division and Mr SJ Mathew for the Southern Division. The posts of Architect and Junior Architect remained vacant. M/s. KG Achuthan TK Rajan, V Ramachandran Nair and M. Thomas Mathew continued as Asst Executive Engineers. There were 16 Asst Engineers in position. Mrs Elizabeth Thomas continued as PA to DPP. Mr KI Alex continued as the Financial Assistant.

5.02. Progress of works upto 31-12-1984

The budget provision for the current year is Rs.3,50,00,000/- under works plan and Rs.2,50,000/- under Maintenance and Repairs. The expenditure upto 31-12-84 is Rs.1,56,32,230/-

The stages of major works are noted below:-

At Vellanikkara formation of 'C' Road along Radio Isotope Laboratory to Ladies Hostel and formation of 'C' Road to type V and IV quarters are completed. Black topping of these roads has been tendered. Formation of balance portion of 'B' road has been arranged - construction of culverts in 'B' road has been completed. Construction of additional ten numbers of type II quarters have been completed and allotted for occupation. Construction of Training Research Building Madakkathara is completed. Bachelors Hostel, Trainees Hostel, Ladies Hostel, Glass House, Net House, providing street lights along the 'A' Road and 'B' road etc., are nearing completion. Construction of school building is in progress. Works of Canteen building, Office for Pine Apple Research Station, Type I

Quarters, Insectory building are in good progress. The works for Flat type quarters at Vellanikkara and GL Tank for improving water supply are started. Ten number of Type II quarters ~~-----~~ have also been arranged, but could not be started due to the delay in cutting and removal of rubber trees and clearing the site. The construction of a building for accommodating the cooperative store has been completed. Works for providing street light along road leading to Ladies Hostel and Radio Isotope Lab. and to the Road leading to Type IV, V and VI quarters have been arranged.

At Mannuthy the balance works of Dairy Technology Building <sup>are</sup> have been arranged and/nearing completion. Erection of machineries for Dairy Technology Unit also is nearing completion. The works of Rearing House, Breeder House, building for hundred experimental animals are completed. The works of additional Lecture Hall, Additional Ladies Hostel and type V quarters under NARP and two cage houses are nearing completion. Works for Metabolism centre, Small Animal Breeding Station, a Lab. under NARP construction of an additional floor for PG Hostel, GL Tank the Foot Ball ground and providing under drains and improvements to Hockey Court are in progress and nearing completion. Construction of two flats for 36 families also is in progress. Construction of a ground level water tank for improving water supply is also in progress. Fencing the balance portion of southern side of Mannuthy Campus also has been arranged. Estimate and other details of UG Hostel for men are under preparation.

Regarding the works of Fisheries College, Panangad construction of three blocks of Semi-permanent shed has been completed and the construction of 4th block is nearing completion. The Dormitory building and Dining block for Dormitory building have been completed. The

works of additional fish ponds and improvements to acquired buildings have been arranged. Construction of Type V and IV quarters at Panangad and Lab. and seed store at Vyttila under NARP are nearing completion. A type V quarters and watchman's quarters at Puduvaipu have been arranged and are in progress. The master plan for Fisheries College has been prepared. The plan and estimates for the two academic blocks and type II quarters have been prepared and work will be arranged soon.

At Vellayani construction of Deep litter Poultry has been completed. The works for improvement to protected water supply to Vellayani Campus have been arranged and is in progress. Construction of a Lab and Library building and Indoor Stadium has been arranged and are in progress. Black topping of the main road in Vellayani Campus has been arranged.

Under NARP, Remodelling of Agronomy Lab and Remodelling of Agricultural Chemistry Laboratory are completed. Construction of Net house and Green house are in progress under NARP. The works for improvements and remodelling other laboratories in Agriculture College have been tendered and are being arranged. At Balaramapuram forming approach road to office has been arranged and the work is in progress.

Type IV and Type II quarters and farm structures under NARP scheme at Kumarakom and Moncompu are in progress and nearing completion. Type V quarters at Kumarakom has been completed and Type V quarters at Moncompu is nearing completion. Works of Laboratory buildings at Kayamkulam, Moncompu and Kumarakom and Trainees Hostel Kumarakom under NARP are in progress.

At Pilicode construction of type IV, V and II quarters and Trainees Hostel have been completed. Works for the

administrative building are in progress. Type III quarters for four families and Type I quarters for families have been arranged. Fencing and compound wall and construction of farm structures are in progress.

