

KERALA AGRICULTURAL UNIVERSITY

REVIEW OF SIXTH FIVE YEAR PLAN 1980 - 85

1. Financial outlays and expenditure

The plan proposals of the University amounted to Rs.2316 lakhs against which the State Planning Board agreed for Rs.1300 lakhs. The grant actually released was Rs.945 lakhs only.

The details are given in Annexure I.

2. Variations in outlays provided in the sixth plan document, budgeted outlays and expenditure

The details are provided in the Annexure I.

3. Schemes/programmes not included in the sixth plan but implemented during the sixth plan period

Nil

4. Schemes/programmes included in the sixth plan document but not taken up for implementation

The Department of Plant Physiology, the Faculty of Basic Sciences and Humanities as well as the Faculty of PG Studies could not be established during the plan period due to the dearth of funds.

5. Schemes discontinued during the VII plan period

The following Departments/programmes which have been initiated during the VIth Plan period and which are to be continued indefinitely or upgraded have been discontinued as Plan schemes and proposed for assistance under non-plan during the VIIth Five year plan onwards:

1. Department of Home Science
2. Department of Plant Breeding
3. Nematology Section
4. Microbiology Section
5. Monitoring and Evaluation Cell of the Directorate of Research
6. Strengthening Research and Education in the College of Horticulture
7. Strengthening the College Libraries
8. Strengthening Under Graduate and Post Graduate Courses in different faculties including those courses which were started during the Sixth Five Year Plan period
9. Providing Sports, Games and Students amenities
10. Strengthening the College of Fisheries
11. Institute of Agricultural Technology, Tavanur

The Sugarcane Research Scheme functioning at the College of Horticulture, Vellanikkara and at the Sugarcane Research Station, Thiruvalla was discontinued during the VI plan period.

6. Schedule of slippage and spill over schemes

6.1. Research and Education

1. Strengthening PG programme in the College of Agriculture to augment intake at 40 students per year
2. Strengthening PG programme in the College of Horticulture to augment intake at 40 students per year
3. Establishment of a Micronutrient laboratory
4. Establishment of a section on Insect Pathology
5. Establishment of a Plant Pathological Herbarium
6. Establishment of a unit of higher Education in Food and Nutrition
7. Establishment of a Tissue culture Laboratory under College of Horticulture
8. Offering Diploma course in Land and water resources Development and Management

9. Strengthening Research on Medicinal plants in the College of Horticulture
10. Establishment of a vegetable seed production complex under the College of Horticulture
11. Establishment of a Centre for Excellence for Tree Crops and Environmental Horticulture
12. Establishment of an Instrumentation laboratory
13. Establishment of a Botanical garden of 40 ha at Vellanikkara Campus
14. Strengthening Instructional Farm at Vellanikkara and Vellayani Campuses
15. Establishment of a workshop on Agricultural Engineering
16. Exchange of Teachers and Teaching Reforms under the College of Agriculture and Horticulture
17. Purchase of equipments for Agricultural and Horticultural Colleges
18. Providing Research facilities to the teaching staff in the Colleges of Agriculture and Horticulture
19. Strengthening Research facilities in 18 Research stations
20. Establishment and cost of maintenance of five farms at Mannuthy (3 units) Thumburmuzhi and Thiruvazhankunnu campuses under the Faculty of Veterinary and Animal Sciences
21. The establishment of information unit and communication centre at the Directorate of Extension

#### 6.2. General Facilities

The general facilities included were strengthening University Administration, the establishment of a School under KAU, providing Transportation facilities for staff and students and for acquisition of new area, fencing and expansion of new area in the Vellanikkara Campus.

#### 6.3. Student Amenities

1. Providing Department of Students Welfare at the Headquarters with one Lecturer in Physical Education
2. Providing Sports facilities at the University level

3. Establishing a Students' Aid funds
4. Meeting the Annual expenditure of the University Unions

#### 6.4. New Facilities

1. Establishment of College of Co-operation and Banking
2. Establishment of Undergraduate/Post graduate courses in Forestry

#### 7. Physical targets and achievements

Scheme-wise details are given in Appendix IV.

#### A. FACULTY PROGRAMMES - FACULTY OF AGRICULTURE

##### 7.A.1. EDUCATION

##### a) Organising new Departments

During the VIth plan period four new departments were proposed to be established, out of which only the Department of Home Science could be established in 1983-84. The main reason for not establishing the other three departments was the lack of funds. However, in the case of Nematology and Microbiology, new sections were started for upgradation and further development as Departments during the VII plan period. The Department of Plant Physiology is proposed to be established during the VII plan period.

##### b) Strengthening the existing departments

Based on an assessment of the needs of the various Departments in the College of Horticulture and College of Agriculture, some Departments were strengthened with a view to carry out the teaching and research programmes and for involvement in the extension education programmes. As funds were scarce, only bare minimum staff could be provided.

Additional staff positions created during the plan period in various departments of Faculty of Agriculture are given in Table I.

Table.1: Additional Scientific staff positions created during VI plan

Category	80-81	81-82	82-83	83-84	84-85	Total
Professor	-	2	-	2	4	8
Assoc Professor	-	3	-	2	4	9
Asst. Professor	-	8	2	10	10	30
Jr.Asst. Professor	7	13	-	20	9	49
Total	7	26	2	34	27	96

During the sixth plan period, the BSc(Ag) and BSc(Hort) programmes were offered in the Faculty of Agriculture. After a review of the syllabi of these courses, the BSc(Ag) syllabus was thoroughly revised during 1981. The BSc(Hort) programme was discontinued. The number of students admitted and qualified for the UG and PG Courses are furnished in Tables II and III respectively.

Table II: Student admission and students getting qualified for first Degree programmes

Category	80-81	81-82	82-83	83-84	84-85
	Admitted (qualified)	Admitted (qualified)	Admitted (Qualified)	Admitted (Qualified)	Admitted (Qualified)
BSc(Ag)	128(87)	187(-)	143(88)	143(110)	160(157)
BSc(Hort)	40(29)	(27)	-(32)	-(37)	-
Total	168(116)	187(27)	143(120)	143(147)	160(157)

Table III: No. of Post-graduate students admitted and qualified in the Faculty of Agriculture

Category	80-81	81-82	82-83	83-84	84-85
Masters programme	77(64)	-(78)	51(57)	81(44)	97(83)
Ph.D	11(-)	9(-)	5(5)	8(4)	17(8)
Total	88(64)	9(78)	56(62)	89(48)	114(91)

The Research fellowship for post graduate students was enhanced from Rs.400 to Rs.600/- per trimester for M.Sc students and to Rs.800 per trimester for Ph.D Scholars.

To impart practical oriented training in 'Natural Rubber Production' and 'Land and Water Resources Development and Management', post-graduate diploma programmes were started in College of Horticulture, Vellanikkara. A total of 89 students were admitted for these courses (Table IV).

