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KERALA VETERINARY COLLEGE AND RESEARCH INSTITUTE

(Development Plan 1972-1974; 1974-1979)

1. NAME OF UNIVERSITY: Kerala Agricultural University - Faculty of Veterinary and Animal Sciences.

2. DURATION OF DEVELOPMENT PLAN: IVth Five Year Plan (1972 to 1974) and Vth Five Year Plan (1974 to 1979).

3. BACKGROUND INFORMATION REGARDING KERALA VETERINARY COLLEGE AND RESEARCH INSTITUTE:

The Veterinary College in Kerala was established in 1955 to enable the State to meet its requirements of Veterinary graduates for the implementation of the Five Year Plans under Animal Husbandry and Veterinary Medicine. The college came to be located in Mannuthy in the present precincts, in the vicinity of the District Livestock Farm, Poultry Farm and other Animal Husbandry units. The building in which the college is now situated was completed in 1959 with an available floor space of about 50,000 sq.ft. Additional structures were put up in the later years for meeting the laboratory needs for the teaching departments of Nutrition and Obstetrics and Gynaecology. There is a sports pavilion and a play ground for the students. The District Livestock Farm, Poultry Farm and the Veterinary Hospital in Trichur were integrated with the College in 1961 for providing facilities for the practical training of the students and for research work. A veterinary hospital building for the college campus was added in 1960. The college was raised to the status of a research institute in 1964.

Hostel and Residential accomodation

There are two hostels, one with accomodation for 216 boys and the other for 20 girl students. Residential accomodation for some members of the technical officers of the college and farms and for other staff personnel has been provided in the campus.

Campus area

The present total area of the campus is 225.4 acres, of which the Livestock Farm takes about 140.4 acres and the Poultry Farm and Pig Farm together occupy 8 acres. The remaining area is used for the sprawling buildings of the college and for the residential quarters.

The programme for the development of the Kerala Veterinary College and Researdh Institute in the nature of additional accomodation and Laboratory facilities to meet the increasing and expanding needs of the teaching and research sections, has not made any headway in the last ten years due to lack of adequate financial provision. There is, at present, severe dearth of accomodation for laboratories, experimental animals, livestock and for the faculty staff and other employees.

4. ACADEMIC PROGRAMME:

The Kerala Veterinary College and Research Institute is conducting the following courses of study:-

Degree courses

1. Four year degree course leading to the award of B.V.Sc.degree.
2. Post-graduate degree course leading to the award of M.Sc. degree by research, having a minimum duration of two years.
3. Post-graduate degree course leading to the award of Ph.D. degree by research of two years' duration after M.Sc.

Post-graduate degree courses, first started in 1964, are offered in the following subjects:

M.Sc.: Nutrition, Obstetrics & Gynaecology, Parasitology, Pathology, Pharmacology and Physiology.

Ph.D.: Nutrition, Parasitology and Physiology

Training courses

4. Training course of nine months' duration for in-service officers of the Animal Husbandry Department of the State.
5. Refresher training course of three months' duration for the same category of officers as in 4 above.
6. Subject-matter training of one month for departmental Extension Officers.
7. Livestock Assistants' training course of 11 months' duration.
8. Farmers' training of 8 weeks duration.
9. Pre-service training for the newly appointed officers of the department of Animal Husbandry.

Note: It is suggested that the Training course in sexing of chicks now conducted in the Central Hatchery, Chengannur may be shifted to the Agricultural University.

Annual intake of students

The present annual intake of students is 40 for B.V.Sc. course and 3 each for M.Sc. and Ph.D. courses in the disciplines in which such courses have been introduced.

5. DEPARTMENTAL SET-UP:

Existing departments

The Veterinary Faculty has, at present, the following fifteen teaching departments including the Department of Physical Education:

1. Anatomy
2. Animal Husbandry (includes the subjects of (i) Nutrition, (ii) Dairy Science, (iii) Animal Management and Hygiene and (iv) Genetics and Breeding).
3. Bacteriology
4. Extension
5. Medicine and Parasitology
6. Obstetrics & Gynaecology
7. Pathology and Meat Hygiene
8. Pharmacology
9. Physical Education
10. Physiology and Biochemistry
11. Poultry Science
12. Therapeutics & Toxicology

13. Statistics
14. Surgery
15. Veterinary Public Health.

Some of the departments, as constituted at present, are handling more than one subject of the degree curriculum (see Nos.listed 2, 5, 7 and 10). These subjects form clear and distinctive disciplines of study and research and will have to be raised to the status of independent departments of study, since the present practice of constituting a single department of teaching for more than one such vastly distinctive subjects hampers the potential for over-all development in the field of research as well as in teaching of the constituent subjects.

Proposed departmental set-up

It is, therefore, absolutely necessary to constitute separate departments of teaching and research for the different subjects. For attaining this objective, it is proposed to raise with immediate effect, the number of teaching and research departments from 15 to 24, including the department of Physical Education. The following will be the revised departmental set-up:

1. Anatomy
2. Animal Management & Hygiene
3. Biochemistry
4. Dairy Science
5. Extension
6. Genetics & Breeding
7. Goat Husbandry
8. Meat Technology
9. Microbiology
10. Nutrition
11. Obstetrics & Gynaecology
12. Pathology
13. Parasitology
14. Pharmacology & Toxicology
15. Physical Education
16. Physiology

17. Poultry Science
18. Preventive Medicine
19. Statistics
20. Surgery
21. Swine Husbandry
22. Therapeutics
23. Veterinary Public Health
24. Virology

Note-1: Of the 24 departments listed above, 8 departments (viz., those with serial Nos. 2, 3, 4, 6, 10, 13, 16, and 18) are to be formed only by bifurcation of respective composite departments.

Note-2: It is very necessary to constitute a separate department for Virology in view of the increasing and world-wide stress being made on virological research and also in view of the fact that there are no well-developed institutes for virology in any of the institution of research and teaching in Veterinary and Animal Sciences in India.

Note-3: Goat husbandry and Swine farming have important and direct bearing on the domestic economy of the Kerala farmer who has been encouraged during the past few years of planning to take to swine-rearing and goat-keeping as profitable occupations. It is, therefore, necessary that these two fields of animal husbandry should have speedy development, for which purpose two separate departments of teaching and research are proposed in these subjects. The proposal is chiefly need-based for Kerala. These two departments of teaching will be constituted in the later years of the Vth Five Year Plan. However, a skeleton nucleus staff will be provided in the next two years itself so that it will be possible to introduce the subjects of Goat Husbandry and Swine Husbandry in the under-graduate curriculum at an early date.

The nucleus staff for Swine Husbandry and Goat Husbandry (one Assistant Professor for each) will be

appointed immediately for planning the departments and to look after under-graduate teaching. These 2 departments will for the present, however, function within the frame work of the department of Animal Management and Hygiene.

Note-4: Meat Technology is a hitherto untapped field of development in the state even though there is abundant raw material for developing this industry on an organised basis. It is necessary to have adequately trained personnel and experienced consultants for the purpose. This fact had already come to be appreciated by Kerala Government and, at the time of formation of the Agricultural University, a scheme for a meat technology laboratory attached to the Veterinary College was under active consideration of Government.

The Department of Meat Technology will, for the next 3 years, function within the frame work of the Department of Veterinary Public Health, with one Assistant Professor for planning and organising the department and its laboratories. It is expected to give effect to the full-fledged department as soon as the laboratories are equipped and personnel get trained abroad in Meat Technology.

Note-5: It is envisaged that the Departments of Biochemistry, Extension, Physical Education and Statistics will, in due course, be absorbed under the concerned departments of the Agricultural University in these subjects, thus having a total of 20 departments only under the Faculty.

Expansion of post-graduate studies

The requirements of staff for the different departments as proposed above are tabulated in Annexure I. In addition to the reconstitution and additions to the number of teaching departments, it is necessary to upgrade major departments of teaching by instituting post-graduate degree courses in the subjects concerned. No addition to the number of disciplines offering post-

graduate degrees has been made since 1967, eventhough some of the departments have since become adequately equipped and are in a position to take post-graduate students. It is proposed to introduce post-graduate degree courses in all the major departments of teaching during the period 1972-79, both at Master's and Doctorate levels. The upgrading of the teaching departments to post-graduate status is necessary not only to provide expanded avenues for higher learning but also for bringing these departments on par with similar departments in sister institutions under other Agricultural Universities in the country as well as to give greater incentives for work to the teaching and research personnel. The academic programme, as outlined above, will make it necessary to provide additional staff and laboratory accomodation to the different departments.

Strengthening research

In addition to the post-graduate and undergraduate teaching, the different departments of study will necessarily be required to be responsible for research in the applied, fundamental and problem-oriented topics in their respective fields. It is, therefore, necessary that the departments should also have additional staff for whole time research. Field problems crop up for the poultry or livestock owner unpredictably, and he will naturally need expeditious tackling of these problems. This can be done effectively by the extension machinery only with the prompt attention of the research wing. Even though it is necessary that each member of the teaching staff should also have a research project in hand, it will not be an effective arrangement for meeting the farmers' needs mentioned above. It is, therefore, proposed to have a research cell for each department of teaching.

Strengthening training in clinics

The academic programme, at all levels, includes intensive training of students in veterinary clinics, farm practices, and animal management and breeding. Besides, the post-graduate students must

ensure ample availability of materials for their research studies, for which they have to depend on the hospitals and farms. The college hospitals serve an additional function as extension centers where the teacher and research worker can come into direct contact with the farmers, the latter getting the immediate benefit from the results of the work in the fields of education and research. The clinical centers must, therefore, necessarily be equipped and staffed to meet efficiently, swiftly and adequately, the needs of under-graduate teaching, post-graduate worker, and the vast demands of the livestock owners (treatment, diagnosis and control of diseases).

The present arrangement of availing the services of staff members from the already thinly-staffed teaching departments for discharging all the variety of duties catalogued above has been found, by practice, to be unsuitable, inadequate and unsatisfactory. It is necessary to provide a fuller complement of staff to the two hospitals so that these units can effectively function in liaison with the teaching departments.

There is also need to coordinate the work in the two hospitals with regard to training, instruction and other aspects. Such co-ordination can be done by providing a coordinating officer for the two units with complete responsibility for their smooth running and for ensuring a cohesive training for students.

Side by side with the strengthening of the staff in the hospitals, it is necessary to provide more and better diagnostic facilities in them. This programme of development requires priority of consideration.

Strengthening farm training

For the same reasons as given in the case of the hospitals, the instructional farms need strengthening of facilities and staff. This item is considered separately.

Training courses

The different courses of training conducted in the college have been listed earlier. These courses are, at present, being arranged and supervised by an officer in the cadre of an Associate Professor, assisted by two Assistant Professors (Lecturers). These officers are attached to other teaching departments according to necessity and convenience. For as long as the training courses continue to be the immediate responsibility of the college, the existing practice will continue. No changes or development programme for strengthening this unit are proposed in view of the fact that training programmes will be taken up under separate comprehensive schemes to be formulated by the Directorate of Extension for all the faculties under the Agricultural University.

Examination of clinical and other materials - special needs of some departments

In addition to teaching, training and research, some departments of the College (eg. Departments of Nutrition, Pathology) are called upon regularly, to examine clinical and post-mortem materials and to analyse feeds and feed samples brought or sent from outside stations. Most of such work is of specialised nature and can competently be done only in the college. The materials received for examination also are of great value to the departments in their research studies. For these reasons, such work must continue to be the responsibility of the concerned departments of the college as is being done at present. This involves a heavy load of work in these departments, justifying the need to provide additional staff to these departments for the speedy disposal of such work. The pressure of work is most in the departments of Pathology and Nutrition, whose needs should, therefore, receive priority of attention in this matter.

6. STAFFING PATTERN:

The staffing pattern of the teaching departments has remained static for the last ten years and has not kept pace with the increase in the work load in several departments. Moreover, the switching over to the trimester pattern of courses and instruction and

the implementation of the development programmes will require a stronger staff pattern for the different departments.

General pattern

A uniformity in pattern of staff is desirable in the case of all departments; but deviations from the general pattern will become necessary, as dictated by the special needs of certain departments.

The following general staff pattern is proposed:

Head of the department

It is essential that the Head of the Department who should be a Professor, must have also sufficient time to attend to and direct post-graduate work and research schemes. In addition, he will have to function as the co-ordinator of research activities in liaison with the Director of Research.

Professor

In view of the multifarious responsibilities of the Head of the Department, it may be necessary to have another Professor in the department who will be responsible for arranging under-graduate teaching and other work. It is possible that some of the departments which have only limited work because of the nature of the subjects handled by the departments, may not need a second Professor on its staff.

The following is the general pattern proposed:

For Teaching and Training		For Research	
Professor & Head of Department	1	Research Officer (cadre of Associate Professor) ..	1
Professor ..	1		
Professor (Superintendent and Co-ordinating Officer of Hospitals) ..	1	Assistant Research Officer (cadre of Assistant Professor) ..	1
Associate Professor (for under-graduate teaching) ..	1		
Associate Professor (for clinical instruction and training in the Departments of Preventive Medicine, Surgery, Therapeutics and Obstetrics & Gynaecology ie. the clinical departments) ..	2	Research Assistant (cadre of Instructor) ..	1
		Chemist (in the condemned department) ..	1

Reader (for post-graduate teaching)	..	1
Assistant Professors (for all departments of teaching)	..	2
Veterinary Officer Assistant Professors cadre (for clinical departments only)	..	2
Assistant Professor (in departments imparting farm training only)	..	1
Assistant Professor (in departments having work relating to the examination of clinical materials or analysis or autopsy)	..	1
Assistant Professor (Instructor in Applied Nutrition)	..	1
Instructors (for all departments of teaching)	..	2
Physical Director	..	1
Assistant Physical Director		1

Ancillary staff

Lab. Technician

Livestock Assistant

Lab. Attender

Peon

Scavenger/Sweeper

Other posts for the concerned departments:

Groom
Syce

Farrier

Taxidermist

Curator

Chemical analyst

Radiographer

X-ray mechanic

X-ray Technician

Projector-cum-Generator Operator

Pharmacist

Steward

Gas Plant Operator

Plumber

Marker, etc.