At Panniyur construction of Demonstrators quarters and works for providing irrigation facilities have been completed. Construction of Type II quarters and type IV quarters are in progress.

At Thiruvazhamkunnu construction of type IV quarters is completed construction of cowbarns for 100 cows and Milk chilling plant are nearing completion. The lab building and formation of the farm road are in progress. The construction of silo at Thiruvazhamkunnu has also been arranged.

At Pattambi construction of type V, IV, & II quarters under NARP has been completed. The works of Laboratory, Net house, Green house, Meteorological laboratory and other farm structures under NARP are in progress. The construction of Office-cum-hostel building under KVK have been tendered. A seed testing lab, seed store and Threshing yard under breeder seed project also have been arranged at Pattambi.

At Ambalavayal the tenders for various building under KVK have been received and the work will be arranged soon.

At Tavanur, construction of Type V & IV quarters has been completed. Construction of type II quarters, Labourers waiting shed and seed store have been arranged.

Fencing and compound wall for the farm at Thumburmuzhi has been arranged and improvement works of buildings are in progress. The construction of laboratory building at Chalakudy under NARP has been arranged

and the work is in progress. The construction of type V quarters and construction of well at Odakkali has been arranged and are in progress.

At Pampadumpara the work of construction of type II quarters and type IV quarters and labourers waiting shed is in progress.

Maintenance works of various buildings and roads and other structures are under different stages of progress. The details of various items of civil works are given in Table.

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PROGRESS REPORT OF WORK - PLAN SCHEME & WORKS FINANCED BY ICAR FOR KERALA AGRICULTURAL  
UNIVERSITY FOR THE PERIOD ENDING DECEMBER, 1984

Budget item No.	Name of work	Estimate amount in lakhs.	Expenditure upto 31-12-84	Progress as on 31-12-1984
1	2	3	4	5
V-b(iii) CIVIL WORKS(PLAN)				
<u>I. Main campus - A road</u>				
1.	Formation of C road - soling, metalling construction of culverts etc.	1.92	2,64,676.43	Work completed
2.	Formation of C Road along Ladies Hostel and Isotop Lab from A road	2.05	..	Work of culverts completed soling and metalling work nearing completion. Tender has been invited for Block topping this road.
3.	Formation of B road - constructing 2 culverts at Main campus	4.38	67,773.90	Constructing of culvert completed. Road work in progress.
4.	Providing 25 mm. thick bitumen concrete surfacing to the A road in the Main campus, Vellanikkara	3.20		Work started
5.	Metalling and semigrouting the Road leading to type IV, V and VI quarters	1.93		Work tendered
6.	Remetalling and black topping the roads in Agriculture College Campus	3.15		Work tendered

1	2	3	4	5
<u>B. Electricity</u>				
Providing street light in the Main campus, Vellanikkara		7.00		Work in Progress
Providing street light to the roads leading to LH & FH		1.81		Work arranged
Providing street light to the road leading to type IV, V and VI quarters		2.15		Work arranged
<u>C. Water supply</u>				
Construction of protected water supply construction of GL Water tank at Mannuthy		4.70	1,82,614.75	Work in progress
-do- -do- at Vellanikkara		6.0		Work in progress
<u>II. College and Lab Buildings</u>				
1. Construction of Dairy Technology building at Mannuthy		6.50	11,49,867.87	Balance work re-arranged are in progress. Civil works nearing completion. Erection of equipment in progress.
2. Construction of Lab. & Library building at Vellayani		50.00 (R.E)		Balance work arranged
3. Construction of an additional Lecture Hall for Vety. College, Mannuthy		2.25	6,51,040.40	Work in progress
4. Construction of deep litter poultry unit at Agri. College, Vellayani		2.61		Work completed

1	2	3	4	5
5.	Construction of Meat Technology building at Mannuthy	9.00	10,94,406.15	Building work completed. Water supply and electrification work started. Work of building for carcasses in progress. Works of steam pipes, overhead track system and refrigeration are in progress.
6.	Construction of Lab. building at LRS Thiruvazhamkunnu	1.08		Work started
7.	Constructing a small Animal Breeding station at Mannuthy	4.20		Work in progress
8.	Constructing a Metabolism centre for Veterinary college, Mannuthy	2.50	68,271.00	Work in progress
9.	Construction of Second floor for the P.G.Hostel, Mannuthy.	4.20	1,32,344.79	Work in progress
10.	Construction of office and Lab-cum-store in Pineapple Research station, Vellanikkara	1.74		Work in progress
11.	Construction of an Insectory, Instructional Farm, Vellanikkara	2.50	620.00	Work in progress
12.	Vety.College - Construction of building for 100 experimental animals	3.25	5,04,213.14	Work completed
13.	Providing additional facilities to various Lab. in Vety. College, Mannuthy	1.61		Work tendered
14.	Construction of an A.I.centre at Livestock Farm, Thiruvazhamkunnu	1.98		Work tendered