Table IV: Student admission for PG Diploma courses  
for the VI plan period

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)	Total Admitted (qualified)
Natural Rubber	30	4	4	-(5)	--	38(5)
Soil Science	7	5	-	-	--	12(-)
Plant Protection	3	2	-	-	--	5(-)
Land, Water Resource Development	5	4	-	-	--	9(-)
Veterinary & Animal Sciences	12	13	-	-(21)	--	25(21)
<b>Total</b>	<b>57</b>	<b>28</b>	<b>4</b>	<b>-(26)</b>		<b>89(26)</b>

c) Vegetable Seed Production Complex

A vegetable seed production complex was established during the plan period to meet the heavy demand for quality seeds of elite varieties/types of vegetables. During the plan period, the following quantities of vegetable seeds were produced and distributed to the farmers (Table V).

Table V: Vegetable seed production during the VI plan period

Quantity of Seeds sold (kg)	1980-83	1983-84	1984-85	Total
	703.3	749.45	960.99	2,413.74
Receipts through Seeds(Rs)	53,233.15	58,878.16	82,216.39	1,94,327.70
Receipts through Sale of vegeta- bles(Rs)	7,564.90	5,125.48	11,580.72	24,270.10
<b>Total</b>	<b>60,798.05</b>	<b>64,003.64</b>	<b>93,797.11</b>	<b>2,18,598.80</b>

d) Faculty Improvement

The University has taken special care for faculty improvement. Deputation of teachers for acquiring higher qualifications, encouraging them to participate and present scientific papers in National and International seminars were continued and strengthened.

7.A.2. RESEARCH

During the period under report, the research infrastructure of the Agricultural University was substantially re-organised. Under the NARP programme, the State of Kerala was divided into five agro-climatic regions (North, South, Central, 'Problems' and High Range) and the agricultural research in each of these regions was brought under a Regional Associate Director of Research. The Zonal concept was accepted and the Regional Agricultural Stations were developed at Pilicode, Ambalavayal, Pattambi, Kumarakom and Vellayani Centres. The sub-stations within the jurisdiction of a Region were attached to the Regional Stations for administrative expediency. The research efforts were directed for solving location specific problems in the predominant farming situations through multi disciplinary approach.

The assistance for upgrading the Regional Stations and the sub-stations within the Regional Station was made available by the World Bank through ICAR under the National Agricultural Research Project. The financial assistance received for various sub-projects is given in Table VI. These sub-projects are continued in the VII Plan.



Table VI: Financial assistance from World Bank for NARP sub projects for the Phase I period

Stations	Rs. in lakhs
NARP sub project on Northern Zone - HQRs, Pilicode	110.43
NARP sub project on High Range Region - HQRs, Ambalavayal	37.36
NARP sub project Central Region - HQRs, Pattambi	86.21
NARP sub project - Zone of Special problems - HQRs, Kayamkulam	118.41
NARP sub project - Southern Zone - HQRs, Vellayani	95.91
NARP sub project - Water Management Chalakkudy	30.06
Strengthening the Directorate of Research - HQRs, Vellanikkara	10.83
Total	489.21

In order to co-ordinate the works of Regional Stations and also to effectively monitor and evaluate research programmes, the Directorate of Research was strengthened during the plan period. The strengthening included the posting of three Associate Directors of Research under NARP and one Associate Director of Research (Vety. & Ani. Sciences).

Because the University received substantial assistance under NARP for strengthening agricultural research, the State plan fund was utilised for the Research Stations which did not receive assistance under NARP.

During the plan period, the KAU has conducted multi disciplinary studies on the coconut root (wilt) disease

making use of funds made available by the Government of Kerala. Studied on the etiology and management of the disease and standardization of the agro-techniques for sustaining the vigour of diseased plants were the thrust areas for the University programmes.

7.B.FACULTY OF VETERINARY & ANIMAL SCIENCES

7.B.1.EDUCATION

Under the Faculty of Veterinary and Animal Sciences additional departments were not started during the plan period. The existing Departments were strengthened by providing additional staff and facilities. The details of additional staff sanctioned during the plan period in the Faculty are indicated in Table VII.

Table VII: Details of additional staff created in the Faculty of Veterinary & Animal Sciences during the VI plan

	80-81	81-82	82-83	83-84	84-85	Total
Director	-	-	-	-	1	1
Professor	-	2	-	1	6	9
Assoc Professor	-	2	-	1	15	18
Asst Professor	-	4	-	-	14	18
Jr. Asst. Professor	-	-	-	-	21	21
Total	-	8	-	2	57	67

The equipment required for the Dairy Technology Unit and Meat Technology Unit were purchased during the period.

The Administration wing of the Veterinary College as well as the College Library were strengthened during the period.

The four Year BVSc & Animal Husbandry Programme was revised as five year programme during the plan period. The number of admissions to the programme was increased from 40 to 80 for meeting the requirement of the Veterinary graduates in the State Department of Animal Husbandry.

The number of students admitted as well as the number of students qualified are given in Table VIII & IX.

Table VIII: No. of student admissions in the Faculty of Vety. & Animal Sciences for BVSc & AH course

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)
BVSc & AH	71(40)	96	76(42)	69(49)	114(56)

Table IX: No. of student admissions in the Faculty of Vety. & Animal Sciences for MVSc & Ph D programmes

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)
Ph.D	1(-)	3(-)	2(1)	4(1)	3(1)
MVSc	2(-)	3(2)	5(7)	14(13)	13(-)
Total	3(-)	6(2)	5(8)	18(14)	16(1)

The Veterinary Hospitals at Mannuthy & Kokkalai and the Ambulatory clinic unit were strengthened during the period to equip them to function as model teaching units and also to offer service to the farmers.

#### 7.B.2. RESEARCH

The basic facilities by way to staff and equipment were provided to various Departments for undertaking research in specified areas. The thrust areas in the field of veterinary research included 'utilization of culled and non-productive animals', 'milk and milk potentialities of buffaloes', 'Improvement in productivity and Management of ducks', 'Investigation of infertility in cross bred cattle', 'Role of olfactory signals in the reproductive behaviour in goat and swines', 'Utilization of agricultural wastes/by-products as cattle feed', 'Development of broiler breeds', Improvement of Malabari goats etc.

Taking advantage of the expertise available and recognising the contributions made by the Veterinary Pathologists of the Agricultural University, a centre of Excellence, in Animal Diseases was established to accelerate the tempo of research in these areas and to ensure better Co-ordination of efforts of Scientists working in allied subject matter areas.

#### 7.C.FACULTY OF FISHERIES

##### 7.C.1. EDUCATION

The College of Fisheries which was temporarily located at Mannuthy was shifted to its permanent site at Panangad. The land required for the College was acquired during the period. A four year BFSc programme was offered in the College with an intake capacity of 30 students.