Note: Requirements are given department-wise in Annexure-I.

The present staff strength and the proposed expansion for each department have been detailed in Annexure-I.

6. INSTRUCTIONAL UNITS:

Farms

The present facilities under this head include (1) a Livestock Farm with nearly 300 cattle and 50 buffaloes and a nucleus herd of 200 goats (2) a Poultry farm with a flock of about 4000 birds (3) a Pig farm with 700 animals and (4) an experimental small animal breeding centre with the required stock of rats, mice, guinea pigs, rabbits etc. There is no separate experimental station for the college.

The instructional farms will be placed under the direct control of the concerned teaching departments.

The main farm buildings are over fifty years old and replacement with modern structures is long overdue, Separate proposals are appended for the development and strengthening of each of these instructional farms. These plans include (1) construction of modern housing and laboratory (2) expansion of programme for fodder production (3) construction and commissioning of a dairy plant (4) increasing the stock strength and production capacity and (5) strengthening of staff.

Development programme of the instructional farms are given separately.

Hospitals

In addition to the instructional farms, the instructional facilities also include the two Veterinary Hospitals. These also require to be improved, for which proposals are given separately.

7. BUILDINGS:

The buildings housing the Faculty and its Departments as at present, are:

1. The main block
2. The Nutrition Laboratory
3. Obstetrics and Gynaecology building
4. Hospitals (one at Mannuthy and the other in Trichur)
5. Boy students' hostel (accomodation for 216 students)
6. Girl students' hostel (accomodation for 20 students)
7. Sports pavilion
8. Community hall (Extension department)
9. Farm buildings, Offices and byres, etc.
10. Store building
11. Residential quarters for Officers: 24 numbers
12. Residential quarters for others: 84 numbers

In the proposals xx for the expansion of t
academic and research programmes, the need for addi
laboratories has been explained. There is also n
for more number of lecture halls and conference

The library which is at present housed inadequately and in improper place has to be provided with a suitable block. The farm buildings are also to be newly constructed.

Proposal for housing departments of study

The building requirements are proposed to be met:

1) by providing another block almost of the same size as that of the present main block for housing some of the departments of teaching and research;
2) by putting separate building units for certain departments as dictated by need;
3) by making additions to the existing main block and the existing departmental unit buildings.

I. Old Main Block

Anatomy
Biochemistry
Genetics & Breeding
Microbiology
Physiology
Preventive Medicine
Statistics
Surgery

Additional requirements of space for departments housed in the main old block are also to be provided.

II. New Block (to be constructed)

Animal Management & Hygiene
Parasitology
Pharmacology & Toxicology
Therapeutics
Virology

III. Separate buildings (Old)

Extension
Nutrition (proposed to shift)
Obstetrics & Gynaecology
Physical Education

It is proposed to provide additional

structions for the Departments of Extension, Obstetrics & Gynaecology and Physical Education to meet their complete requirements. The Department of Nutrition is proposed to be moved into a new and more spacious building in view of the fact that the development plans envisaged will make it necessary to have vastly greater facilities for this department.

IV. Separate buildings (New)

Dairy Science
Meat Technology
Nutrition
Pathology
Poultry Science
Swine Husbandry and Goat Husbandry (one unit)
Veterinary Public Health

Floor area

The minimum requirements of laboratory floor space for each teaching and research department is estimated to be about 800 square metres as follows:

Laboratory for under-graduate students	..	100 m^2
Laboratory for post-graduate students	..	100 m^2
Research Laboratory ..	..	100 m^2
Staff rooms ..	..	150 m^2
Store for equipments, reagents etc.	..	100 m^2
Special needs for the different departments like incubator room, media room, photographic dark room, preparation room, sterilising room, cold room, airconditioned room, technique room, museum ..	..	250 m^2

Note: For further details see Annexure II.

The above is only a rough approximation. The actual plans for the different buildings will be got ready in consultation with the architect and engineers when the proposals for the same are asked for.

Requirements for the buildings for the instructional farms are given separately.

Residential quarters

The residential quarters for staff are very inadequate in number and the few available ones lack proper facilities. The additional needs under this

head for the faculty staff will be as follows:

A type (for Dean)	..	1
B type (for other Class I Officers)		25
C type (for Class II Officers)		25
D type (for Class III Officers)		50
E type (-do-)		50
F type (for last grade officers)		50
TOTAL	..	201

Library block

A building for the library, based on the I.C.A.R. specifications, should be provided on first priority basis. The library should have a reading hall, journals' room, conference room, office room, documentation room, reading cubicles, book section and lending and reception room. The estimated space need will be 1,100 m^2.

Hostels

The following are the requirements for hostels:

Post-graduate students' hostel for 50 students
Teachers' hostel for 20 teachers

Other buildings

Other building requirements are as listed below:

Faculty club	..	500 m^2
Campus recreation centre	..	500 m^2
Co-operative Society	..	200 m^2
Guest house	..	1000 m^2

8. EQUIPMENTS:

The items of equipments required for the Faculty is listed in Annexure III. More than one department may need the same equipment and, hence for certain items the indent is more than one piece.

Provision of funds

The approximate needs of the different departments in terms of the cost of the equipments indented will be as follows (in lakhs). Approximately one-fifth of the amount will be in hard currency.

Anatomy	0.5;	Animal Management
Biochemistry	0.5;	Physiology
Dairy Science	1.5;	Microbiology

Virology	1.0;	Genetics	0.5
Nutrition	1.0;	Obstetrics & Gynaecology	1.0
Parasitology	0.5;	Pathology	1.0
Pharmacology	1.0;	Poultry Science	0.5
Statistics	0.3;	Preventive Medicine	0.5
Surgery	0.5;	Extension	0.5
Veterinary Public Health	1.0;	Therapeutics	0.75
Physical Education	0.5;	Swine Husbandry	0;3
Goat Husbandry	0.3;	Meat Technology	2.0
Other Units:			
Photographic unit	0.5		
Radiology	3.0		

9. DEVELOPMENT OF LIBRARY FACILITIES: The library has at present a collection of

Books and Periodicals

9000 books and 2000 issues of periodicals. Currently it subscribes only to 33 journals. There has been no receipt of any foreign journal during the last two years. There is great dearth of back volumes of scientific periodicals as well as of the more recent publications of scientific books in the different subjects. The amount spent on the library during the years 1969-70 and 70-71 was 31,000 and 17,000 respectively.

It is proposed to increase the book strength in the library to 20,000 and also to procure the back volumes of 25 selected scientific journals from the year 1960 at an estimated cost of 5 lakhs ruppees. The number of journals will be raised to 150. The bottleneck in procuring foreign journals on regular subscription has been due to the difficulty of paying subscriptions in advance to the agents.

Library staff

At present there is only one Librarian and one Assistant Librarian in the pay scale of Rs.175-315 and Rs.90-190 respectively and one Library Attender. The staff pattern of the library needs revision to make it efficient and of maximum available benefit

to the stddents and research workers. The following staff is proposed:

Librarian (Associate Professor cadre)	..	1
Assistant Librarian (Asst. Professor cadre)	..	2
Library Assistant	..	1
Library Attender	..	2
Typist-Clerk	..	1
Peon	..	1

Library buildings.

Detaids of library accomodation are furnished supra (see page 15).

10. STUDENT CENTER: It is envisaged that a University Student Center will be an important feature of the Agricultural University and that it will be located in the head-quarters campus of the University. This center will be able to take care of the interests of the students of this Faculty and as such no separate proposals or provisions are made.

11. GUEST HOUSE: The programme for a University Guest House in the campus being comprehensive, the requirements of the Faculty in regard to guest houses are not being catalogued separately.

12. CO-ORDINATED RESEARCH PROJECTS: An All India Co-ordinated Project for "Investigation on Agricultural byproducts and Industrial Waste materials for evolving economic rations for Livestock" is in operation since 1--9--67. The unit working in this center is estimated to cost Rs.5,36,000/-.

A scheme for "Studies on the Microbial Etiology of Infectious Abortion in Livestock" has now been sanctioned by I.C.A.R. at a cost of 2.45 lakh rupees.

A co-ordinated research scheme for Goat Milk production costing Rs.12,11,834 lakhs has been approved by the I.C.A.R.

A scheme for study of porcine enteroviruses has been presented for approval of the I.C.A.R. The scheme when sanctioned will cost 3 lakhs rupees.

Proposed co-ordinated research projects

The following research projects have been prepared/are under preparation for implementation on priority basis. These schemes have direct and immediate bearing on the livestock economy of the state. The items are listed in Annexure-IV.

Departmental research projects

In addition to the schemes listed above, a number of departmental research projects are proposed to be taken up for implementation by the different departments during 1972-79. Some of these projects are now in operation and when the departments are adequately staffed the other projects will be taken up. The items are furnished in Annexure-V.

13. .....
14. .....
15. .....

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16. NEEDS FOR ADVANCED TRAINING:

Seventeen members of the teaching staff and a dairy technologist have received or are presently receiving training abroad, nine of them under the US AID programme between 1957-1961 in USA. It is necessary that competent persons of proved merit should be got trained abroad at doctoral and post-doctoral levels in different disciplines. This is considered essential since it is proposed to introduce post-graduate courses and research cells in all the departments of study. Further, expert training and specialisation in certain fields, not necessarily leading to a conventional post-graduate degree will also become necessary, eg., training in radio-isotope techniques, training in meat

technology etc. Training abroad is particularly ~~xxxx~~ intended for doctoral, post-doctoral courses of study and for specialisation in advanced techniques and in technology. Over and above the overseas training programme, all members of staff engaged in teaching and research will be liable to obtain training at Master's level in Indian Universities. In such case where excellent doctoral training is available in India, teachers will be encouraged to take the doctorate degree from Indian Universities as early as they can.

Priority areas

The following priority is considered suitable in the programme for getting experts trained abroad:

Virology and Tissue culture
Reproductive Pathology and Gynaecology
Animal Nutrition (analytical methods)
Pharmacology (Toxicology)
Poultry Production
Veterinary Public Health (Zoonosis, Meat Hygiene)
Microbiology (Mycology and Mycotic Diseases)
Pathology (Avian Pathology; Clinical Pathology)
Therapeutics (Clinical diagnostics)
Biochemistry (Applied Biochemistry)
Meat Technology
Experimental Small Animal Science
Radio isotope techniques
Animal Genetics
Dairy Technology
Swine Husbandry
Surgery (Small Animal Surgery, Large Animal Surgery)

Target for next 5 years

The training requirements as per the above priority, for the next FIVE years is shown below;

	Number of foreign trained hands already working in the depts.	Number proposed for training abroad.
Anatomy	1	Nil.
Animal Management and Hygiene	Nil.	Nil.
Biochemistry	Nil.	1
Dairy Science	2	Nil.
Extension	2	Nil.
Genetics & Breeding	Nil.	1
Goat Husbandry	Nil.	1
Meat Technology	Nil.	1
Microbiology	1	1
Nutrition	1	1
Obstetrics & Gynaecology	1	1
Pathology	3	1
Parasitology	1	1
Pharmacology & Toxicology	1	1
Physical Education	Nil.	1
Physiology	1	Nil.
Poultry Science	Nil.	2
Preventive Medicine	1	Nil.
Statistics	Nil.	Nil.
Surgery	3	1
Swine Husbandry	Nil.	1
Therapeutics	Nil.	1
Veterinary Public Health	Nil.	1
Virology	Nil.	1

17. SPECIAL FEATURES:

The following special features are also included in the development plans for the Faculty:

a) 'Earn while you learn' student project:

The object is to help students make proper use of their leisure time and enable them to cultivate self reliance and learn the dignity of labour. They will be given part-time jobs of unskilled and semi-skilled nature for which they will be given wages by way of incentive. The expenditure in this regard can be met from contingencies. Such casual jobs will be

provided in the instructional farms, hospitals and laboratories. By doing jobs they will acquire practical proficiency in management and care of various kinds of livestock including poultry. Some of the students who are in dire need may find it possible to pay their way through the college at least in a small way.