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Fisheries College  
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Construction of Semi-permanent sheds  
 for Fisheries College, Panangad  
 (1st & 2nd blocks)

-do- 3rd block

-do- 4th block

Construction of School building at  
 Main campus, Vellanikkara

Soil processing cum-digestion room,  
 Vellayani

5.60		Work completed
2.60		Work completed
3.76	1,10,044.68	Work nearing completion.
5.50	5,93,556.48	Work in progress
1.14	1,82,886.05	Work completed

III. Instructional Farm

Providing irrigation facilities to  
 Instructional Farm, Main Campus,  
 Vellanikkara

1.05

Construction of Pump house  
 and Tank completed. Pump  
 set erected. Electric  
 connection awaited.

Fencing in the Pepper Nursery -  
 balance portion

2.50

2,49,059.00 Work completed

Instructional Farm, Mannuthy - providing  
 fencing in the western and southern side  
 of the campus

1.02

1,46,560.59 Work completed

Formation of roads in livestock farm,  
 Thiruvazhamkunnu

3.48

1,164.00

Instructional Farm, Mannuthy - providing  
 fencing in balance portion of southern  
 side of campus

1.00

Work started

Construction of Rearing house for  
 ducks, Mannuthy

2.9

Work tendered

Construction of Breeder House for  
 ducks, Mannuthy

2.9

832.00 Work tendered  
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1	2	3	4	5
	Construction of Layer house for ducks, Mannuthy	3.00	997.00	Work tendered
	Improvements to the tank in AICRP Poultry, Mannuthy	1.30		Work tendered
<u>IV. Workshop/Glass house</u>				
	Construction of a Glass house - Instructional Farm, Vellanikkara	3.09	4,14,579.53	Work in progress
	-do- Net house -do-	3.65	4,43,839.49	Work in progress
	Construction of Road and Yard for Glass house and Net house, Vellanikkara			Work tendered
<u>V. Sports, Games &amp; Students amenities</u>				
	Construction of a Stadium & Playground at Main Campus, Vellanikkara	0.93	20,532.04	Earth work for levelling the stadium area is in progress.
	Raising Veterinary College Pay ground and providing underground drains etc. at Mannuthy.	2.20	1,55,746.50	Work nearing completion
	Improvements to the Hockey court, Vety. College, Mannuthy	1.45	67,685.00	Work in progress
	Construction of an indoor stadium in Vellayani campus	7.30	1,490.00	Work in progress
<u>VI. Staff quarters</u>				
	Construction of quarters for Asst. Professors(3 nos.) Type IV & Associate Professors(4 nos) - Type V at Vellanikkara.	7.59		Work completed

1	2	3	4	5
Construction of Type II Quarters(Duplex) 5 nos. at Vellanikkara		4.35	5,73,046.43	Work completed
Construction of Type VI Quarters for Professors(6 nos) at Vellanikkara		8.51		Work completed
Construction of Bachelors Hostel at Main campus, Vellanikkara		9.00	9,30,005.60	Work nearing completion
Construction of Type IV quarters for Asst. Professors(Duplex) at Thiruvazhamkundu		3.44		Work completed
Construction of Type IV quarters for Asst. Professors(2 nos) ie.1 No.Duplex type at IAT Tavanur	1.62	0		
Construction of Type V quarters 1 No. IAT Tavanur	1.23	2.85	3,90,668.57	Work nearing completion
Construction of Type IV quarters 4 Nos. (2 nos. Duplex) and Type II quarters 4 nos.(2 nos. Duplex) at PRS Panniyur	3.40 1.88	0 5.28	4,20,322.05	Work in progress
Construction of quarters for Demonstrators & Watchman at PRS Panniyur		0.61		Work completed
Construction of Type IV quarters(Duplex) 5 nos. for Assistant Professors for Fisheries College, Panangad		14.25	4,66,293.00	Work nearing completion
Construction of type V quarters for Assoc. Professors for Fisheries College, Panangad		10.00	3,23,510.15	Work nearing completion
Construction of Type I quarters(8 nos.) at Main campus, Vellanikkara		2.70	1,10,303.65	Work in progress
Constructing a common kitchen block to the bachelors hostel, Main campus, Vellanikkara		2.65	5,206.00	Work in progress