Strengthening the College Administration, establishment of a Fisheries Engineering Workshop, Establishment of an aquarium, purchase of equipment and fittings, and establishment of an instructional farm at Puduveyyu were the activities during the period. The number of additional staff created during the period was 28 (Table X).

Table X: Additional teaching posts created in the Faculty of Fisheries during the VI plan period

Category	80-81	81-82	82-83	83-84	84-85	Total
Professor	-	-	-	1	-	1
Assoc Professor	-	-	-	-	4	4
Asst Professor	-	-	-	6	4	10
Jr. Asst Professor	4	-	1	3	5	13
Total	4	-	1	10	13	28

The number of students admitted to BFSci & MFSci degree programmes is furnished in Table XI.

Table XI: Student admission in the College of Fisheries during the VI Plan period

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)
BFSci	30(-)	30	30	29	32(18)
MFSci	-	-	-	-	5(-)
Total	30(-)	30	30	29	37(18)

The college library was strengthened, and sports, games and student amenities were provided utilising the plan funds.

7.C.2. RESEARCH

Fisheries research was intensified during the plan period by initiating studies on "brackish water fish and prawn culture", "paddy cum fish/prawn culture in Kuttanad and kole lands", prawn culture in Pokkali rice fields", and mixed farming of frogs, livestock and fish at Kumarakom.

An Instructional farm for fresh water fish culture was established at Vellayani during the plan period.

7.D. COLLEGE OF CO-OPERATION & BANKING

A Department of Co-operation and Banking was started in the University during 1982-83 and the Department offered a four year BSc (C&B) course. The Department was upgraded to the College of Co-operation and Banking and the following additional teaching posts were created during the period (Table XII).

TableXII: Additional Teaching posts created in the College of Co-operation & Banking during the VI plan period

Category	80-81	81-82	82-83	83-84	84-85	Total
Assoc Dean	-	-	-	-	1	1
Professor	-	-	-	1	-	1
Assoc Professor	-	-	-	1	1	2
Asst Professor	-	-	-	6	11	17
Jr. Asst. Professor	-	-	-	4	-	4
Total	-	-	-	12	13	25

The number of students admitted for BSc(C&B) programme is given in Table XIII.

Table XIII: Student admission in the College of Co-operation & Banking during the plan period

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)
BSc(C&B)	-	51	31	32	29
Total		51	31	32	29

#### 7.D. EXTENSION EDUCATION

The Extension Education wing of the Agricultural University was strengthened to provide information support and training to the field extension personnel of the state development departments. During the plan period under report, the State Agricultural Department set-up has undergone substantial changes due to the introduction of the T&V system. The University undertook the responsibility of conducting monthly workshops, to train the subject matter specialists of the various Districts in the diagnostic work.

The information unit, the publication unit and the exhibition and graphic unit were considerably strengthened during the period. Besides bringing out 'Kalpadhenu', abstracts (agriculture, horticulture and veterinary), Research Journals, and news letters, the extension education wing brought out 19 books 25 booklets, 9 technical bulletin and other useful folders, posters, leaflets etc.

One main exhibition in a year and 45 minor exhibitions were conducted. A fully equipped colour processing photolaboratory was set up. The communication centre was

strengthened during the period for effective implementation of its various programmes. Correspondence courses were offered for the benefit of farmers in the areas of 'home-stead nutrition garden, poultry keeping, coconut cultivation, dairying and infant feeding etc. This has benefited a total of 1445 farmers.

The farm Advisory Service was strengthened to step up the counselling service to agriculture, animal husbandry and fisheries sections.

A Central Training Institute was established at Vellanikkara during 1983-84.

Two diploma courses, viz., Diploma course in Agricultural Science and Diploma course in Agricultural and Rural Engineering were offered from the IAT, Tavanur. The details of students admitted and the students securing the diploma are furnished in Table XIV.

Table XIV: Student admissions and no. of students qualifying in the Diploma Courses of the University offered at IAT Tavanur

Category	80-81 Admitted (qualified)	81-82 Admitted (qualified)	82-83 Admitted (qualified)	83-84 Admitted (qualified)	84-85 Admitted (qualified)
-----					
Diploma					
DARE	31	29	25(24)	17(24)	19(28)
DASc	50(42)	50	50(43)	17(43)	60(41)
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Total	81(42)	79	75(67)	34(67)	79(69)

Consequent on the implementation of the T&V system, training of the agricultural demonstrators of the Department of Agriculture was conducted at the IAT, Tavanur.



#### 7.E. OTHER FACULTIES

Due to dearth of funds the College of Basic Sciences and humanities was not established. The Faculty of PG studies could also not be established. With respect to the Faculty of Forestry, a Special Officer was posted during the period to prepare a project report on the formation of the Forestry Faculty.

#### 7.F. CENTRAL FACILITIES

An Instrumentation Centre was organised with basic essential staff to function as a service unit to undertake the upkeep, maintenance and minor repairs of the sophisticated items of scientific equipments that are available in the constituent colleges and Research Stations/Centres.

#### 7.G. RADIO TRACER LABORATORY

The Radio Tracer Laboratory was equipped with sophisticated and other items of equipment required for studies involving radiation and its application in agriculture and allied fields.

#### 7.H. KAU SCHOOL

The KAU school was established during 1981-82. During the plan period, classes up to the IV standard were started.

#### 7.I. WORKS

Consequent on the increase in the intake capacity of colleges, additional hostel facilities had to be provided in the different colleges. A few residential quarters were constructed during the period. In the Research Stations since the majority of the items of civil works was funded by NARP, the state plan funds were utilised to the barest

minimum for the construction of residential quarters, improvement of the existing laboratories etc. The following are the items of major Civil works completed during the plan period.

Details of Major works completed during the Vith Plan period

1. Construction of a building for Meat Technology at Mannuthy
  2. Construction of staff quarters duplex type (25 nos) at KAU Main Campus, Vellanikkara
  3. Construction of semi permanent sheds in the Fisheries College at Panangad I & II Blocks
  4. Construction of Radio Isotope Lab. building at Vellanikkara
  5. Construction of Type VI Quarters for Assoc Dean & Associate Professor
  6. Construction of staff quarters type V & VI
  7. Instructional Farm buildings Vellanikkara
  8. Deep Litter Poultry, Vellayani
  9. Construction of Type IV, V and Trainees Hostel, RARS, Pilicode
  10. Type V, VI & II quarters under NARP at Kumarakom
  11. Construction of Type V & IV quarters at Tavanur
  12. Type IV quarters at Thiruvazhamkunnu
  13. Demonstrator Quarters at Panniyur
  14. Dormitory Building at Fisheries College, Panangad
  15. Type V, IV Quarters under NARP, RARS, Pattambi
8. Adoption of Sixth Plan strategy

The sectoral strategy given in the plan document was adopted.

9. Changes in the indicators of development

The progress in teaching/research/extension sectors are indicators of development and the details are provided at item '7' and also in Annexure IV.