A second aspect of this scheme is to entrust students with small units (Poultry, Pigs, Ducks etc.) which they will run with a revolving university grant. The profits from the units will be shared equally by the students. A lump sum grant of one lakh may be earmarked for this scheme. A model scheme of the above type for poultry units is given in Annexure-VI.

b) Veterinary Research Council:

The Kerala Veterinary College has been attending to the working of the Kerala Veterinary Research Council since 1964. The council is also publishing a scientific journal entitled "The Kerala Journal of Veterinary Science". At present, the Professors and Lecturers of the college are the part-time officers managing the journal and the work of the council with no staff to assist them in correspondence work etc. The journal also needs streamlining in order to make it stand comparison with other similar Indian and foreign journals.

c) Photographic section:

Microphotographs and photographs are very frequently required by almost every department of teaching. This heavy and constant demand can be adequately met only by having a fully equipped and staffed photographic section for the faculty with proper housing and laboratory facilities. A separate scheme for the above is given in Annexure-VII.

d) Establishment of Sperm Laboratory:

It is proposed to establish a Sperm Laboratory attached to the Department of Obstetrics & Gynaecology under the development programme of the Veterinary College. A separate scheme is given on this subject in Annexure-VIII.

e) Establishment of Radio-isotope Laboratory:

The requirements of the Faculty in this regard are not being furnished separately since such a unit is to be established under the Kerala Agricultural University for the common use of all the Faculties.

f) Riding School:

It is proposed to make full use of the existing facilities and to expand the activities of the equitation wing of the Department of Animal Management and Hygiene.

Objectives

i) to make Veterinary students become proficient in horse riding. This is necessary to enable them to compete equally with graduates from other colleges in selection into the defence service, remount depots turf club etc.

ii) to encourage citizen to become 'horse minded' and make horse riding a popular, healthy recreation.

iii) to build character, patience and understanding in young men.

Programme

i) Riding will become part of the instructional courses for students and a certificate will be awarded for riding at the end of the B.V.Sc.course, to students.

ii) A riding track has been prepared. Riding lessons will be offered to members of the public on payment of a prescribed fee.

iii) Riding competition will be held once or twice a year to popularise riding.

Facilities

The existing facilities of a riding track and string of 5 horses are sufficient to launch the programme forthwith.

Six horses will be added in 1973-74, as more persons come forward to learn riding. The expenditure in this regard will be met from college funds.

No special contingencies and other expenditure are involved since the riding school will make use of facilities provided in the Department of Animal Management and Hygiene.

A fee of Rs.5/- per hour of riding lesson will be levied from the public. It is expected that a person can learn riding in about 30 lessons of one hour each.

g) Co-operative Society:

A campus of the present type needs certain essential amenities among which is a well-planned and organised consumer co-operative society. There is a small society of this nature already functioning in the campus, with limited activities due to limitation of available finance. It is suggested that the Agricultural University may include this item in the general plans of development for the main campus of the University. The nucleus functioning in the campus, at present, can immediately be taken over by the University under its direct control.

h) Hostels:

The hostel for men students is located at the entrance of the campus and too near the National Highway which has a heavy vehicles traffic, day and night. This nearness to the highway and the proximity of the poorly-organised rural population and associated institution will produce adverse effect on development of students personality besides causing interference to their studies. It is, therefore, considered

essential to move the students hostel to a more convenient location within the campus. A new under-graduate hostel to accomodate 200 students (2 seated rooms) is proposed.

There is no hostel for post-graduate students since they have to give more concentrated attention to their studies and research work as compared to the under-graduate. A seperate post-graduate hostel is necessary with accomodation for 50 students (single seated).

Detailed proposals are given in Annexure-IX.

LIVESTOCK AND DAIRY FARM

1. INTRODUCTION & OBJECTIVES:

In plans for the development of instructional farms, the Livestock and Dairy farm takes first priority. A large number of disciplines require the facilities of the farm for their training, instruction and research programmes: eg., Departments of Dairy Science, Animal Management & Hygiene, Obstetrics & Gynaecology, Nutrition, Genetics & Breeding.

The main objectives of the farm may be listed briefly:

1. to impart training to students of the different Faculties under the Agricultural University in the various disciplines of Veterinary and Animal Sciences.
2. to breed and rear good quality animals to meet the demand of farmers for better stock and to provide facilities for the breeding of the farmers' stock with better blood.
3. to serve as a model center for observation and study for the progressive farmer in modern husbandry and dairy practices.
4. to produce milk and milk products to meet the requirements of (i) the different teaching and research departments, (ii) the residential section of the campus (consumer demand in the campus) and (iii) the local public institutions.

The Livestock and Dairy farm will, thus, function as a teaching, research and service institution, catering to the needs of teaching, research and extension education,

2. HISTORY OF THE FARM:

Present stock

The existing Livestock Farm originally started more than fifty years ago has, at present, a herd strength of nearly 300 animals including cattle and buffaloes (Sindhi, Jersey, Graded Jersey and Surti breeds) as well as a small herd of 200 goats. Out of the total of about 100 cows, only fifty-five are in milk, the others being dry stock. There are nearly 145 calves

(including 85 male calves), 30 heifers, 9 bulls and 15 bullocks in the herd.

Extent

The farm covers a total area of 140.4 acres, of which approximately only 50 acres are fit for fodder cultivation, the rest being barren hillock.

Buildings

The main farm building is over fifty years old and the byres are unsuited for housing animals. The lay_out of the buildings is most unscientific and not convenient for practicing modern husbandry methods.

Production

The average daily production of milk in the farm is 250 Kgs. Dairy products like cream, cheese, butter are not made and there is no dairy product section for the farm. On an average, ten bulls are distributed to the farmers in a year through the N.E.S.Blocks. Male surplus stock and culled animals are disposed of in auction.

Existing staff

The existing administrative set-up of the farm consists of:

One Dairy Technologist,
One Veterinary Surgeon,
One Farm Supervisor,
Three Livestock Assistants,
Two Agricultural Demonstrators,
Six Last Grade Employees and
49 Labourers on daily pay roll.

Temporary labourers are also required for seasonal work as and when required.

3. PROBLEMS:

The problems facing expansion and development of the Livestock Farm are:

1) insufficient accomodation for stock;
2) improper layout of farm buildings which are also too old to be useful;
3) inadequate grazing facilities - there is little available grazing land and animals are grazed on the playgrounds which practice has caused serious deterioration of the sports tracks and fields;

4) insufficiency of fodder production due to lack of land for raising fodder crops and inadequate irrigation facilities;
5) inadquency of technical staff for supervision;
6) need to replace present stock with animals of high production potential and to increase their numbers;
7) lack of residential accomodation for farm staff and farm workers;
8) lack of dairy equipments and dairy amenities.

4. EXPANSION PROPOSALS:

The following comprehensive proposals are made for the over-all development of the livestock and Dairy Farm with provision for a Dairy Technology Laboratory.

Herd strength

The herd strength is proposed to be kept at 350 animals, not including goats. Proposals are put up separately for a model goat farm to meet the requirements of teaching and research in goat husbandry. A small herd of thirty buffaloes will be included in the total stock of the 350, in order to provide facilities for specialised studies on the buffaloe. The herd strength will approximately be made up of: 150 cows in milk, 50 dry cows, 50 heifers for replacement of stock, 10 growing females for replacement or distribution, 15 bulls and 75 calves.

Construction of byre

New structures will have to be built in a new site located on a dry elevated and well-drained area within the campus to house the farm stock with separate provision for cows in milk, dry cows, heifers, bulls, growing young male stock, calves, calving sheds, sterilising room for milking utensils, milking shed, quarantine shed, sick animal house etc.

Dairy Technology Section

A Dairy Technology block, with all modern requirements for collection and processing of milk and preparation of milk products, will be a necessary addition to the farm.

This section will serve the needs of training, teaching, and research in dairy technology. Research will particularly place attention on problems of regional importance.

Livestock Section

In view of the importance for keeping the Dairy technology section where milk processing and other work is done free from contamination with dust and dirt, it is necessary to have a separate block to house the offices and other sections of the farm. Accomodation will be provided in this building for offices, first-aid center, insemination unit, implements room, chaff-cutting room, etc.

Construction of Silos

Preservation of fodder to meet the requirements of milch animals during the lean months of the year will be done partly by silage of suitable fodder. The present facility available is only to make 100 tonnes of silage. Silos with a total capacity to hold 1000 tonnes of silage will be planned and constructed. These will also serve for demonstration and training of farmers and students.

Central Feed Store

A Central Feed Store, with a capacity to stock about two months' requirements of feed for the livestock and other animals in the different farms in the campus, is necessary.

Residential quarters for staff

Residential accomodation for 20 members of the farm staff and 50 workers of the farm should be provided.

Fodder cultivation

The present area of nearly 50 acres available for fodder cultivation is insufficient. An area of 50 acres of cultivable land should additionally be set apart for production of cattle fodder of different types as

well as for research in fodder production. Kerala being exposed to rains for nearly six months of the year, there is a variety of lush vegetation in the forests during this season. It is necessary to tap this source to provide additional fodder to livestock, and the fodder production unit will pay attention to this aspect of work for implementing a scheme for fodder banks. Additional acreage under fodder is absolutely necessary to make the farm self sufficient in fodder, the requirement of which is estimated at 4500 tonnes a year.

Pasture land

An area of about 50 acres of pasture land with suitable pasture grass is also required.

Transport

This farm is still in the age of the bullock cart. For quick transport of various items like animals, manure, fodder etc. and for speedy distribution of milk, mechanised transport amenities should be provided.

Water supply

There is necessity to ensure a non-failing supply of potable water to the farm and attached laboratory. A separate overhead reservoir and pumping installations should be provided to ensure a supply of nearly 5000 gallons of water per day to the farm.

Thumburmuzhi and Thiruvazhamkunnu Cattle Farms

Note: It is proposed that the cattle Farm in Thumburmuzhi which is now functioning as an extension unit of the farm in the college campus be converted suitably to serve as a full-fledged research farm under the University as in the case with the Cattle Farm located in Thiruvazhamkunnu.

The Livestock and Dairy farm will have two main sections, viz. (i) Management and Breeding and (ii) Dairy Technology.

	Management & Breeding Section	Dairy Technology
Administration and operation	maintenance of animals, rearing of stock, breeding, distribution, production and preservation of fodder, etc.	Production, processing and preservation of milk, preparation of milk products, etc.

Both sections will be made use of for teaching and training in various disciplines, for which purpose the teaching departments concerned will have an Assistant Professor who will be immediately responsible for arranging the courses in due time in liaison with the farm staff. Considering that there is vital need to develop the farm speedily and also that there is a large number of instructional and other facilities that are required to be provided in the farm for the different teaching departments, it is necessary to place the farm under the administrative and technical control of the Head of the teaching Department of Dairy Science who will control and direct the work in the different sections of the farm and also keep liaison with the teaching, clinical and research departments of the college. The Management and Breeding section of the farm will have an Officer designated as Farm Superintendent in the cadre of Associate Professor and he will have the immediate responsibility for the activities of the breeding and management aspects. The Dairy Technology section of the farm will be under the charge of an Associate Professor in the Department of Dairy Science who will assume the status of the Dairy Superintendent.

Staff pattern

The comprehensive set-up of the Livestock & Dairy farm is indicated below:

Officer in-Charge of Livestock & Dairy Farm
(Professor of Dairy Science)

1. Farm Superintendent

Officer in-Charge Breeding - Veterinary Surgeon, Livestock Assistant

Officer in-Charge, Management - Veterinary Surgeon, Livestock Assistant

Officer in-Charge, Fodder Crop - Agricultural Assistant, Agricultural Demonstrator

Veterinary Officer - Veterinary Surgeon, Livestock Assistant

Agricultural Maistries, Peons, and Watchman and the required number of labourers.

2. Dairy Superintendent

Dairy Bacteriologist - Laboratory Assistant

Dairy Chemist - Analyst

Dairy Supervisor - Livestock Assistant, Plan Operator

Last Grade and required number of labourers.

The staff pattern of the Livestock and Dairy Farm is as follows:

Officer in-Charge (Professor of Dairy Science Department)

Dairy Superintendent (Associate Professor of Dairy Science Department)

Farm Superintendent (Associate Professor cadre)

Officer in-Charge of Breeding, Management and Fodder crop - 3 (in the cadre of Associate Professor)

Veterinary Officer - 1 (,,)

Dairy Bacteriologist - 1 (,,)

Dairy Chemist - 1 (,,)

Dairy Supervisor - 1 (,,)

Veterinary Surgeon - 3

Agricultural Assistant - 1

Analyst - 1

Lab. Assistant - 1

Livestock Assistant - 4

Agricultural Demonstrator - 1

Plant Operator - 1

Last Grade staff (Peons, Watchmen)	- 10
Permanent labourers	- 50

Office staff

The following staff will be for the administrative Office.

U.D.Clerk	..	1
U.D.Accountant	..	1
L.D.Clerk	..	2
Typist	..	1
Peon, Watchman (farms)		4

Equipments and Machinery

Comprehensive list of the equipments, farm implements and machinery required for the Livestock Farm and Dairy Technology Laboratory is given in the ~~main~~ list of equipments. One small and one big tractor, a jeep with trailer and a milk van are the requirements of vehicles for the farm. (vide Annexure-XII)

Production targets

The production of milk in the farm is estimated to be approximately 250000 Kg. a year, valued at Rs.300000/-. The estimated production of farm yard manure is valued at Rs.20,000/- a year. The sale of surplus stock is expected to give about Rs.30,000/-.

Central Feed Store

A feed store is a general requirement of all the farms located in the campus, viz. livestock farm, goat farm, poultry farm, pig farm and experimental small animal breeding station. For this reason, it is proposed to have a centralised arrangement and institution for purchase, storage and distribution of animal feeds. This will facilitate (i) to consolidate and simplify the accounting procedure, (ii) strict enforcement of quality control of uniform pattern and (iii) easy means for follow-up regarding source of any particular consignment in case of an emergent situation. The store will stock at least sixty days' requirements of feed and fodder for all the farm stock in the campus. For convenience, the store will be under the administrative control of the farm administrator (Professor).