1	2	3	4	5
Construction of Type V quarters at Instructional Farm for Fisheries at Puduvaipu	2.30	53,402.45		Work in progress
Construction of Watchman's quarters, Puduvaipu	1.00			Work in progress
Construction of Type I Quarters, Single Unit, Puduvaipu				
Construction of Type I quarters at Pilicode	1.75	498.00		Work arranged
Construction of Type III quarters at Pilicode	3.6	1,164.00		Work in progress
Construction of Type V quarters at Odakkali				Work arranged
Construction of Type II quarters IAT Tavanur(2 units)	2.08	250.00		Work arranged
Constructing Labour lines(12 nos.) for the Labourers of the Estate at Main campu, Vellanikkara	3.62	37,863.00		Work arranged
Construction of Type II quarters (Addl.5 blocks) at Vellanikkara	5.50	1,490.00		Work arranged
Construction of Flat type quarters at Mannuthy( 2 blocks)	46.20	1,969.00		Work in progress
Construction of type III quarters (Flat type) in Main Campus, Vellanikkara	5.21	261.00		Work arranged
<u>Teachers Hostel</u>				
Construction of teachers hostel Block-1, Vellanikkara	5.00			Work tendered

1	2	3	4	5
<u>VII. Students Hostel</u>				
1.	Construction of Ladies hostel at Mannuthy	41.00	43,14,031.39	Work in progress
2.	-do- -do- Vellanikkara	21.00		Work completed
3.	Construction of Block No.II, Vellanikkara	42.00	37,62,638.68	Work in progress
4.	Construction of Trainees Hostel at Main Campus	9.00	11,64,109.74	Work nearing completion
5.	Constructing compound wall to Ladies hostel, Main Campus, Vellanikkara	1.40	76,668.80	Work in progress
<u>VIII. Regional Research Station</u>				
	Construction of Cattle Barns for 100 milking cows at ISF, Thiruvazhamkunnu	3.80	3,72,123.19	Work in progress
	-do- Dormitory building for men students at Fisheries College, Panangad	4.55	75,631.60	Work completed
	Constructing a Training & Research building at CRS Madakkathara	2.00	3,67,713.53	Work completed
<u>IX. Work for providing basic facilities</u>				
1.	Construction of store building at Vellanikkara	0.55	1,96,349.38	Work completed
2.	Constructing a building for milk chilling unit at LRS Thiruvazhamkunnu	1.92		Work in progress
3.	Improvements to water supply system - relaying the pipe lines and construction of two pump houses at CBF Thumburmuzhi	1.21	99,619.09	Work nearing completion
4.	Installation of community type bio-gas plant at Mannuthy	2.26	2,65,755.02	Work in progress

1	2	3	4	5
5.	Supply, erection and commissioning of slurry pump at Mannuthy, supplying and laying 90 mm PVC delivery pipe	1.15		Work completed
6.	General water supply arrangements at RARS Pilicode	1.30	212.00	Work in progress
7.	Providing additional street lights in Agricultural College, Vellayani	1.00	236.00	Work in progress
8.	Providing protected water supply system in Agricultural College campus, Vellayani	2.35		Work in progress
9.	Irrigation facilities to AMPRS, Odakkali - Excavating. The open well of 6m. dia including lining and construction of a pump house	1.10	22,764.00	Work in progress
10.	Constructing afcanteem-cum-facilities building at Kerala Agricultural University Main Campus, Vellanikkara	1.85	40,666.40	Work in progress
11.	Deeping fish ponds at the westernside of the main gate at Main campus, Vellanikkara	3.00		Work arranged. Waiting for season.
12.	Deepening the pond at Eastern side of the Main Gate at Main Campus, Vellanikkara.	3.45		Waiting for the season
13.	Providing M.S.Grills to the windows in the G.F.in the Academic Block No.II & III, Main Campus, Vellanikkara	1.20	41,452.00	Work completed
14.	Fencing and compound wall for CBF Thumburmuzhi	4.45		S.N.issued