10. Sixth Plan - main achievements

The major achievements under Education and Extension sectors have been furnished at item 7. On the research front the major accomplishments are given in Annexure III.

ANNEXURE I

Sixth Five Year Plan (1980-85) - Outlays and expenditure

Head/ Sub-Head of Development	Proposed outlay	Approved outlay	Grant Released by Govt. of Kerala 1980 - 1985					Total	Accounts 1980-85					Total expenditure 1980-85 (Col.4+ 5+6+7+8)	Percentage of ex- penditure to pro- posed outlay	Percentage of ex- penditure to bud- geted outlay
			1980-81	1981-82	1982-83	1983-84	1984-85		1980-81	1981-82	1982-83	1983-84	1984-85			
Education								115.26	111.99	103.87	147.98	113.32	592.42			
Research								92.57	117.49	140.31	181.49	204.94	736.79	88%		
Extension	2316	1300	165	180	125	200	275	945	17.50	12.30	18.16	25.48	37.22	110.66	156%	
Works & other items									71.98	89.59	78.43	167.62	187.18	594.80		
Total	2316	1300	165	180	125	200	275	945	297.31	331.37	340.77	522.57	542.66	2034.67		

A N N E X U R E - II

Sixth Five Year Plan - Sector-wise targets and achievements 1980-85

Sector/Sub-Sector

Serial No.	Item	Unit	1979 - 80 Base year level	1984-85 Terminal Year Target	Achievement					Total achievement 1980-85 (Col.7 + 8+9+10+11)	Percentage achie- vement (% of Col.12 to Col.6)	
					1980 - 81	1981 - 82	1982 - 83	1983 - 84	1984 - 85			
1	2	3	4	5	6	7	8	9	10	11	12	13
					Physical Target Col.5 - Col.4							

The Kerala Agricultural University is charged with teaching, research and extension education in Agricultural & allied sciences. The achievements in teaching and research are continuous and cannot be quantified on year-wise manner. During the VI plan period the intake of students, improvement of curricula of syllabus, higher education, research in applied fields especially on need based areas were considerably strengthened. The extension education to cater to the needs of the Department & farmers were also substantially improved.

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RESEARCH ACCOMPLISHMENTS OF THE KERALA  
AGRICULTURAL UNIVERSITY DURING THE  
VITH PLAN PERIOD

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1.0: NEW VARIETIES OF CROP PLANTS DEVELOPED AND RELEASED

During the plan period, the University released nine elite rice varieties, one superior cashew variety, three promising sesame varieties, three groundnut varieties and one bittergourd variety for general cultivation in the state. These varieties have covered extensively in the state and their impact on augmenting production and productivity have been quite remarkable. The varieties released during the plan period are as follows:

Rice:

Lekshmi (Kayamkulam - 1)

This is a selection from 'Kutticherady' a popular variety in the eastern laterite region. It is photosensitive, non-lodging variety specifically suited to the Mundakan crop season. Duration is 175-180 days. Grain yield 4000 kg/ha - Outyields PTB-20 by 34% and PTB-20 by 22%.

Pavizhom (MO 6)

A derivative of IR5 x Karivennel, this is having an yield potential of 5-6 t/ha and is tolerant to BPH, BLB and SB - Recommended for Kuttanad region.

Suvarnamodan (PTB 42)

Suitable for growing in uplands during kharif season. Yields over 2t/ha under rainfed conditions.

Reshmi (PTB-44)

Awnless, photosensitive mutant developed from 'Orpandy' - Recommended for growing in the second crop season where PTB-4 and Co-25 are grown. Tolerant to saline and deep ill-drained situations.

Swarna Prabha (PTB 43)

This is a photoinsensitive variety suited for the viruppu, mundakan and punja seasons and also for the dry sown modan cultivation in the viruppu season. It is semi-tall high yielding white kernelled and is resistant to blast - Duration 100 - 105 days - Grain yield 3500 kg/ha

Vyttila - 3

This is an improvement over Vyttila-1 and 2. It out yields Vyttila-2 by 20%. Suitable for growing in the Pokkali areas. Withstands Pokkali system of cultivation very successfully. Grain yield 3100 kg/ha.

Bhagya(Kayamkulam - 2)

This is a photoinsensitive variety suitable for growing in the Kharif season as a dry sown crop in the Onattukara region. It out yields Jyothi & PTB-23 the popular local varieties. This variety is resistant to drought conditions in the first 30-35 days after sowing.

Kayamkulam - 3 (Onam)

This is a short duration photoinsensitive 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.

Karthika (MO 7)

This is recommended for growing in single and double cropped wet lands in the Kuttanad and Onattukara regions during all the three crop seasons. The yield potential of this variety is over 5 t/ha. This is tolerant to BPH and is moderately resistant to BPH, SB, SR and BLB.

CASHEW

Anakkayam-1

This is a very high yielding seedling type selected from the tree BLA-139-1 of Bapatla. Apart from giving higher yields of nut (mean 30kg/nut/year/tree), this variety possesses several advantages such as early flowering (October - November), short flowering phase (30 days) and early harvesting potential. Nuts are medium sized with shelling percentage above 28%.

VEGETABLES

PRIYA (VK-1)

This has yield potential of 50 t/ha - A selection from Cannanore Local - Fruit green with light green stylar ends - Fruit surface smooth - Yield of fruit/pit 10.87kg

SESAME

\* THILOTHAMA (Kayamkulam - 2)

This is a short duration hybrid sesame variety released in September, 1980. Suitable for growing in rice fallows during third crop season. This multipoded type yields 700kg of grain/ha. It is moderately tolerant to phyllody.

\*\* SOMA (ACV-1)

Recommended for growing in summer rice fallows and in uplands during rabi season. It is white and bold seeded. The duration of this variety is 90 days. It gives an yield of 750 kg/ha in rice fallows and 350 kg/ha in rabi uplands. Tolerant to leaf spot.

\*\*\* SURYA (ACV-2)

This is recommended for cultivation in rabi uplands. Seeds are grey coloured. Yield of grain 350 kg/ha - It is tolerant to phyllody and pod borer.





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GROUNDNUT

- \* TG-3: This is recommended for growing in summer rice fallows - Can also be grown in kharif uplands - Pod yield 2745 kg/ha.
- \*\* TG-14: The duration of this variety 105 - 150 days. It is recommended for growing in summer rice fallows. The average yield is 2472 kg/ha.
- \*\*\* Spanish Improved:

This is mainly recommended for growing in uplands during the kharif season. The duration is 100 - 110 days and the average yield is 2320kg/ha.

COWPEA

Kanakamony (PTB-2)

This is a short duration (50 - 60 days) type with a grain yield potential of 600kg/ha. This is a grain type variety.