Separate store staff and a properly planned store building will be set-up.

The present practice of procuring ready mixed feed from the Government factory in Malampuzha will be continued. However, unpredictable breakdown in supplies from this source should be expected, for reasons beyond the control of the Agricultural University. To meet such an emergency a feed mixing mill with a feed mixing capacity of 5 tonnes a day already available in the college will be reinstalled in suitable permanent location and a skeleton staff of a feed mill operator and assistant kept on the permanent pay roll of the farm, for operating it. The mill can also be put to use by the Department of Nutrition in pilot project studdies in the field with feeds compounded on new formulae.

The following staff may be provided for the feed unit:

Manager of stores	..	1	(cadre of Office Superintendent) (Financial responsibility being heavy, a gazetted cadre is proposed)
Assistant Store Manager (Store Clerk)		1	(U.D.Clerk)
Store Assistants	..	2	
Store Peon	..	1	
Store workers and Watchman	..	4	
Drivers (tractor, Jeep, milk van)	..	3	
Feed mill operator	..	1	
Feed mill assistant	..	1	

Since the pay structure of the different categories of University employees is not finalised, no scales of pay have been mentioned in this scheme. It is expected that the scales will follow a uniform pattern for the different faculties under the University. Provision for salaries in the budgetted estimates has been made on the basis of existing pay scales.

The physical and financial targets are furnished in Annexures--X & XI. The list of special equipments required is given in Annexure-XII.

GOAT FARM

The Livestock Farm has a stock of about 200 goats. There is no separate establishment to take care of goat husbandry operation. The revised scheme of studies in the Veterinary and Animal Sciences has given importance to goat husbandry because of the position it occupies in the livestock development plan in Kerala and the growing interest of the farmer in goat rearing.

A co-ordinated project of the I.C.A.R. for goat improvement is already ready for implementation during the year by the Kerala Agricultural University. Since the goat unit attached to this project is to be located at Thiruvazhamkunnu, the need for an instructional goat farm in the campus cannot be fulfilled unless a nucleus farm is developed here itself. The present buildings for the housing of goats in the Livestock farm are badly laid out and have only limited capacity. Johnes Disease and coccidiosis are prevalent among the animals and they have not done well in milk production and progeny yield. For these reasons the entire present stock must be replaced.

The instructional facilities in the farm will be necessary for training of students in animal management, nutrition, dairy science, breeding and artificial insemination, Research in different aspects of the goat (its physiology, biological behaviour, susceptibili to diseases, capacity of meat production, nutritional requirements, etc.) have not been attempted to the desired extent any where in India. The Kerala Agricultural University will, therefore, rightly have to lay stress on this aspect in its development policies.

The proposals include:

1. A nucleus stock of 75 goats (local and exotic strains)
2. Construction of modern houses for goats including kids and bucks - Construction of a farm building with office and store accomodation.
3. Location of the goat farm, in a 25 acres plot in the higher slopes in the south-east segment of the present campus, with adequate water and other facilities.
4. Appointment of staff, for the goat farm with

Farm Manager (Asst.Professor grade)	.. 1
Farm Assistant (Livestock Assistant)	.. 2
Last Grade Servant	.. 3
Farm labourers	.. 10

The department of Animal Management and Hygiene will be responsible for co-ordinating the programme of work in the farm until such time as the separate department of Goat Husbandry takes complete shape.

The targets for the development of the Goat Farm are given in Annexure-XIII.

EXPERIMENTAL SMALL ANIMAL STATION

Started in 1965, the Small Animal Bfeeding Station serves the purpose of providing laboratory-raised experimental small animals (whitemice, rabits, guinea pigs and rats) to the various departments of the College. There is need to expand the activities of this station by way of breeding other experimental animals like ferrets, hamsters, mini pigs, pigeons, monkeys, etc. The available space and staff are nor adequate for the expansion suggested.

Hence the following proposals are made:

1. Construction of additional building to house different genetic strains of experimental small animals.
2. Equipping the Experimental small animal house with aircondition facilities to breed exotic species such as ferrets, minks, hamsters, etc.
3. Starting a pigeon house for 500 pigeons with facilities for rearing.
4. Providing special laboratory facilities for obtaining specific pathogen-free progeny and rearing them under strict isolation for transmission studies in disease investigation.

Staff and administration

The Experimental Small Animal breeding station will be placed under the Department of Animal Management and Hygiene.

The present staff strength is:

Existing staff

Officer in-Charge	..	One (Rs.210-600)
Research Assistant	..	One (Rs.175-315)
Livestock Assistant	..	One (Rs.130-290)
Attendant	..	One (Rs.70-115)

The following revised staff is proposed:

Assistant Research Officer (in the cadre of Associate Prof.)	..	1
Research Assistants (in the cadre of Asst.Prof.)		2
Technician/Livestock Assistants	..	2
Attendants	..	3

Seeper/Scavenger	..	1
Labourers	..	2

The targets for the development of the unit are furnished in Annexure-XIV.

POULTRY FARM

A poultry farm is essential for meeting the teaching and research needs in all aspects of poultry husbandry and production and serving as a demonstration and training centre for poultry farmers. It will be required to cater to the local demand for improved varieties of birds as well as the common demand for eggs and meat. Any plan for improvement and development of the poultry farm should take into consideration the growing poultry industry in Kerala so that it will be possible to make rapid expansion of the activities of the farm to keep in pace with the demand.

The purpose and functions of the poultry farm are (1) for practical training of students (2) as a field research laboratory for poultry farming (3) to meet local demands of eggs, meat and breeding stock (4) as a scientific demonstration and training center for progressive poultry farmers.

The college poultry farm, first started in 1950, has at present a stock of 4000 birds, of which nearly 500 are layers. There are two small flocks of Rhode Island Reds and Australorps. The rest of the flock is all White Leghorns mostly an imported American strain first introduced in 1960. The average daily egg yield in the farm is 60%. The farm is spread over an area of about 3 acres. Except two buildings, the runs and houses are old constructions, unsuited for regular use for modern poultry husbandry practices. Mostly, the adult birds are housed in the two new buildings completed about 10 years ago. The brooder houses are in buildings over 50 years old which were originally used as trainees hostel. There is cramping of space for office accomodation, stores and equipment installations.

Duck farming and the rearing of other poultry have not been taken up in the present farm.

The proposals for expansion and improvement of the poultry farm include the following:

Stock

i) to raise the laying stock to 5,000 over the next 7 years.

ii) to raise different breeds of chicken to serve the demonstration and teaching needs.

iii) to start a duck farm with a flock of 200 ducks.

iv) to start a turkey farm with 50 birds. Item (iii) and (iv) will be mainly for teaching and research purposes.

v) to raise capacity of the hatchery to more than 10,000 per week

vi) to raise a flock of 1000 broilers to meet the requirements of Meat Technology/Poultry Technology department.

Buildings

i) additional layer houses and breeding houses for 4000 birds, as per ISI standards.

ii) a model duck farm to house 200 ducks in 8 cells.

iii) a house with runs for 50 turkey birds

iv) battery brooders and brooder houses for rearing 10,000 chicks.

v) a hatchery with capacity to take 15,000 eggs a week with ancillary structures to instal coolers, stores, equipments, etc.

Equipments

These include mammoth incubators, walk-in-coolers, battery brooders, layer batteries, automatic feed and water supply system, generators and equipments for technology laboratory.

Administration

For co-ordinating the work under instruction, training, research and production in the farm, it is best to place it under the Department of Poultry Science.

The present staff structure in the farm is as follows:

Poultry Officer	..	1	(Rs.260-600)
Livestock Assistant	..	2	(Rs.100-210)
Poultry Servant	..	2	(Rs.70-115)
Watcher	..	1	(Rs.70-115)
Permanent labourers	..	10	(Rs.65-110)

For implementing the development and expansion plans proposed, adequate staff should be provided as outlined below:

Farm Superintendent (Associate Professor cadre)	..	1	
Poultry Officer (Asst.Professor cadre)	..	1	(for Managing hatchery and brooders)
Poultry Officer (Asst. Professor cadre)	..	1	(for managing adult stock)
Instructor in sexing (Asst. Professor cadre)	..	1	
Sexer (Technicians cadre)	..	3	
Officer Manager (Junior Superintendent)	..	1	
U.D.Clerk	..	1	
Typist	..	1	
Accounts Clerk	..	1	
Hatchery Supervisor	..	1	
Hatchery Assistant	..	1	
Livestock Assistant	..	3	
Peon, Watchman, Store attendant, etc.	..	5	
Labourers	..	20	

Production

The estimated production in the farm is:

Eggs	11 lakhs	.. Value Rs.2.2 lakhs
Chicken	2.5 lakhs (sexed females)	.. Value Rs.3.75 lakhs (for day old sexed chicks)
Manure	200 tonnes	.. Value Rs.0.2 lakhs

Note: The poultry science building of the college will be located in the precints of the Poultry Farm. Laboratory for Poultry Technology will be located in the Poultry Science building.

The Physical and financial targets are given in Annexures XV & XVI.

PIG FARM

1. INTRODUCTION: The need for quality protein besides the possibility of export potential, warrants concentrated efforts to improve the present piggery and also the industry in general in this State. A beginning was made in 1965 in the farm located at Mannuthy with a foundation stock of 110 animals of grower age-group with the purpose of multiplying and supplying exotic blood to local breeders. The farm has now 762 animals. There is good potential for expansion to increase production.

2. OBJECTIVES:

1. To organise and expand the Pig Farm on modern lines.
2. To provide facilities for demonstration instruction and training of students, farmers and technical personnel.
3. To help extension education in Swine Husbandry practices including management, housing, feeding, marketing etc.
4. To maintain pure lines of seed stock of Landrace and Large White Yorkshire for a critical study of their individual performance.
5. To carry out cross breeding (Heterosis) for augumenting the meat capacity and for studying the growth rate and carcase quality.
6. To provide facilities for meat technology, both on training and production side.
7. To carry out studies on housing, management, feeding and disease control for an over-all improvement of Pig Husbandry to suit local conditions.

3. PROBLEMS FACING EXPANSION:

The present accomodation is inadequate to house boars, sows, litter etc. The styes require re-modelling, Boar pens, Grower pens, fattener pen etc. have to be constructed for the study of performance of the "Nucleus" stock. Equipments such as feed through for individual and group feeding, weighing machines with crates attached, etc. are essential. Supply of green fodder must be assured throughout the year. Sale of growers for breeding and slaughter or sale of fatteners have to be speeded up.

The farm staff must secure adequate advanced training in Swine Science. Additional staff are required for the expansion programme as detailed below:

1.	Farm Director	.. 1	(cadre of Professor)
2.	Assistant Director	.. 2	(cadre of ~~Associate~~ Professor)
3.	Pig Development Officer	.. 1	(cadre of Asst.Prof.)
4.	Veterinary Surgeon	.. 2	(-do-)
5.	Farm Manager	.. 1	(Promotion from Livestock Inspector)
6.	Livestock Assistants	.. 3	
7.	Junior Superintendent	.. 1	
8.	U.D.Accountant	.. 1	
9.	L.D.Clerks	.. 2	
10.	L.D.Typist	.. 1	
11.	Pig Attendants	.. 2	
12.	Peon	.. 1	
13.	Pump Operator	.. 1	
14.	Driver	.. 1	
15.	Labourers Male	.. 25	
	Females	.. 17	

Brief information on work already done

Observations have been made and data collected on litter size at birth, and weaning, ~~birth~~ weight, of litter, individual performance of sows uptill weaning time, pre-potency of boars at stud, post-weaning records of individual litters, feed conversion ratio and growth rate of animals.

4. DETAILED PROGRAMME OF WORK:

Being the only farm of its kind in the state, it will serve as a breeding and research unit. The main aim being to maintain and multiply a high performing seed stock, it is imperative to know the merit of the present stock and then to apply means to improve the herd performance.

i) Performance study: Performance study of the present stock of large White Yorkshire breed including post-weaning performance of litters in respect of daily gain, feed conversion efficiency and carecase-grading.

ii) Pilot Survey: On the existing Swine Husbandry practices, economic viaility, feeding housing and marketing, etc.

iii) Measures for improvement of the existing Stock:

(a) Improvement of the quality of the herd by selecting the nucleus stock on performance.

(b) Importation of improved stock having better performance and in-fusing fresh blood into the present herd.

iv) Feed trials: Feed trials on starter, grower and fattening rations will be undertaken to formulate suitable economical ration for the different classes of pigs.

v) Sale of surplus stock through Extension Wing of University.

vi) Breeding: Developing strain/strains of pure-bred large white yorkshire and landrace having high prolificacy, growth rate, feed efficiency and carcase quality, by a close in-breeding programme (Line breeding). A suitable breeding policy will be evolved.

The breeding programme will continue throughout the period of the scheme.

vii) Cross Breeding Programme: Large White Yorkshire will be cross bred for fattening purpose and complete study of economical characters will be done so as to know the extent by which heterosis can bring economical gains.

Studies on F1 and F2 generations as well as backcrossing experiments will be undertaken.

A part of the farm will be used as demonstration unit for imparting technical knowledge to students, service personnel and farmers.

viii) Extension work:

1. Supply of seed stock for breeding and fattening.
2. Organisation of a pig breeders society.
3. Importing technical knowledge, management skill, veterinary aid, assured feed supply and establishing market for pigs and pork.

The details of production and the physical and financial targets are furnished in Annexures-XVII & XVIII respectively.