1	2	3	4	5
<u>KALP</u>				
Construction of Radio Isotop Lab. building at Vellanikkara				
<u>AICRP</u>				
Construction of Cage house 2 nos. at Mannuthy				
		6.70	4,69,705.93	Work nearing completion
<u>KVK -- RARS Pattambi under ICAR</u>				
Construction of office and hostel for KVK Pattambi				
		3.52	2,88,540.22	Work in progress
Construction of Lab. for KVK Pattambi				
		1.36		Work tendered
Construction of quarters Training Associates				
		1.05		Work tendered
Construction of quarters for Training Organiser				
		0.50		Work tendered
Construction of quarters for Office Supdt.				
		0.40		Work tendered
<u>KVK Ambalavayal</u>				
Construction of office and hostel				
		3.75		Work tendered
Construction of office & Lab. for KVK				
		1.50		-do-
Construction of quarters for Training Associated				
		1.15		-do-
Construction of quarters for Office Supdt. Organiser				
		0.48		-do-
Breeder seed project				
		0.58		-do-
Constructing of Lab. building for breeder seed project				
		1.38		Work tendered

1	2	3	4	5
<u>NARP PATTAMBI</u>				
1.	Construction of Type II quarters(Duplex) at RRS Pattambi	1.20	1,55,048.17	Work completed
2.	-do- Type IV -do-	2.40	2,96,285.77	Work completed
3.	-do- Type V -do- (2 nos)	3.40	4,47,395.36	-do-
4.	Construction of a Lab.building at RARS Pattambi	6.90	1,43,836.12	Work in progress
5.	Construction of Mat.Lab.		455.00	Work in progress
6.	Construction of Green House		312.00	-do-
7.	Construction of Net House		236.00	-do-
8.	Farm structures			-do-
<u>NARP Mannuthy</u>				
	Construction of Type V quarters at Mannuthy	1.70	1,76,416.67	-do-
	Construction of a Lab.building at Mannuthy	2.20	61,630.95	-do-
<u>NARP PILICODE</u>				
	Construction of quarters type V(5 nos)			Completed
	Assoc.Professor, CRS Pilicode	9.50		
	Type IV single unit for Asst.Prof.	0.96	14,26,601.97	Completed
	Type II - 2 nos.(duplex)	1.96		
	Construction of Trainees Hostel at CRS Pili Pilicode	6.20	11,50,404.88	Completed
	Construction of Administrative building & Lab.building at CRS Pilicode	22.00	17,94,794.08	Work in progress
	Farm structures - construction of a Green House at RARS Pilicode	1.23	31,232.50	Work started
	Construction of compound wall and fencing around the NARP area at RARS Pilicode	2.31	42,715.00	Work in progress

NARP Kumarakoma) Sub-Centre-Kumarakom

1	2	3	4	5
1. Constructing staff quarters -quarters Type IV(Duplex) at RARS Kumarakom		3.10	51,064.62	Work nearing completion
2. Constructing staff quarters - Type V at RRS Kumarakom		2.30	34,039.08	-do-
3. Constructing staff quarters - Type(duplex) quarters(1 No. )		1.86	39,164.29	Work in progress
4. Constructing a Trainees Hostel at Kumarakom		4.39	33,600.00	Work in progress
5. Constructing a Lab. building at RARS Kumarakom		15.75	703.00	-do-

b) Sub-centre-Kayamkulam

Constructing a Lab.building at RRS Kayamkulam		2.18	34,094.00	Work in progress
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c) Sub-centre-Vyttila

Constructing a Lab.building at RRS Vyttila		2.40	90,251.00	Work nearing completion
Construction of seed store - do-			32,818.17	-do-

NARP Moncompu

1. Constructing staff quarters - Type IV		1.65	34,405.50	Civil work & electrification arranged-in progress.
2. Constructing staff quarters - Type V at RRS Moncompu		2.23	43,854.75	-do-
3. Constructing a Lab.building at RRS Moncompu		9.35	4,19,265.65	Work in progress

NARP Chalakudy

1. Extension of the Lab.building at Chalaky		1.10	17,521.00	Work in progress
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## CHAPTER VI

KAU ESTATE

6.01: Mr KT Narayanan Nambiar continued as the Estate officer during the period.