2.0: ACHIEVEMENTS ON TECHNOLOGICAL FRONTS

2.0.A. SALVINIA ERADICATED

An outstanding achievement during the plan period has been the effective control of the most troublesome aquatic weed Salvinia molesta. The Australian strain of the weevil Cyrtobagous salviniae was introduced to Kuttanad in October, 1983 and by 1985 the tremendous impact of the weevils on the weed population has become perceptible. An area of about 750 sq.km in Kuttanad have become almost free of the weeds.

2.0.B: NEW POULTRY STRAIN DEVELOPED

Attempts for the development of hybrid layer chicken suitable for rearing under backyard situations were highly successful. The hybrid combination ALP x WLH was found to be the most promising among the nine hybrid lines evaluated under the backyard system. This strain has been recommended for rearing under the backyard system in Kerala, after

extensive field evaluation. The specific advantage of this strain is their remarkable ability to forage effectively in the backyard system. The birds of this hybrid (Austra-white) is far superior to the parents in respect of economic traits such as egg production and resistance to diseases. The egg shell colour of this breed is tinted and is preferred in local markets.

### 2.0.C: NEW VACCINE DEVELOPED

Ranikhet disease of poultry is a very serious problem in Kerala. Attempts to develop an effective vaccine against this disease were successful. Studies on the role of free flying birds in the epizootology of New Castle (Ranikhet) disease virus led to the isolation of a mesogenic strain of RD virus (RDV-M) from mynah. This strain is found to be highly immunogenic producing sufficient antibodies. Field trials of this vaccine strain have been successfully completed. The development of the vaccine affords protection to chicken against Ranikhet disease for a fairly long period of up to one year.

### 3.0: TECHNOLOGIES GENERATED

During the plan period, numerous technologies have been developed for adoption by farmers. The adoption of these technologies should have been responsible for augmenting crop-livestock - fishery production in the state. Some of these technologies are as follows:

#### 3.0.1: FACULTY OF AGRICULTURE

- \* Conjunctive application of urea and carbofuran for better pest control and increasing Nitrogen use efficiency.
- ✓ \* Control of weeds in Kole lands using Benthocarb
- \* Sheath blight control in rice using Benomyl
- ✓ \* Very promising medium duration semi tall cultures (153-1, 200) and short duration cultures 93 and 170 developed. These possess good level of resistance to BPH.

- \* Pre-curing of scion twigs of cashew for 10 days in advance found to be optimum for successful epicotyl grafting & soft wood grafting.
- \* In seedling trees of nutmeg, fruit setting can be improved by application of NAA at 10 ppm (Celstone). Application 20 ppm NAA spray reduced fruit drop in both seedling and graft trees of nutmeg.
- \* Best season, age of stock & scion and methods of stone and veneer grafting in mango were standardised.
- \* The chilly cultures 33 & 57 with high yielding potential and superior qualitative attributes developed.
- \* Cold tolerant rice cultures 745 and 796 developed for cultivation in the high range situations.
- \* Partially dehusked seed nuts sown in polybags produced vigorous seedlings earlier than in traditional nursery methods.
- \* The cultures KAU 11 & 12 of Rhizobium for cowpea have been developed and released to Department of Agriculture for mass multiplication.
- \* The cultures of Rhizobium for black gram (KAU-5) and for green gram (KAU-13) were also identified for release.
- \* The tomato line LE-79 from the AVROC type CL 32-0-0-1-19-C5 found to be resistant to the Bacterial wilt.
- \* SM-6, -10, and -5 types of brinjal (all selections from Annamalai local) found to possess remarkable degree of resistance to bacterial wilt.
- \* The snakegourd line TA-19 developed for release.
- \* Control measures against the "Azhukal" disease of Cardamom formulated.
- \* Spray schedule against the cardamom thrips formulated.

- \* Promising high yielding cultures of pepper developed.
- \* Sub surface tile drainage system for 'Kari' soils standardised.
- ✓ \* Technology for Koottumundakan system of rice cultivation developed.
- \* Promising red rot resistant Sugarcane variety identified for the Pamba River Factory and Mannam Sugar Mills areas.
- \* Mutant clones of guinea grass developed.
- \* NPV of coconut caterpillar Opisina arinosella identified and found promising for bio control of the pest.
- ✓ \* SM-67 and SM-68 lines of brinjal have been found to be resistant to fruit & shoot borer Leucinodes orbonalis
- ✓ \* Based on IRRI prototype an efficient paddy winnower was fabricated - It can clean a quantity of 100kg/hour.
- ✓ \* Methods for aerial spraying in cashew against the pest complex standardised. Insecticidal evaluation for aerial spraying completed.
- ✓ \* Spray colume discharge rates for paddy standardised in relation to the stage of growth of the crop.
- \* Control of sheath blight & sheath rot in endemic areas using high dose of  $K_2O$  & Carbofuran standardised.
- \* Seedling root dip in the chlorpyrifos for gall midge control developed.
- \* Revised fertiliser recommendation for the rice variety Mashoori developed
- \* Control of cockchafer beetles (Leucopholis coneophora) in coconut using Heptachlor formulated
- \* Control of bacterial leaf spot of betelvine - method developed

- \* ✓ Waiting period of insecticidal application in vegetables fixed
- \* ✓ Effective control of banana aphids - Methods standardised -
- \* ✓ Irrigation in Nendran banana - Recommendations revised
- \* Edible mushroom cultivation methods standardised
- \* Split application of fertilisers for Nendran - Recommendation revised -

5.2: FACULTY OF VETERINARY & ANIMAL SCIENCES

- \* A modified equipment fabricated for diagnosis of tubal impatency and the uterotubal insufflation test standardised for diagnosis of infertility
- \* A modified artificial vagina for goats fabricated. There was significant improvement in the seminal output with this artificial system
- \* Safe techniques for epidural anaesthesia in goats developed
- \* The toxicity of carbofuran in ducks evaluated and symptomatology clarified. Upper respiratory epithelium identified as the shock organ in anaphylaxis in ducks
- \* Levamisole found to be a good immuno-restorative in calves -
- \* Progesterone improves breeding efficiency in cows
- \* Lime sealing as a method to preserve eggs developed
- \* Several recommendations on compounding of animal ration
- \* Tris yolk diluent suitable to preserve buck semen.
- \* Atropine sulphate found to be effective in the treatment of carbofuran toxicity to ducks
- \* Mortality in cattle due to ingestion of the weed Mimosa invisa reported

- \* Occurrence of infective bovine rhinotracheitis in Kerala established.
- \* Clomiphene citrate and secrodyl containing a combination of oestrogen and progesteron found useful for inducing ovulatory oestrus in true anoestrous cows
- \* Fenvalerate effective against Stomoxys and Liperosia infesting cattle
- \* Mansonil at divided doses effective against Cestodiasis in elephants
- \* Chloral hydrate found to be a satisfactory anaesthetic for thorocotomy and lobectomy in goats
- \* Reproductive disorders in goats demonstrated to be due to hypothyroidism.
- \* Mycotoxin contaminated feed was identified as cause for non-specific anorexia
- \* Arsenicals, sodium thiosulphate and essential fatty acid supplement found to be effective in curing necrosis of anal extremities in cattle & buffaloes
- \* Selenosis experimentally induced in eight cross-bred calves
- \* Gentamyain or Gentamycin-stilboestrol combination effectively control clinical endometritis.