VETERINARY HOSPITALS

The college has,at present, two Veterinary Hospitals for training and instructional purposes and for the purpose of treatment facilities for farm stock. The animals brought to these two centers provide the main material for clinical studies by students.

The campus hospital is located in a building put up in 1960. It has inadequate in-patient facilities. The attendance at this hospital was an average 22 per day for the year 1971. The Trichur hospital is among the oldest Veterinary institutions in the state and was brought under the Veterinary College in the year 1961. It is housed in very cramped space and expansion of hospital at the present site is a problem. The average daily attendance at this hospital is 60. There are no proper in-patient facilities for animals. A new building estimated to cost Rs.91,000/- is nearing completion in the present site at Trichur.

The two hospitals have the following staff.

	Mannuthy	Trichur
Senior Veterinary Officer	--	1
Livestock Assistant	1	2
Attendant	1	2
Part-time sweeper	1	1
Clerk	--	1

The Key Village Center, Central Veterinary Store and the office of the Mobile Veterinary Surgeon of the Animal Husbandry Department are all located in the campus of the Veterinary Hospital, Trichur. There is an over-crowding of institutions and staff in this small area resulting in serve lack of hospital aminities and facilities for stalling sick animals.

The Campus hospital has no separate Veterinary staff. A Lecturer in the department of Surgery looks after the routine work of the hospital. Lecturers from all clinical departments are required to attend the hospital during morning hours till 10 A.M. for instruction of students. There is a Senior Veterinary Officer for the Trichur hospital, who attends to routine affairs of the hospital. Two Lecturers, one each from the Departments of Medicine & Parasitology and Surgery, attend the hospital at Trichur in the morning hours for the training of students.

Both hospitals need strengthening of the staff, provision for in-patient facilities and additional space and equipments.

The following proposals are made:

1. The three departmental institutions in the campus of the Trichur hospital should be removed to alternate sites before January 1972. The space so made available should be used for class rooms for clinical studies, dormitories for students on night shift, and for building inpatient wards for cattle, dogs and other animals.

2. New wards for 10 dogs, 20 cattle and 10 goats and a house for small pet animals and birds.

3. Installation of X-ray equipment at Trichur hospital. The equipment with the department of Surgery will be made use of at the campus hospital.

4. To provide mobile sick animal transport van for transport of sick animals for hospitalisation.

The technical staff of the hospital should be revised. For co-ordinating the work in the 2 hospitals and for ensuing efficient administration, the present management of placing the hospitals under the supervisory control of a Head of Department is not conducive. Since hospital training is

an important aspect of the curriculum of studies, these 2 institutions should have the status of a department.

The work load at the 2 hospitals warrants a provision of staff not different from that of a teaching department. The 2 hospitals will be placed under the sole charge of a Director of Hospitals(in the cadre of Professor), who will, in addition to co-ordinating the work of the 2 Hospitals, be also in direct charge of the Trichur Hospital.

The normal staff pattern for each hospital will include 3 Veterinary Officers and one Resident Veterinary Officer (all in the cadre of Assistant Professor) to look after the regular working in the hospitals. Four Associate Professors (one each from the 4 clinical departments) will look after the teaching and training of students in each hospital. One among the 4 Associate Professors for training in the Mannuthy Hospital will also hold charge of that Hospital and be designated as Assistant Director of Hospitals.

Mannuthy		Trichur	
Assistant Director of Hospital (Associate Professor in-Charge)	.. 1	Director of Hospitals (Professor cadre)	.. 1
Veterinary Officer (Asst. Prof. cadre)	.. 3	Veterinary Officer (Asst.Prof.cadre)	.. 3
Resident Veterinary Officer (Asst.Prof.cadre)	1	Resident Veterinary Officer(Asst.Prof. cadre)	.. 1
Livestock Assistant/ Pharmacist	.. 3	Livestock Assistant/ Pharmacist	.. 3
Attendants (2 by day; 1 for night)	.. 3	Clerk	.. 1
Sweeper/Scavenger	.. 2	Telephone attendant	.. 1
Watchman	.. 1	Attendant	.. 4
		Inpatient Attendant	.. 1
		Scavenger/Sweeper	.. 1
		Watchman	.. 1
		X-ray technician	.. 1
		X-ray Assistant	.. 1

The physical and financial targets are furnished in Annexure-XIX.

KERALA VETERINARY RESEARCH COUNCIL

The Kerala Veterinary Research Council was set up by the Animal Husbandry Department by Government order in 1963, with the object of promoting research schemes, co-ordinating research work, evaluating the results of work under research schemes, and to publish a journal to disseminate scientific information about Animal Husbandry and Veterinary Science. The Council has for all these years functioned in the Kerala Veterinary College with a part time Secretary and a Part-time Editor, nominated by the Principal from the college teaching staff. The Kerala journal of Veterinary Science sanctioned by Government as a quarterly, started publication in 1970. During the last two years it has run as a half-yearly journal on the advice of the Research Council. The Secretary and Editor are paid special pay and honorarium of Rs.50/- and Rs.100/- respectively. There is no other staff for the council for publishing the journal. An annual grant of Rs.9,000/- has been sanctioned, which includes the editor's honorarium.

After the take over of the research activities under the Veterinary and Animal Science in the State by the Agricultural University, the research council has functioned under the University. In the last few months, the main activity of the Council has been to scrutinise research schemes received from members of the teaching and research staff and advice on the suitability of sending up such schemes for consideration by I.C.A.R. or other bodies.

The work of the council involves a good deal of correspondance, editing of scientific papers etc. and there is need to have staff facilities for these duties. A clerk and a typist are required for the council to assist the Secretary and Editor.

The journal published by the council has been received well among members of the profession in and outside India and it serves as a medium for publishing the results of the work done in the University. In view of the good reception it has received, it is proposed to publish the journal as a quarterly from 1973, as originally envisaged. There is need and considerable scope to improve the journal in its get up and other general features like quality of paper etc., in order to make it stand comparison with the similar other journals in India and outside. This will go a long way to enhance the growing prestige of the journal.

There is no accommodation for the office of the Research Council. The Professor who is the Secretary uses his department space to accommodate the office of the Research Council also. With the growth of the Council it is expected that clerical staff will be posted and it is necessary to have suitable and separate office accommodation for Research Council

There is need to reconstitute the Council since some of the present members, who are officers of the Animal Husbandry Department may have to be replaced and new members selected. The council will be governed by the general research policy of the Agricultural University. As soon as the latter is crystallised, the new set up of the Kerala Veterinary Research Council will be finalised.

The proposals for improvement and development of the Kerala Veterinary Research Council, include:

i) appointing a Clerk and a Typist for the Council;

ii) improving the Kerala Journal of Veterinary Science in its printing and other features and increasing its circulation;

iii) provision for adequate office accommodation for the council.

---oOo----

Ekr/-

Kerala Veterinary Research Council Budget Estimate - Pay & Allowances

Sl.No.	Particulars	1972 recurring	1973 Non-recurring	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
1.	Pay for one Clerk and one typist	2160.00		2280.00	2400.00	2544.00	2688.00	2832.00	2976.00
2.	D.A. for one Clerk and one Typist	2040.00		2040.00	2040.00	2040.00	2352.00	2352.00	2352.00
3.	Ad-hoc increase for one Clerk and one Typist	432.00		432.00	432.00	432.00	504.00	504.00	504.00
4.	Special pay to Secretary	600.00		600.00	600.00	600.00	600.00	600.00	600.00
5.	Furniture etc.		5000.00						
	TOTAL	5232.00	5000.00	5352.00	5472.00	5616.00	6144.00	6288.00	6432.00

Kerala Journal of Veterinary Science Budget Estimate - Publication of the Journal

Sl.No.	Particulars	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
1.	No. of copies to be printed	500	500	1000	1000	1000	1000	1000
2.	No. of pages of the Journal	80	80	100	100	100	100	100
3.	Periodicity of the publication	Half yearly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
4.	Printing charges including setting and binding	1000.00	2000.00	4000.00	4000.00	4000.00	4000.00	4000.00
5.	Cost of printing paper	1500.00	3000.00	6000.00	6000.00	6000.00	6000.00	6000.00
6.	Cost of art paper for blocks	600.00	1000.00	2500.00	2500.00	2500.00	2500.00	2500.00
7.	Cost of Block making	200.00	800.00	1000.00	1000.00	1000.00	1000.00	1000.00
8.	Cost of paper for cover	700.00	1500.00	3000.00	3000.00	3000.00	3000.00	3000.00
9.	Honararium for Editor	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00	1200.00
10.	Postage for despatching journal	600.00	1500.00	2000.00	2000.00	2000.00	2000.00	2000.00
11.	T.A. and other contingencies	500.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
	TOTAL	6300.00	11800.00	20700.00	20700.00	20700.00	20700.00	20700.00

ANNEXURE - I

Existing staff, Additional staff requirements each year, and the total anticipated staff position at the end of the period in various departments of the college.

Designation	Existing	Additional requirements							Total at end of 1979.	Remarks
		72-73	73-74	74-75	75-76	76-77	77-78	78-79		
1	2	3	4	5	6	7	8	9	10	11
1. Anatomy Department										
Professor & head of department	--	1	--	--	--	--	--	--	1	
Professor	2*	--	--	*(-1)	--	--	--	--	1	*one supernumerary to be discontinued in 1974-75.
Associate Professor	--	1	--	--	--	--	--	--	1	for U.G. teaching
Reader	--	--	1	--	--	--	--	--	1	for P.G. teaching
Research Officer	--	--	--	--	--	--	1	--	1	
Assistant Professor	2	~~2~~	--	--	--	~~1~~	--	--	2	~~one for research~~
Asst. Research Officer	--	--	--	--	--	--	1	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	1	--	--	--	--	--	--	1	
Lab. Assistant	1	--	--	--	--	--	--	--	1	
Taxidermist	1	--	--	--	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	(contd...)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Scavenger/Sweeper-cum-Attendant	2	2	--	--	--	--	--	--	4	
Salary amount (lakhs Rs.)		0.748	1.316	1.500	1.450	1.460	1.767	1.770		
2. Animal Management & Hygiene Department										
Professor & Head of Department	--	--	--	1	--	--	--	--	1	
Professor	--	--	--	--	--	1	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	--	--	--	--	--	--	--	1	1	
Research Officer	--	--	--	--	--	--	--	1	1	
Assistant Professor	2	2	1	--	--	--	*	--	5	1 for Swine Management 1 for Goat Management 2 for Animal Management 1 for equitation ~~1 for research~~
Research Officer	--	--	--	--	--		1	--	1	
Instructor	1	1	--	--	--	--	--	--		* Existing post of Riding Master to be converted into Instructor for Equitation.
Stenographer	--	--	--	1	--	--	--	--	1	
Laboratory Technician	--	--	--	1	--	--	--	--	1	
Laboratory Assistant	1	--	--	--	--	--	--	--	1	
Clerk-Typist	--	--	--	1	--	--	--	--	1	

(Contd..)

ANNEXURE-1 (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Syce	--	1	--	1	1	--	--	--	3	
Groom/Syce	2	2	2	--	--	--	--	--	6	
Farrier	--	1	2	--	--	--	--	--	3	
Attendant	1	--	--	--	--	--	--	--	1	
Scavenger/Sweeper	--	2	--	--	--	--	--	--	2	
Amount of annual salary(in lakhs Rs)		0.722	0.849	1.128	1.162	1.322	1.472	1.788		
3. Biochemistry Department										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	--	--	--	1	--	--	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	--	--	--	1	--	--	--	--	1	
Research Officer	--	--	--	--	1	--	--	--	1	
Assistant Professor	1	1	--	--	--	--	--	--	2	
Chemist		--	1	--	--	---	---	--	1	
Asst. Research Officer	--	--	--	--	--	--	--	--		
Instructor	--	2	--	--	--	--	--	--		
Research Assistant	2	--	--	--	--	--	--	--	2	
Analyst	1	--	--	1	--	--	--	--	2	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	--	1	1	--	--	--	--	2	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Laboratory Assistant	--	--	--	1	--	--	--	--	1	
Clerk Typist	--	--	--	1	--	--	--	--	1	
Attender	--	--	--	1	--	--	--	--	1	
Scavenger/Sweeper	1	--	--	1	--	--	--	--	2	
Amount of annual salary(lakhs Rs)		0.777	0.942	1.540	1.697	1.698	1.699	1.700		
4. Dairy Science Department										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	--	--	1	--	--	--	--	--	1	
Associate Professor	1	1	--	--	--	--	--	--	2	(Dairy Science 1 and Dairy Tech. 1)
Reader	--	--	--	--	1	--	--	--	1	
Research Officer	--	--	--	--	--	1	--	--	1	
Assistant Professor	2	1	--	--	--	--	--	--	3	(2 for teaching and one for training)
Chemist	--	--	--	1	--	--	--	--	1	
Asst. Research Off.	--	--	--	--	--	1	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant	--	--	--	--	--	4	--	--	4	
Stenographer	--	1	--	--	--	--	--	--	1	
Lab. Technician	--	--	1	--	--	--	--	--	1	
Laboratory Assistant	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attendant	1	--	--	--	--	--	--	--	1	
Sweeper/Scavenger	--	2	--	--	--	--	--	--	2	
Amount of annual salary(lakhs Rs)		1.199	1.314	1.320	1.477	1.760	1.764	1.770		
5. Extension Department										
Professor & Head of the Department	--	--	1	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	--	1	--	--	--	--	1	--	2	
Reader	--	--	--	1	--	--	--	--	1	
Assistant Professor	2	2	--	--	--	--	--	--	2	
Instructor	--	2	--	--	--	--	--	--	2	
Extension Assistant	1	--	1	--	--	--	--	--	2	
Stenographer	--	--	1	--	--	--	--	--	1	
Photographer/Artist (Grade I)	--	1	--	1	--	--			2*	
Photographer/Artist (Grade II)	1	--	1	--	1	--	--	--	3*	
Clerk-Typist	--	--	1	--	--	--	--	--	1	
Driver	2	1	--	--	--	--	--	--	3	

(Contd..)