6.02: The total area as on 31-12-1984 is 391.4368 ha. The area under various schemes/projects as on 31-12-84 was as follows:

Instructional Farm	- 95.3538 ha.
Plant Introduction	- 12 ha
Bureau of ICAR(NBGR)	
Agromet Lab.	- 3 ha
K.A.D.P.	- 14 ha
Pepper Research	- 10 ha
Botanical Garden	- 60 ha
Plantation Crop Museum	- 1.50 ha
Orchard	- 3 ha
Vegetable	- 5 ha
Replanted area 1978-79	- 7.98 ha.
Research Project of	
Density planting	- 7 ha

6.03: A total of 28,356 rubber trees were tapped during the year.

6.04: The production of rubber in the Estate during the report period amounted to 22,598.800 kg. Of this a quantity of 20,600 kg was disposed off during the above period. The receipts of the Estate in the year upto 31-12-84 amounted to Rs.5,57,079-27. A total of 712 trees were cut and removed for timber/fuel and the amount fetched was Rs.43,027-70.

CHAPTER VII  
F I N A N C E

7.01 General: Sri.N.M.Abdul Kadir continued as the Comptroller till 2-11-1984 FN and Sri.P.M.Krishnan-kutty Nair, Deputy Comptroller was holding additional charge of Comptroller from 2-11-1984 to 31-12-1984. Sri.Nair has retired from service on superannuation on 31-12-1984 A.N. There was no changes in respect of Assistant Comptrollers including Asst.Comptroller at Audit wing, Vellayani.

Three posts of Assistants and one Typist were sanctioned to FAW to cope up with the increased workload.

7.02 Annual Budget 1984-85: The General Council at its annual meeting held on 29/30.3.1984 has approved the Budget Estimate 1984-85 for Rs.1672.12 lakhs as below:

<u>Receipts</u>	<u>Plan</u> (Rs. in lakhs)	<u>Non-Plan</u>
Govt. Grants	547.00	567.00
ICAR Grants	216.80	..
University's own income	14.24	85.41
Pension Fund	..	33.78
Debt & Suspense	..	114.43
Other sources	33.79	..
Opening balance	59.67	..
	-----	-----
	Total 871.50	800.62
	-----	-----
	Grand Total:	1672.12 lakhs
		-----

7.03: Post-budget commitments:

(i) D.A. revisions from 1.8.83, 1.10.83 0 and 1.11.83 0	29.00
(ii) Ad-hoc DA increase from 1.10.83	4.50
(iii) Ad-hoc bonus	1.21
(iv) Interim relief from 1.3.84	10.00
(v) Creation of essential posts under Non-Plan	2.00
-do- Plan	36.00
(vi) Norms promotion of Teachers	2.00
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Total	80.71 lakhs
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According to the present assessment, an additional assistance of Rs.442 lakhs is essential to implement the budgetted programmes and to accommodate the post-budget commitments. Proposals for additional assistance of Rs.442 lakhs (Rs.272 lakhs under Plan and Rs.170 lakhs under Non-Plan) has been presented to Government.

7.04: Expenditure upto 31-12-'84:

	<u>Plan</u>	<u>Non-Plan</u>
General Council	..	1.15
Executive & Other Committees	..	1.48
Administration	39.46	121.19
Education, Research & Extension	507.04	356.75
Works	350.00	51.77
Vellanikkara Estate	..	13.62
LS for Teachers' pay revision ) and General pay revision )	..	35.00
LS for D.A. revisions	..	49.00
Pension Fund	..	10.65
Foundation Fund	..	1.00
Debt, Loan and Suspense	..	133.51
Closing Balance	..	0.50
Total	896.50	775.62
Grand Total:		1672.12 lakhs

7.05: Details of grant received:

	<u>Plan</u>	<u>Non-Plan</u>
State Govt.	226.25	333.93
ICAR	121.02	..
Dept. of Environment	..	..
U.G.C.	..	..
Other sources	5.30	..
Total:	352.57	333.93

3(b) University's own income:

	..	66.88
Grand Total	352.57	400.81

contd...

7.06: Audit of Accounts: Audit of Schemes financed by ICAR and other outside agencies for 1981-82 are being taken up by the Govt. Auditor on priority basis . Issue of Audit Certificates in respect of 27 schemes are pending as on 31-12-1984. It is expected that the pending Audit Certificates will be issued before February 1985, to facilitate drawal of assistance.

7.07: Finance Committee; Finance Committee has not met during the period under report. Accounts Committee constituted by the General Council is reviewing the audit report of the University. Audit Report 1978-79 is now reviewed by the Committee which met 15 times in 1984-85.

7.08:

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