### 5.3: FACULTY OF FISHERIES

- \* Phytoplanktonic Chlorella isolated from local ponds found to be a good feed for zooplanktonic fish food organisms.

- \* Microbrachium rosenbergii successfully reared up to 9th stage in plastic pools up to 28 days after hatching. They were fed on Brachiones and Moina.
- \* Promising alternatives (HCG) to the pituitary extract for induced breeding of fishes developed
- \* Polyculture methods of brackish water fishes involving Chanos chanos ('Poomeen'), Mugil cephalus ('Thirutha') and Liza parsia ('Kanamb') standardised
- \* Techniques for culture of Penaeus monodon ('Kara chemmeen') standardised. Net production of 575.5kg/ha/months attained
- \* Survey of frogs occurring in the Kumarakom tract completed. Rana limnocaris and R. cyanophlyctis were new records for the State
- \* Techniques for fish farming as a mixed crop along with paddy and as a follow on crop after paddy standardised.
- \* Feed containing clam meat found to be better for Penaeus monodon and Macrobrachium rosenbergii

A N N E X U R E - I V

ABSTRACT SHOWING SECTOR-WISE OUTLAY FOR VI PLAN

	Outlay ( 80-85 ) Rs. in lakhs
<hr/>	
<u>Agricultural Faculty</u>	
Education	265.21
Research	205.58
Total	----- 470.79 -----
 <u>Veterinary Faculty</u>	
Education	169.33
Research	80.44
Total	----- 249.77 -----
 <u>Fisheries Faculty</u>	
Education	181.48
Research	13.94
Total	----- 195.42 -----
 <u>Other Faculties Centres/Schemes</u>	
Extension Works	56.61 74.71 311.00
GRAND TOTAL	----- 1358.30 =====
Limited to	1300.00 =====

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## ANNEXURE - V

DETAILS OF VI PLAN SCHEMES OF THE KAU IN VARIOUS SECTORS  
SHOWING OUTLAY, PHYSICAL TARGETS & ACHIEVEMENTS

Schemes	Total outlay 1980-85 Rs in lakhs	Physical Target	Achieve- ments	Fate in VII Plan
1	2	3	4	5
<u>I. Faculty of</u>				
<u>Agriculture</u>				
A. EDUCATION				
1. <u>Organisation</u>				
<u>of new Depart-</u>				
<u>ments</u>				
a) Home Science	2.54	To estt. a new Depart- ment of Home Science	Department established in 1983-84	Non- plan
b) Nematology	1.69	To estt. a Department of Nematol- ogy	Only one post of Asst. Prof. created Dept. not fully esta- blished	Non- plan
c) Microbiology	1.22	To estt. a new Dept. of Micro- biology	One post of Asst. Prof. in the Dept. of Plant Pathology, COA created. Dept. not established	Non- plan
d) Plant Physio- logy	0.65	To establi- sh a new Department	Not establi- shed. Due to dearth of funds	Plan
2. Strengthening existing Depts. COH, Vellanikkara	2.00	To strength- ening Depts. of Pomology, Olericulture, Plantation Crops	Only one JAP each was created in these Depts.	

1	2	3	4	5
3.Strengthening PG programmes in COA, Vellayani	10.00	To train 75 students in COA, Vellayani every year - To meet fellowship of PG students	Target of students attained	Plan
4.Strengthening PG programmes in the COH, Vellanikkara	6.00	To admit 75 PG students every year	Target partly achieved	Plan
5.Micro-nutrient Lab.	1.02	To establish a Lab at COA, Vellayani	One JAP posted to initiate work	Plan
6.Section of Insect Pathology, Microbiology	4.12	To establish a section for microbial control of insect pests	One section with one Assoc Prof., one Asst. Prof., and 2 JAPs established	Plan
7.Plant Pathological Herbarium	1.75	To establish a Herbarium at the COA, Vellayani	Work initiated in 1982-83 with one Assoc. Prof., one JAP and two JAPs	Plan
8.Unit Project on HEFN	6.30	To offer courses in Food & Nutrition to UG students	One unit with Assoc. Prof.(1), Asst. Professors (2), One Audio Visual Operator started	Non-Plan

1	2	3	4	5
9.PG Course in Agrl. Extension	2.64	To start MSc programme in Agrl. Extension with intake of 4 students/year	Started in 1980-81. One Assoc. Professor, One Asst. Professor appointed	Non-plan
10.Dept. of Agrl. Economics COA, Vellayani	4.26	To strengthen the Dept. of Agrl. Economics	One Asst. Prof., one JAP posted additionally	Non-Plan
11.Dept. of Plant Breeding	7.41	To intensify research & teaching in the Dept. of Plant Breeding	Dept. of Plant Breeding established. Posts of Prof.(1), Asst.Prof.(3), JAP(1) were created	Non-plan
12.Tissue culture Laboratory	1.85	To establish a tissue culture laboratory in the COH, Vellanikkara	Lab. established. <b>Work well in progress</b>	Non-plan
13.PG Diploma in Natural Rubber Production Technology	5.35	To start one year PG Diploma in NRP in COH, Vellanikkara	Course started in 1981-82 five candidates admitted every year	Discontinued
14.PG Diploma in land and water resources development & Management	0.96	To train personnel in land and water resources development	Assoc Prof. (1), JAP(1) created, one batch of Officers trained	Discontinued
15.Research on medicinal plants	1.30	To initiate research on medicinal plants	Collection of medicinal plants made	Plan

1	2	3	4	5
16. Vegetable seed production	4.06	To produce seeds of improved varieties of vegetables	Asst. Prof (1), JAP(1), Farm Supervisor(1) created. Substantial work on this done	Plan
17. Instrumentation Laboratory	1.80	To provide an instrumentation Lab. for repair of sophisticated equipment	Lab. established with available resources	Plan
18. Centre of Excellence for Spices & Plantation crops	1.30	To establish a centre of excellence in Plantation crops & Spices	Spl. Officer appointed in 83-84 and scheme formulated	Plan
19. Botanical garden	2.14	To establish a Botanical garden at Vellanikkara of 40 ha.	Planted 5 ha only due to dearth of funds	Plan
20. Strengthening Libraries	33.04	To strengthen the Library of the COA, & COH at Vellayani & Vellanikkara campuses	Books & periodicals added to the main libraries	Plan
21. Instructional Farm, Vellanikkara	23.38	To develop an Instructional Farm as a field lab. for students of the COH	Farm developed by providing facilities for training	Non-plan
22. Instructional Farm, Vellayani & Kayal cultivation	27.72	To develop Instructional Farm, Vellayani and also to undertake rice cultivation in Kayal lands	Work carried out	Non-plan