ANNEXURE-II (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Projector Operator	1	1	--	--	--	--	--	--	2	
Watchman-cum-Attendant	--	2	--	--	--	--	--	--	2	
Scavenger-cum-Sweeper	1	2	--	--	--	--	--	--	3	
Annual salary amount (lakhs Rs)		1.090	1.443	1.632	1.665	1.667	1.825	1.850		

*Note the Photographic/Artist section may be separated ultimately ihto an independent unit catering to all departments

6. Genetics & Breeding Department

Professor & Head of Department	--	--	1	--	--	--	--	--	1	
Professor	--	1	--	--	--	--	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	--	--	--	1	--	--	--	--	1	
Research Officer	--	--	--	--	--	--	1	--	1	
Assistant Professor	2	1	--	-	--	--	--	--	2	
Asst. Research Officer	--	--	--	-	--	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant	--	--	--	--	--	1	--	--	1	
Stenographer	--	--	1	--	--	--	--	--	1	
Laboratory Assistant	1	--	--	--	1	--	--	--	2	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attendent	1	--	--	--	--	--	--	--	1	
Sweeper-cum-Scavenger	--	2	--	--	--	--	--	--	2	
Annual salary amount (lakhs Rs)		0.740	0.930	1.086	1.243	1.365	1.523	1.550		
7. Goat Husbandry Department										
Professor & Head of Department	--	--	--	--	1	--	--	--	1	
Associate Professor	--	--	1	--	--	--	--	--	1	
Reader	--	--	--	--	--	--	--	1	1	
Research Officer	--	--	--	--	--	--	--	1	1	
Assistant Professor	--	1	1	--	--	--	--	--	2	
Asst.Research Officer	--	--	--	--	--	--	--	1	1	
Instructor	--	1	1	--	--	--	--	--	2	
Research Assistant	--	--	---	--	--	--	--	1	1	
Stenographer	--	--	--	--	1	--	--	--	1	
Clerk-Typist	--	--	--	1	--	--	--	--	1	
Dairyman	--	--	1	--	--	--	--	--	1	
Attendant	--	--	1	--	--	--	--	--	1	
Scavenger-cum-Sweeper	--	2	--	--	--	--	--	--	2	
~~xxxxxxx~~ Annual Salary amount (lakhs Rs)		0.155	0.336	0.524	0.716	0.720	0.725	1.161		

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
8. Meat Technology Department										
Professor & Head of Department	--	--	--	--	--	--	1	--	1	
Associate Professor	--	--	1	--	--	--	--	--	1	
Research Officer	--	--	--	--	--	--	--	1	1	
Assistant Professor	1	1	--	~~1~~	--	--	--	--	2	
Asst.Research Officer	--	--	--	--	--	--	1	--	1	
Instructor	--	1	--	1	--	--	--	--	2	
Research Assistant	--	--	--	--	--	--	--	1	1	
Stenographer	--	--	--	--	--	--	1	--	1	
Laboratory Technician	--	--	--	--	--	1	--	--	1	
Laboratory Assistant	--	--	--	--	--	1	--	--	1	
Clerk-Typist	--	--	--	1	--	--	--	--	1	
Attendent	--	--	--	--	1	--	--	--	1	
Scavenger-cum-Sweeper	--	--	--	--		--			2	
Annual salary amount (lakhs Rs)		0.181	0.185	0.458	0.514	0.574	0.526	1.026		

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
9. Microbiology Department										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	--	--	1	--	--	--	--	--	1	
Research Officer	--	--	--	--	1	--	--	--	1	
	—	—	—	—	1	—	—	—	1	
Assistant Professor	2	1	--	--	--	--	--	--	3	1 for specimen exam.
Asst.Research Officer	--	--	--	--	1	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant	--	--	--	1	--	--	--	--	1	
Stenographer	--	1	--	--	--	--	--	--	1	
Lab. Technician	1	--	--	--	--	--	--	--	1	
Lab. Assistant	--	--	--	1	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attender	1	--	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	1	2	--	--	--	--	--	--	3	
Annual salary amount (Lakhs Rs)		0.938	1.093	1.187	1.407	1.409	1.420	1.425		

(Contd..)

1	2	3	4	5	6	7	8	9	10	11
10. Nutrition Department										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	1	--	--	--	--	--	2	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	1	1	--	--	--	--	--	--	2	
Research Officer	~~1~~	--	1	--	--	--	--	--	1	
Assistant Professor	2	~~4~~	--	--	--	--	--	--	6	@1 applied nutrition 1 for farm training x. 2 for analytical work
Chemist	--	1	--	--	--	--	--	--	1	
Asst.Research Officer	x 2	1	--	--	--	--	--	--	1	x. Existing 2 posts to be converted into Asst. Professors
Instructor	--	2	--	--	--	--	--	--	2	
@(Existing post of Instructor in Nutrition to be converted into Asst. Prof.)										
Research Assistant/ Livestock Assistant	1	1	--	--	--	--	--	--	2	
Analyst	--	1	--	--	--	~~1~~	--	--	1	
Stenographer	--	--	1	--	--	--	--	--		
Laboratory Technician		3	--	--	--	--	--	--	1	
Laboratory Assistant	--	--	1	--	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Watchman	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Attender	--	1	--	--	--	--	--	--	1	
Attendant	2	--	--	--	--	--	--	--	2	
Scavenger-cum-Sweeper	--	3	--	--	--	--	--	--	3	
Annual salary amount (Lakhs Rs)		1.548	1.918	1.920	1.930	1.940	1.950	1.960		

11. Obstetrics & Gynaecology Department

Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	2	1	--	--	--	--	--	4	Clinical training 2 for Hospital 1 for sperm lab.
Reader	1	--	--	--	--	--	--	--	1	
Research Officer	--	--	--	1	--	--	--	--	1	
Assistant Professor	3	xx	--	--	--	--	--	--	3	1 for M.I. training
Asst. Research Officer	--	--	1	--	--	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant/ Livestock Assistant	1	--	--	--	--	--	--	--	1	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	--	1	--	--	--	--	--	1	

(contd..)

Annexure-I (Contd.)

1	2	3	4	5	6	7	8	9	10	11
Laboratory Assistant	--	--	--	1	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Watchman-cum-Attendant	--	2	--	--	--	--	--	--	2	
Scavenger-cum-Sweeper	2	--	--	--	--	--	--	--	2	
Annual salary amount (Lakhs Rs)		1.488	1.754	1.955	1.960	1.970	1.980	1.990		
12. Pathology Department										
Professor and Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	--	--	--	--	--	--	--	1	
Reader	1	--	--	--	--	--	--	--	1	
Research Officer	--	--	--	1	--	--	--	--	1	
Assistant Professor	2	1	--	--	--	--	--	--	3	for specimen exam.
Asst. Research Officer	--	--				--	--	--	1	
Instructor	--	2	--	--	--	--		--	2	
Research Assistant	--	--		1	--	--	--	--	1	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	1	--	--	--	--	--	--	1	
Laboratory Assistant	--	1	--	--	--	--	--	--	1	

(Contd..)

1	2	3	4	5	6	7	8	9	10	11
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attender	--	1	--	--	--	--	--	--	1	
Attendant	--	1	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	1	2	--	--	--	--	--	--	3	
Annual Salary amount (Lakhs Rs)		1.070	1.136	1.137	1.138	1.139	1.140	1.145		
13. Parasitology Department										
Professor & Head of the Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	1	--	--	--	--	--	--	2	
Reader	1	--	--	--	--	--	--	--	1	
Research Officer	--	--	--	1	--	--	--	--	1	
Assistant Professor	~~3~~	--	--	--	--	--	--	--	~~3~~ (including one for [illegible])	
[illegible]. Research Officer	--	--	1	--	--	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant/ Livestock Assistant	1	--	1	--	--	--	--	--	2	
Laboratory Assistant	--	1	--	--	--	--	--	--		
Clerk-Typist	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Attender	1	--	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	--	2	--	--	--	--	--	--	2	
Annual salary amount (Lakhs Rs)		1.359	1.472	1.627	1.628	1.629	1.630	1.632		
14. Pharmacology & Toxicology Department										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	--	--	--	--	--	--	--	1	
Reader	1	--	--	--	--	--	--	--	1	
Research Officer	--	--	--	--	1	--	--	--	1	
Assistant Professor	1	1	--	--	--	--	--	--	2	
Chemist	1	--	--	--	--	--	--	--	1	
Asst. Research Officer	--	--	--	1	--	--	--	--		
Instructor	--				--	--	--	--		
Research Assistant/ Livestock Assistant	1	--	--	--	--	--	--	--		
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	1	--	--	--	--	--	--	1	
Laboratory Assistant	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attender	--	1	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	2	1	--	--	--	--	--	--	3	
Annual salary amount (Lakhs Rs)		1.937	1.938	2.004	2.158	2.159	2.160	2.161		
15. Physical Education Department										
Physical Director	--	1	--	--	--	--	--	--	1	
Asst. Physical Director	1	--	--	--	--	--	--	--	1	
Clerk-cum-Typist	--	1	--	--	--	--	--	--	1	
Attendant	& 1	--	--	--	--	--	--	--	& 1	
Sweeper	--	1	--	--	--	--	--	--	1	
Annual Salary amount (lakhs R		0.304	0.305	0.306	0.307	0.308	0.309	0.310		
16. [illegible]										
Professor & Head Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--		
Associate Professor	1	--	--	--	--	--	--	--	1	
Reader	1	--	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Research Officer	--	--	1	--	--	--	--	--	1	
Assistant Professor	2	--	--	--	--	--	--	--	2	
Chemist	1	--	--	--	--	--	--	--	1	
Asst. Research Officer	--	--	1	--	--	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Technician	--	2	--	--	--	--	--	--	2	
Laboratory Assistant	--	1	--	--	--	--	--	--	1	
Fitter-cum-Mechanic	1	--	--	--	--	--	--	--	1	
Electrician	1	--	--	--	--	--	--	--	1	
Clerk-Typist	--	--	1	--	--	--	--	--	1	
Attender	--	1	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	2	2	--	--	--	--	--	--	4	
Annual salary amount (in Rs)		1.107	1.358	1.359	1.360	1.362	1.363	1.364		
17. Poultry Science										
Professor & Head of Department	--	--	1	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	--	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Reader	--	--	--	--	1	--	--	--	1	
Research Officer	--	--	--	--	--	--	1	--	1	
Assistant Professor	2	1	--	--	--	--	--	--	3	1 for Farm training
Asst.Research Officer	--	--	--	--	1	--	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant	--	--	--	--	--	1	--	--	1	
Stenographer	--	--	1	--	--	--	--	--	1	
Poultry Demonstrator	--	--	1	--	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Watchman-cum-Attendant	1	1	--	--	--	--	--	--	2	
Scavenger-cum-Sweeper	1	1	--	--	--	--	--	--	2	
Annual salary amount (lakhs Rs)		0.706	0.922	0.923	1.153	1.199	1.353	1.354		
[illegible]	--	1	--	--	--	--	--	--	1	
[illegible]	--	--	1	--	--	--	--	--	1	
Associate Professor	1	2	--	--	--	--	--	--	3	Clinical training

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Reader	--	--	--	1	--	--	--	--	1	
Research Officer	--	--	--	--	--	--	1	--	1	
Assistant Professor	2	--	--	--	--	--	--	--	2	
Asst.Research Officer	--	--	--	--	--	1	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant/ Livestock Assistant	1	--	--	--	--	--	---	--	1	
Stenographer	--	1	--	--	--	--	--	--	1	
Laboratory Assistant	--	1	--	--	--	--	--	---	1	
Clerk-typist	--	1	--	--	--	--	--	--	1	
Attender	1	--	--	--	--	--	--	--	1	
Attendant	1	--	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	2	--	--	--	--	--	--	--	2	
Annual salary amount (lakhs Rs)			1.370	2.524	2.525	2.591	3.745	3.74		
19. Statistics Deptt.										
Professor & Head of Department	--	1	--	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Assistant Professor	--	2	--	--	--	--	--	--	2	
Instructor	--	2	--	--	--	--	--	--	2	
Stenographer	--	1	--	--	--	--	--	--	1	
Clerk-Typist	--	2	--	--	--	--	--	--	2	1 for data analysis section
Statistical Asst.	--	1	--	--	--	--	--	--	1	
Attendant-cum-Sweeper	1	1	--	--	--	--	--	--	2	
Annual salary amount (Lakhs Rs)		0.855	0.856	0.857	0.858	0.859	0.860	0.861		
20. Surgery Department										
Professor & Head of Department	--	1	--	--	--	--	--	---	1	
Professor	1	--	--	--	---	--	--	--	1	
Co-ordinator of Hospitals	--	---	1	--	--	--	--	--	1	
Assistant Professor	--	1	2	--	--	--	--	--	3	2 for clinical [illegible]
Reader	--	--	1	--	--	--	--	--	1	
Research Officer	--	--	1	--	--	--	--	--	1	
Assistant Professor	4	--	--	--	--	--	--	--	2	2 Asst.Prof. will be transferred
Asst. Research Officer	--	--	1	--	--	--	--	--	1	

(contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Instructor	--	2	--	--	--	--	--	--	2	
Stenographer	--	1	--	--	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	2	2	--	--	--	--	--	--	4	
Annual salary amount (lakhs Rs)		1.090	1.926	1.927	1.928	1.930	1.931	1.932		
21. Swine Husbandry Department										
Professor & Head of Department	--	--	--	--	--	1	--	--	1	
Professor	--	--	--	--	--	--	--	1	1	
Associate Professor	--	--	1	--	--	--	--	--	1	
Reader	--	--	--	--	--	--	--	1	1	
Assistant Professor	--	--	1	--	--	--	--	1	2	
Instructor	--	1		--	-	--	--	--	2	
Research A[illegible]t	--	-			--	--		1	1	
Stenographer	--	--	--	--	--	1	--	--	1	
Clerk-Typist	--	--	--	--	1	--	--	--	1	
Attender	--	--	--	--	1	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Attendant	--	1	--	--	--	--	--	--	1	
Scavenger-cum-Sweeper	--	--	--	1	1	--	--	--	2	
Annual salary amount (Lakhs Rs)		0.078	0.346	0.364	0.430	0.616	0.617	1.003		
22. Therapeutics Department										
Professor & Head of Department	--	--	--	1	--	--	--	--	1	
Professor	--	--	1	--	--	--	--	--	1	
Associate Professor	--	1	--	2	-	--	--	--	3	2 for clinical training
Reader	--	--	--	--	--	1	--	--	1	
Research Officer	--	--	--	--	--	--	--	1	1	
Assistant Professor	2	--	--	--	--	--	--	--	2	
Asst. Research Officer	--	--	--	--	--	--	1	--	1	
Instructor	--	2	-	--	--	--	--	--	2	
Liveston Ac	--	1	-	-	--	--	--	--	1	
Stenographer	--	--	--	1	--	--	--	--	1	
Clerk-Typist	--	--	--	1	-	--	--	--	1	
Attendant	1	--	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Scavenger-cum-Sweeper	--	2	--	--	--	--	--	--	2	
Annual salary amount (lakhs Rs)		0.614	0.770	1.295	1.296	1.450	1.516	1.670		
23. Veterinary Public Health Department										
Professor & Head of Department	--	--	1	--	--	--	--	--	1	
Professor	1	--	--	--	--	--	--	--	1	
Associate Professor	1	--	--	--	--	--	--	--	1	
Reader	--	--	--	--	--	1	--	--	1	
Research Officer	--	--	--	--	--	--	--	1	1	
Assistant Professor	2	--	--	--	--	--	--	--	2	
Asst. Research Officer	--	--	--	--	--	--	--	1	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant/ Livestock Assistant	--	--	--	--	--	--	--	1	1	
Stenographer	--	--	1	--	--	--	--			
Clerk-Typist	--	1	--	--	--	--	--	--	1	
Attender	--	--	1	--	--	--	--	--	1	
Attendant	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Scavenger-cum-Sweeper	--	2	--	--	--	--	--	--	2	
Annual salary amount (Lakhs Rs)		0.688	0.736	0.737	0.738	0.892	0.893	1.161		
2. Virology Department										
Professor & Head of Department	--	--	--	1	--	--	--	--	1	
Professor	--	--	--	--	1	--	--	--	1	
Associate Professor	--	1	--	--	--	--	--	--	1	
Reader	--	--	--	1	--	--	--	--	1	
Research Officer	--	--	--	--	--	--	1	--	1	
Assistant Professor	--	2	--	--	--	--	--	--	2	
Asst. Research Officer	--	--	--	--	--	1	--	--	1	
Instructor	--	2	--	--	--	--	--	--	2	
Research Assistant	--	--	--	--	--	1	--	--	1	
[illegible]	--	--	--	1	--	--	--	--	1	
Laboratory Technician	--	--	1	--	--	--	--	--	1	
Lab. Assistant	--	--	--	1	--	--	--	--	1	
Clerk-Typist	--	1	--	--	--	--	--	--	1	

(Contd..)

ANNEXURE-I (Contd..)

1	2	3	4	5	6	7	8	9	10	11
Attendant	--	2	--	--	--	--	--	--	2	
Scavenger-cum-Sweeper	--	2	--	--	--	--	--	--	2	
Annual salary amount (Lakhs Rs)		0.484	0.524	0.894	1.050	1.164	1.318	1.319		

(Contd...)

ANNEXURE-I (Contd..)

Summary of Estimate of salary expenditure for different departments

(In lakhs of rupees)

Sl. No.	Department	72-73	73-74	74-75	75-76	76-77	77-78	78-79
1	2	3	4	5	6	7	8	9
1.	Anatomy	0.748	1.316	1.500	1.450	1.460	1.767	1.770
2.	Animal Management	0.722	0.849	1.128	1.162	1.322	1.472	1.788
3.	Biochemistry	0.777	0.942	1.540	1.697	1.698	1.699	1.700
4.	Dairy Science	1.199	1.314	1.320	1.477	1.760	1.764	1.770
5.	Extension	1.090	1.443	1.632	1.665	1.667	1.825	1.850
6.	Genetics & Breeding	0.740	0.930	1.086	1.243	1.365	1.523	1.550
7.	Goat Husbandry	0.155	0.336	0.524	0.716	0.720	0.725	1.161
8.	Meat Tech.	0.181	0.185	0.458	0.514	0.574	0.826	1.026
9.	Microbiology	0.938	1.093	1.187	1.407	1.409	1.420	1.425
10.	Nutrition	1.548	1.918	1.920	1.930	1.940	1.950	1.960
11.	Obstetrics & Gynaecology	1.488	1.754	1.955	1.960	1.970	1.980	1.955
12.	Pathology	1.070	1.136	1.137	1.138	1.139	1.140	1.145
13.	Parasitology	1.359	1.472	1.627	1.628	1.629	1.630	1.632
14.	Pharmacology	1.937	1.938	2.004	2.158	2.159	2.160	2.161
15.	Physical Education	0.304	0.305	0.306	0.307	0.308	0.309	0.310
16.	Physiology	1.107	1.358	1.359	1.360	1.362	1.363	1.364
17.	Poultry Sc.	0.706	0.922	0.923	1.153	1.199	1.353	1.354
18.	Preventive Medicine	1.214	1.370	2.524	2.525	2.591	3.745	3.746
19.	Statistics	0.855	0.856	0.857	0.858	0.859	0.860	0.861
20.	Surgery	1.090	1.926	1.927	1.928	1.930	1.931	1.932
21.	Swine Husbandry	0.078	0.346	0.364	0.430	0.616	0.617	1.033
22.	Therapeutics	0.644	0.770	1.295	1.296	1.450	1.516	1.670
23.	Vety.Public Health	0.688	0.736	0.737	0.738	0.892	0.893	1.161
24.	Virology	0.484	0.524	1.894	1.050	1.164	1.318	1.319
	TOTAL	21.092	25.739	31.204	31.790	33.183	35.786	37.843

ANNEXURE-II

Minimum requirements of laboratory and floor space required for each of the teaching and research departments.

(Vide item 7 of text)

I. Additional Laboratory space for the departments housed the old main block:

1. Anatomy

Cold room	..	10 m^2
Museum - Present library to be used for museum		
Post-graduate lab.	..	90 m^2
Staff room	..	90 m^2
Technic lab.	..	60 m^2
		250 m^2

2. Biochemistry

Research Laboratory	..	100 m^2
Rrecision equipments room		20 m^2
Staff room	..	90 m^2
Store	..	40 m^2
		250 m^2

3. Genetics & Breeding

Culture room	..	10 m^2 (Air conditioned)
Staff room	..	60 m^2
Research lab. (2)	..	40 x 2 = 80 m^2
		150 m^2

4. Microbiology

Post-graduate lab.	..	90 m^2
Sterlising room	..	25 m^2
Culture room (A.C.) (2)		10 m^2
Media room	..	40 m^2
Preparation room (2)	..	15 m^2
Mycology Lab.	..	60 m^2
Store	..	25 m^2
Staff room	..	60 m^2
Experimental small animal room (2)		15 m^2
		340 m^2

ANNEXURE-II (Contd..)

5. Physiology

Research lab. (2)	..	100 m^2
Precision equipments room (Dust poof)		20 m^2
Staff room	..	90 m^2
Lab. (fine chamber	..	50 m^2
Store	..	40 m^2
Post-graduate lab (2)	..	60 m^2
Experimental animals, birds (2)		15 m^2
		400 m^2

6. Preventife Medicine

The ground floor and 1st floor in the wing where the department is now housed, will be sufficient to meet all the needs of the department.

7. Statistics

Staff room (2)	..	15 m^2
Data processing	..	30 m^2
Post-graduate instruction		25 m^2
Equipments room	..	10 m^2
		80 m^2

8. Surgery

Large animal operation theatre		45 m^2
Small animal operation theatre		25 m^2
Instrument store	..	10 m^2
X-ray plant room (2)	..	10 m^2
Sterlising room	..	10 m^2
		100 m^2

II. Space required for departments to be housed in New Block to be constructed:

1. Animal Management & Hygiene

Staff rooms	..	60 m^2
Hygiene lab.	..	40 m^2
Store room	..	25 m^2
Equipments room	..	20 m^2
Zoo techny shed	..	125 m^2
Research lab.	..	40 m^2
Lectivity hall and lab.		90 m^2
		275 m^2 (+ 125 m^2 shed)

2. Parasitology

Museum	..	90 m^2	
Under-graduate lecture hall		90 m^2	
Post-graduate lecture hall (2)		90 m^2	180
Preparation room (2)	..	15 m^2	30
Special Examination room		15 m^2	
Staff room	..	90 m^2	
Research lab.	..	90 m^2	
Culture room	..	25 m^2	
Small Experimental animals room (2)		15 m^2	
Large animals room	..	20 m^2	
Store	..	25 m^2	
		655 m^2	

3. Pharmacology and Toxicology

Under-graduate lab. and lecture hall	..	100 m^2	
Research lab.(2)	..	60 m^2	(120 m^2)
Pharmacology (1) Toxicology (1)			
Post-graduate lab.	..	100 m^2	
Pharmacy - Preparation unit		150 m^2	
Drug analysis rooms (2)		60 m^2	(120 m^2)
Staff rooms	..	90 m^2	
Store (2)	..	50 m^2	(100 m^2)
Ky. mograph room Equipment room (A.C.) (2)		10 m^2	(20 m^2)
Experimental Small Animals wing		50 m^2	
Experimental large animals house block		100 m^2	

4. Therapeutics

Under-graduate lab.	..	90 m^2
Research lab.	..	60 m^2
Post-graduate lab.	..	60 m^2
Staff room	..	90 m^2
Experimental animal house (2 Nos.)		75 m^2
Store	..	60 m^2
Museum	..	60 m^2
Experimental therapeutics block		10 m^2
Equipments	..	10 m^2
		580 m^2

ANNEXURE-II (Contd..)

5. Virology

Staff room	..	90 m^2
Technique room	..	40 m^2
Tissue culture - preparation room(A.C)		10 m^2
Equipment store	..	10 m^2
Media room	..	40 m^2
Sterlising room	..	40 m^2
Glass ware room	..	10 m^2
Incubator room	..	10 m^2
Cold room	..	10 m^2
Serology room	..	10 m^2
Specimens preparation	..	40 m^2
Under-graduate lab.	..	90 m^2
Post-graduate lab.	..	90 m^2
Experimental animals house		40 m^2
Store	..	40 m^2
		570 m^2

III. Additions to the existing separate old buildings of the Departments of Extension, Obstetrics & Gynaecology, Physical Education, etc.:

1. Extension

Photographic darkroom	..	10 m^2
Process room	..	20 m^2
Store	..	10 m^2
Artists room (2)	..	20 m^2
Museum	..	100 m^2
Staff room	..	60 m^2
Projection room	..	90 m^2
		310 m^2

2. Obstetrics & Gynaecology

Sperm morphology lab.	..	30 m^2
Biochemical semen analysis lab.		30 m^2
Deep perzins lab.	..	20 m^2
Liq. N_2 plant room	..	30 m^2
Lab. C.L.hall	..	60 m^2
Museum and conference room		60 m^2
Sterlising room	..	20 m^2
		250 m^2

3. Physical Education

Indoor games stadium	..	600 sq.meter
Equipment store	..	40 m^2
Gymnasium	..	100 m^2
Athletic danutry (2)	..	90 m^2
		230 + 600 m^2

B. Separate New Buildings:

1. Dairy Science

Lecture hall & Under-graduate lab.		90 m^2
Prepration room	..	25 m^2
Culture room	..	25 m^2
Fine instrument room	..	40 m^2
Balance room	..	10 m^2
Store	..	40 m^2
Sterlising room	..	40 m^2
Dairy chemistry lab.	..	90 m^2
Microbiology Lab.	..	90 m^2
Ice creem preparation room		10 m^2
,, making room (2)		10 m^2
Chilling plant (AC)	..	60 m^2
Cold store for Dairy	..	20 m^2
Dairy uteril sterlising room		40 m^2
,, store	..	40 m^2
Milk receim room	..	15 m^2
Milk room	..	25 m^2
Wash room	..	25 m^2
Staff room	..	100 m^2
Bailer room	..	25 m^2
		830 m^2

2. Meat Technology

Slaughter/dressing hall		500 m^2
Smoking room Freezing room Cold room Rendering	each 25 m^2	100 m^2

Sausage room Curing room	50 m^2 x 2	100 m^2
Gultery	..	30 m^2
Meat cutting lab.	..	50 m^2
Banning	..	25 m^2
Boiler room	..	25 m^2
Sterilised room	..	30 m^2
Others (bath, wash room etc.)		30 m^2
Staff rooms	..	90 m^2
Lecture halls	..	90 m^2
		970 m^2

3. Nutrition

Under-graduate lab. lecture hall		90 m^2
Feed analysis lab.	..	60 m^2
Post-graduate lab. (2) (90 x 2)		180 m^2
Fine equipments	..	40 m^2
Research lab.	..	90 m^2
Staff rooms	..	100 m^2
Balance room	..	20 m^2
Conference & Library	..	90 m^2
Const. temperature room		40 m^2
Store	..	60 m^2
Technicians room	..	40 m^2
Cold room	..	40 m^2
Metabolism stall	..	1000 m^2
		1850 m^2

4. Pathology

Under-graduate lab./Lecture hall		90 m^2
Post-graduate	,,	60 m^2
Technique lab.	..	60 m^2
Museum	..	90 m^2
Histochemical/Ezyne lab.(A.C.)		40 m^2
Dark room	..	10 m^2
Preparation room	..	40 m^2

ANNEXURE-II (Contd..)