1	2	3	4	5
23. Agrl. Engineering workshop	1.90	To establish an Engg. workshop at the COH, Vellanikkara	A small workshop started	Plan
24. Strengthening the COH, Vellanikkara	29.20	To strengthen the COH, Vellanikkara by providing teaching positions	Assoc Dean (1), Prof. (2), Assoc Prof. (2), Asst. Prof. (11), JAP (12) provided	Non-plan
25. Research & Education in Horticultural Crops	5.33	To provide facilities for advanced research & training in horticultural crops in COH, Vellanikkara	One Professor, one Assoc Prof., 8 Asst. Professors and 16 JAPs provided for the College	Non-plan
26. Strengthening COA, Vellayani	7.38	To strengthen COA, Vellayani	Strengthened	Non-plan
27. Strengthening COH, Vellanikkara (Admn)	6.72	To strengthen the admn. in the COH, Vellanikkara	Strengthened	Non-plan
28. Strengthening Admn. in COA, Vellayani	7.38	To strengthen admn. in COA, Vellayani by providing positions	Strengthened	Non-plan
29. Sports, Games & Student amenities	5.90	To provide funds for Sports/games for the COA, & COH	Provided	Non-plan
30. Exchange of Teachers, teaching reforms & study tours	8.70	To meet expenses for deputing teachers to workshops/seminars COA, Vellayani & COH, Vellanikkara	Provided	Plan

1	2	3	4	5
31. Equipment & fittings	26.00	To equip the laboratories of the COH & COA	Laboratories equipped in a limited scale	Plan
32. Advance trg. to teachers and research workers	10.50	For deputing teachers for higher studies	Deputed 24 teachers/year from different disciplines	Plan
Total Education Agrl. Faculty	----- 265.21 =====			
<b>I.B. RESEARCH</b>				
33. Research Admn, Plg. & Co-ordination at the DOR	11.15	For appointing Project Co-ordinators for Co-ordinating the projects and also for monitoring	Three full time Project Co-ordinators appointed (Rice, S&A, Cattle & Buffaloes)	Plan
34. M&E Wing of the DOR	2.30	To establish a Monitoring & Evaluation wing in the Directorate of Research	The cell has been established	Non-plan
35. Strengthening Research stations		To strengthen the Research Stations	Work on this carried out as per programme	60% under non-plan and 40% to be charged under Plan
CRS, Nileshwar	3.32	To meet the University		
RARS, Pilicode	47.08	share of expenditure towards		
PRS, Pannoor	3.25	cost of land and cultivation expenses. 60% of this expenditure is dues to permanent labourers		
RARS, Ambalavayal	6.02			
Citrus based mixed farming at Ambalavayal	2.00			
CRS, Pampadumpara	7.62			
RRS, Pattambi	11.65			

1	2	3	4	5
Strengthening Res. Station University share	1.36	To meet University share of expenditure towards cost of land and also cultivation expenses	Work carried out	60% under non-plan and 40% to be charged under plan
Research-cum-Demonstration Unit, Pattambi	4.55			
Hort. Unit Pattambi	2.18			
CRS, Anakkayam	0.55			
BRS, Kannara	2.15			
ARS, Chalakkudy	2.15			
AMPRS, Odakkali	4.47			
RRS, Kayamkulam	0.50			
RRS, Moncompu	0.55			
Ecosystem Studies - Kuttand - (RRS, Moncompu)	5.29			
RRS, Vyttila	0.30			
CRS, Kumarakom	3.19			
RARS, Kumarakom	1.50			
NARP, SR Vellayani University share	21.58			
MARS, Karamana	1.60			
36. Coconut Root wilt Disease Project	40.36	To conduct research on Coconut root (wilt) disease. To find out the etiology and to devise management methods	Twenty seven research projects taken up and all have progressed very well	Plan

1	2	3	4	5
37.Sugarcane Res. Scheme	17.27	To conduct Research to develop sugarcane varieties suitable for different tracts of the state and formulate suitable Package of Practices	Studies conducted at SRS Thiruvalla	Concluded in 1984-85
38.Utilisation of services of retired teachers	1.50	To meet expenditure towards employment of retired scientists for consultancy	Two Scientists were posted at a honorarium of Rs.750 pm	Discontinued
Total Res. Agrl. Faculty	205.58			
Grand Total Agrl. Faculty	70.79			

II.Faculty of Vety. & Animal Sciences

A.EDUCATION

1.Dairy Technology Unit	2.10	To provide additional staff and facilities for the Dairy Technology Unit attached to the College	Additional staff post-ed and the technological lab. completed	Non-plan
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1	2	3	4	5
2.Strengthening teaching Departments	22.86	To strengthen the teaching Department of the College of Vety. & Animal Sciences by appointing addl. staff	Staff posted	Non-plan
3.Strengthening the PG programmes	8.10	To provide facilities for research for PG students and also to provide fellowship	PG programmes conducted. Every year 2 students admitted for Ph D & Masters programme in each Department	Non-plan
4.Organising new Departments	1.20	To provide new Departments/ Sections in the COV & Animal Sciences	No fresh Departments/ Sections started due to dearth of funds	Plan
5.Equipments fittings	90.00	To purchase modern equipments for use by UG&PG students	Equipment for Dairy Technology & Meat Technology Unit purchased	Plan
6.Strengthening administration	6.02	To strengthen the administration unit in the COV & Animal Sciences	Administration staff posted	Non-plan
7.Development of Library	15.00	To equip the Library	Books purchased	Plan

1	2	3	4	5
8. Book Bank Scheme	1.05	To provide books to students on 50% subsidy	Programme started	Plan
9. Sports, games, student amenities	3.15	To provide aids for various extra curricular activities of students	Items purchased	Non-plan
10. Advanced training to teachers & research workers	13.00	To meet expenses for the deputation of teachers for Doctoral programmes	2-3 Scientists from COV & Animal Sciences deputed for Ph D every year	Plan
11. Exchange of teachers teaching reforms and study tours	2.95	To meet expenditure towards study tour, seminars of teachers	Study tours conducted/ seminars arranged	Plan
12. Vety. Hospital & ambulatory clinic	3.90	To strengthen Vety. Hospitals at Trichur and Mannuthy	Strengthened	Non-plan
Total for Education	169.33			

## II. B. RESEARCH

13. Providing research facilities to research staff	10.00	To provide facilities. Also to utilise the services of eminent teachers for guidance and consultancy	Facilities provided - services of Retired Scientists of eminence utilised	Plan
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1	2	3	4	5
14. Livestock Farm, Mannuthy	1.30	To provide funds for payment of additional wages to farm labourers		
15. Scheme for the utilisation of culled and non-productive animals	0.70	To study the meat bearing and carcass characters of non-productive animals	Some work was done	To be discontinued
16. Estt. of the Regional Livestock Research Station, Thiruvazhamkunnu	20.79	To upgrade the facilities in the Station	More area brought under cultivation. Staff position strengthened	Non-plan
17. Cattle Breeding Farm, Thumburmuzhy	1.75	To meet additional wages of farm labourers (permanent)	Expenditure incurred	Non-plan
18. Fodder Production Research Centre	32.58	To increase fodder production to meet the requirements of livestock in the farm	Additional staff appointed	Plan
19. Ancillary studies on goats	0.75	This is to supplement ICAR Co-ordinated Project - To formulate management practices for goats	Little work done	To be discontinued

1	2	3	4	5
20. Research on buffaloes	2.36	To undertake studies for assessing milk and milk potentialities of buffaloes	Work not carried out due to dearth of funds	Plan
21. Establishment of a broiler farm	2.00	To standardise economic broiler production technology	Study not taken up for want of funds	New project under plan
22. Duck farm	2.31	To study improvement in productivity and management of ducks	Work already started. Some progress made	Plan
23. Schemes for study of infertility in cross bred cattle	2.25	To estimate the infertility causes in cross bred cattle and suggest remedial measures	Two centres one at Mavelikara and another at Calicut opened. Staff appointed	Plan
24. Centre for Excellence in Pathology	1.50	To establish a Centre of excellence for animal diseases	Centre established	Plan
25. Role of olfactory signals in the reproductive behaviour of goat and swine	1.15	To find out the role of olfactory signals in the reproductive behaviour of goat & swine	Research started. Equipment purchased	Plan
26. Gobar gas plant	1.00	To construct gobar gas plant at the COV & ASci. to meet 25% exp.	Structure created	To be discontinued
Total Research	80.44			
Grand Total Faculty of Vety. & Animal Sciences = Rs.249.77				

1	2	3	4	5
<u>III. Faculty of Fisheries</u>				
III. A. EDUCATION				
1. Strengthening	122.54	To provide infrastructural facilities for the College - Also include cost of additional land	College established at Panangad with staff & equipment	Plan and part on Non-plan
2. Sports, games & student amenities	2.55	To provide funds for student amenities	Provided	Non-Plan
3. Strengthening College Administration	1.50	To provide administrative staff	Staff appointed	Non-plan
4. Exchange of teachers and teaching reforms & study tours	1.25	To meet expenditure of teachers for higher studies and also for study tours	Provision made and funds utilised for the purpose	Plan
5. Establishment of Book Bank	1.05	To provide books on 50% concession	Some progress made	Plan
6. Establishment of Fisheries Engineering Workshop	0.95	To establish a workshop at Panangad	Work started	Plan
7. Establishment of aquarium	0.40	To establish an aquarium to create learning situation	Work started	Plan

1	2	3	4	5
8. Equipment fittings	10.50	To provide equipment and fittings for the laboratories of the College	Lab equipped	Plan
9. Library books & Journals	12.00	To procure as many books as possible to build up the College Library	Additi- onal books purchased	Non- plan
10. Instructional Farm, Puduveyypu	13.74	To establish the farm at Puduveyypu	Building constru- cted. Ore post of Asst. Prof. and two of fisher- men created	Non- plan
11. Land acquisition	15.00	To meet cost of land acquisition	Past pay- ment of land cost made	To be dis- conti- nued
Total Education		181.48		

III. RESEARCH

12. Providing research facilities to departmental staff	0.80	To provide contingent expenditure for conducting research by teachers	Provided	Plan
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1	2	3	4	5
13. Establishment of fresh water fish research station	1.35	To establish fresh water fish research centre on part of the College	Work started	Plan
14. Studies on Brackish water fish and prawn culture	5.05	To undertake studies on intensive fish and prawn culture	Experiments conducted and results utilised for adaptive trials	Plan
15. Paddy-cum-fish/prawn culture in Kuttanad & Kole lands	2.55	To introduce fish and prawn culture in low lying paddy field	Fisheries unit established at Moncompu field	Plan
16. Prawn culture in Pokkali fields	2.94	To standardise techniques for economical prawn culture in rice fields	Centre established at Puduveypu work in progress	Plan
17. Mixed farming of frogs, live-stock fish	0.60	To establish one unit at Kumarakom on Integrated farming system	Centre established at Kumarakom	To be discontinued on Plan scheme
18. Instructional Farm for fresh water fish culture, Vellayani	1.55	To establish one unit of fisheries at Vellayani	Unit established	Non-plan
Total Research	13.94			
Grand Total Fishery Faculty = Rs.195.42 =====				

IV. OTHER FACULTIES/COLLEGES/CENTRES/SCHEMES.

1	2	3	4	5
1. Establishment of College of Basic Sciences & Humanities	3.72	To establish a College of Basic Science and Humanities as support to applied re- search	Not establi- shed due to lack of ade- quate finan- cial support. Two Asst. Professors and two Jr. Asst.Profe- ssors posted in the Dept. of Ag.Econ.	Plan
2. Instrument- ation Centre	4.32	To develop a central faci- lity for re- pair of sophi- sticated & other equip- ment	Centre established	Non- plan
3. Dept. of Co- operation & Banking	11.63	To establish a College of Co-operation & Banking	College of Co-operation & Banking established	Non- plan
4. Faculty of PG studies	0.70	To establish a Faculty of PG studies	Faculty not established post of (PG) studies created	Plan
5. Faculty of Forestry	1.00	To establish a Faculty of Forestry	Special Officer appointed and steps taken	Plan
6. Dept of Student Welfare	2.30	To develop the student welfare pro- grammes in the Univer- sity	Pay & allow- ances of Director student welfare & Dy.Director student welfare met from the funding	Non- plan



1	2	3	4	5
7. Sports, games and student amenities	3.75	To meet cost of extra-curricular activities of students and to provide sports/games amenities	Amenities provided	Non-plan
8. Strengthening University administration.	5.50	To strengthen University administration	Dy.Registrar(1) Dy. Comptroller (1) posted	Plan
9. University School	5.66	To establish a school for the benefit of children of University staff	School established	Plan
10. Transport & travel facilities	6.50	To provide transport facilities to students/staff	Two buses purchased	Plan
11. Establishment of Computer	5.00	To establish a central computer facility with satellite centres	Orders placed for the Computer Unit	Non-plan
12. Expansion of main campus	6.50	To acquire pockets of land available in the estate to ensure that the campus is contiguous and compact	Land acquired	Plan
Total	<u>56.61</u>			

V. EXTENSION

Communication Centre.

13. Information unit	6.85	To provide information support to field extension workers of the DOA	One Assoc. Professor, 2 Asst. Professors & 2 Jr. Asst. Professors posted. Work well progressed	Plan
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