Staff room	..	60 m^2
Store (2)	..	25 m^2
Autopsy hall (100 + 40)		140 m^2
Specimen room	..	25 m^2
Cold room	..	10 m^2
Sterlising room	..	25 m^2
		700 m^2

5. Poultry Science

Technology lab. & Research lab (2)		90 m^2
Incubator hall	..	90 m^2
Lecture hall - Student lab.		100 m^2
Post-graduate stores	..	90 m^2
Staff rooms	..	90 m^2
Store	..	25 m^2
Brooser house (3)	..	40 m^2
Experimental - Brailer house, large house (2)		300 m^2
		695 m^2

6. Swine Husbandry

Under-graduate laboratory-cum-Lecture hall	..	90 m^2
Field laboratory (Experimental)		200 m^2
Staff rooms	..	60 m^2
Experimental Technology lab.		90 m^2
Store	..	30 m^2
		270 + 200 m^2

7. Goat Husbandry

Undergraduate laboratory-cum-lecture hall		90 m^2
Field lab.(experimental)		200 m^2
Staff rooms	..	60 m^2
Experimental Technology lab.		90 m^2
Store	..	30 m^2
		270 + 200 m^2

ANNEXURE-II (Contd..)

8. Veterinary Public Health

Lecture & practical hall	100 m^2
Post-graduate research laboratory	90 m^2
Conference hall and library	90 m^2
Staff rooms 25 x 4 ..	100m^2
Immunological laboratory	25 m^2
Epidemiological investigation unit	25 m^2
Milk laboratory ..	25 m^2
Milk laboratory ..	25 m^2
Media Preparation room ..	25 m^2
Sterilisation room ..	25 m^2
Incubation, cold storage	25 m^2
Zoonotic Disease investigation (25 x 4)	100 m^2
Dark room ..	25 m^2
Holdn room ..	25 m^2
Experimental Small animal preparation room	30 m^2
Experimental small animal room	60 m^2
Departmental store ..	60 m^2
	805 m^2

9. Other additional structures

A. Kennel ..	60 m^2
B. Experimental large animal shed	100 m^2
C. Postmortem x ..	50 m^2

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ANNEXURE-III

LIST OF SPECIAL EQUIPMENTS AND FITTINGS

S.No.	Article	Number required	Approximate cost
1	2	3	4
1	Autoclave	7	2,10,000
2	Autopsy tables	4	10,000
3	Analytical chemical balance	1	1,400
4	Aluminium pole	1	500
5	Adjustable starting block	6	150
6	Analgesiometer	1	3,000
7	Advanced automatic slide projector	1	2,500
8	Air conditioner	2	7,000
9	Binocular Research Microscope	12	40,000
10	Beckman's spectrophotometer	2	10,000
11	Barnstead still	2	3,000
12	Binoculars	2	1,000
13	Brush shoe	24 pairs	720
14	Bone decalcifier	1	1,500
15	Bone drill	1	800
16	Bacterial grinder	1	750
17	Blood gas analysis apparatus	1	5,000
18	Bath, paraffin embedding	1	750
19	Cryostat	1	2,500
20	Calculating machine - hand operated	4	5,000
21	-do- electronic	3	25,000
22	Centrifuge	2	8,000
23	Colorimeter spectronic20	1	13,704
24	Camera with microphotographic attachment	2	10,000
25	Camera - Photographic	5	5,000
26	Camera Lucida	2	2,000
27	Cryoscope	1	4,000
28	Cooling centrifuge	1	15,500
29	Chromatographic apparatus	2	2,000
30	Deep Freezer	7	3,50,000
31	Deioniser	3	20,000
32	Dark ground microscope	3	21,000
33	Dissection microscope	1	1,800
34	Defreeze	1	12,000
35	Densifemeter (Photoelectric) systronic	1	5,000
36	Demineraliser (Permutit)	2	10,000
37	Dial atom spectrophotometer	2	15,000
38	Diatherny Units	1	12,000
39	Double demonstration eyepiece	1	500
40	Domscocjrpm	1	1,800
41	Electric hoists	2	5,000
42	Electrophoretic apparatus	6	15,000
43	Electrocoagulation apparatus	1	5,000
44	Electronic stimulator	2	5,000
45	Emenuce fraction collection		1,500
46	E.C.G. apparatus - portable	1	15,000
47	Electric drop recorder		3,000
48	Electromagnetic hammer		3,000
49	Electroejaculator		1,000
50	Electron microscope		2,00,000

1	2	3	4
51	Eisenhut's metal evacuator	1	1,500
52	Freeze drying machine	2	25,000
53	Fermentation chamber	2	10,000
54	Flame photometer	4	50,000
55	Fluorescent microscope	2	40,000
56	Freezing microtome with gas cylinder	1	30,000
57	Film projector	1	4,000
58	Flow meter	1	1,500
59	Fibrepole	2	2,500
60	Glas flow meter	1	2,500
61	Gas cheomatograph	2	6,000
62	Hydraulic operation table for large animals	2	20,000
63	-do- for small animals	2	5,000
64	Haetokinett (Autotechnic)	2	10,000
65	Hot air oven	4	6,000
66	Hair hygrometer	2	2,000
67	Hypothermia apparatus	1	40,000
68	High power cream separator	1	5,000
69	International centrifuge	1	15,000
70	Incubator	5	20,000
71	Instrument steriliser	3	6,000
72	Intramedullary pin-drill complete	1 set	1,500
73	Intra-ceretoro-ventricullar cammulae	1 assorted set	2,000
74	Isolated organ bath	1	1,500
75	Irrigation acessories	1	10,000
76	Javelin	3	2,500
77	'Karl kaps' trinocular research microscope	2	15,000
78	Kelver training cow	1	1,000
79	Lovibond comparator and Colour discs for the comparator	1 9	4,000
80	Letter strap mounted on wooden box	1	25
81	'L' Mould of brass for casting paraffin blocks	4	100
82	Microtome	2	11,000
83	Microtome nice	2	400
84	Microtome knife sharpener	2	7,000
85	Movie camera	3	45,000
86	Microphotographic camera	3	4,000
87	Micro projector	4	4,000
88	Microscope - inverted	2	7,000
89	" - phase contrast	3	15,000
90	" - steriscopic	1	8,000
91	" - with aprochromatic objectives	1	8,000
92	" - fluorescent	1	45,000
93	" - Interference	1	10,000
94	Microscope lamp - deluxe model	1	1,000
95	Mettler balance	6	7,500
96	Metabolism cages for large animals	20	15,000
97	-do- for small animals	20	15,000
98	Meat saw - electrical	1	1,500
99	Mickcsepacetorce cream separator	2	7,500
100	Medical oscilloscope	1	4,000

1	2	3	4
101	Magnetic stirrer	1	4,000
102	Microscopic spermotherm	1	1,200
103	Microbaematocait centrifuge	1	5,000
104	Muffle furnace	1	2,000
105	Majownier fat testing equipment	1	4,000
106	McIntosh amaerobic culture jar	1	1,800
107	Meopta mono ocular research microscope	10	3,000
108	Meopta, camera lucida	1	1,000
109	Nephlometer	2	4,000
110	Osmometer	1	4,000
111	Photoelectric colorimeter	1	5,000
112	Polygraph (4-6 channel)	1	15,000
113	Physiograph	2	30,
114	Polarograph	1	15,000
115	Par oxygen bomb colorimeter	2	10,000
116	pH meter, Beckman's	11	33,000
117	Pentostat	1	8,000
118	Phone	6	5,000
119	Projector-epidioscope	1	5,000
120	Pump vaccum	1	2,000
121	Pressure perfusion apparatus	1	2,000
122	Polarimeter	1	7,500
123	Pipette washer - automatic	1	5,000
124	Refrigerated centrifuge	2	85,000
125	Respiration apparatus	1	2,000
126	Research kymograph	2	15,000
127	Research microscope	6	40,000
128	Refrigerator	4	12,000
129	Rollar drum	1	1,500
130	Radio	1	2,000
131	Radiometer (blood chemistry)	1	15,000
132	Slide projector	13	52,000
133	Single pan balance	8	80,000
134	Spirometer	1	10,000
135	Seitz fitter	2	500
136	Seitz fitter pads (packets)	4	200
137	Students microscope	30	60,000
138	Suction apparatus	1	4,00
139	Spectrophotometer	1	5,000
140	Steriotaxic apparatus for rat, dog and cat	1	4,
141	Safety blade holder	1	750
142	Sharpening homes	1	1,500
143	Stop watch	12	1,800
144	Stop and go watch	12	1,800
145	Triple glass distillation unit	2	3,000
146	Table centrifuge	2	6,000
147	Thermo spectral lamp	2	7,000
148	Trampantin & Training shoe (50 pairs)	1	3,500
149	Tissue maton (automatic tissue processor)	1	10,000
150	Tissue mincer	1	2,000
151	Thinlayer chrometography equipment	2	15,000
152	Theombo clastograph	1	4,000
153	Torsion balance	1	2,500
154	Typewriter with mathematical symbols	1	10,000
155	Ultra centrifuge	2	15,000

1	2	3	4
156	Ultraviolet lamp	8	8,000
157	Ultraviolet/Infrared lamp	2	5,000
158	Ultratherm	1	12,000
159	Vesopam	3	4,500
160	Vaccum embedding bath - Co 2	1	5,000
161	Vehicle	1	35,000
162	Warning blender	1	2,500
163	Warberg apparatus	2	20,000
164	Wrestling mat	1	2,500
165	Water bath	1	1,500
166	X-ray Unit: 200 mA & 50 mA	2	2,00,000
			25,88,409
			(Rs. 26 00,000)

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ANNEXURE -- IV

PROPOSED CO-ORDINATED RESEARCH PROJECTS

The following research schemes are proposed to be taken up for implementation by the different departments of the college in the next two years. These are recommended as cordinated schemes. Considering that the studies envisaged under each will yield better results, if observations are conducted in more than one unit, in different places of India. The budget and staff provided are however only for the single Central Unit in Mannuthy.

1. Serum Enzyme Activity in chicken with special Reference to growth and reproduction.
2. The Influence of varying Levels of Energy Protein Ration in the Diet on Growth, Reproduction and certain Physiological factors in Ducks.
3. Studies on Ruminology of Goats.
4. Incidence, Pathology and Epidemology of Hydatidiosis and Echinococcus Infection in the Domesticated and Wild Life of Kerala and Methods of Diagnosis, prevention, and control of Hydatidiosis in Kerala.
5. Incidence, sources and pathogenesis and Pathology of Domistic Animals and Mycotoxicosis in Poultry.
6. Studies on Leucosis and Marek's Disease in Poultry.
7. Etiology, Pathology and Pathogenesis of Enzootic Bovine Halmaturia.
8. Synchronisation of Oestrus and Artificial insemination in breeding swine.
9. Preservation of Semen of Bull and Buffalo at Room Temperture for Artificial insemination.
10. Production performances and Adaptability of Pure Bred Jersey Cattle in Heavy Rainfall High Humidity Areas.
11. Enterobacterial Infection in Livestock and Wild Animals in Kerala.
12. Fluid Electrobyte Disturbances in Alimentary Disorders of Bovines and their correction.
13. Prenatal Development in the Goat.
14. Relative value of varieties of Fish Meal at various levels and combinations of Tapioca in ration of swine.
15. Effects of Medicinal plants of Kerala on Liver disorders in Domestic Animals.
16. Karyotyping for selection of Breeding Cattle
17. Helminthic Infections of Domestic Duck (Anas platyrynchas domestians)
18. Schustosomiasis in Domestic Animals.
19. Porcine Entero Viruses in Kerala.
20. Studies on heterosis and biochemical Polymorphism in swine.
21. Evaluation of the feeding value of prawn waste (shrimp bran) as an animal protein source for pigs and poultry.
22. Influence of varying dietary regimes on growth response, meat production and carcass quality of pigs slaughtered at different market weights
23. Formalities of Feeding standards for the Indian Elephant.

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Annexure - V

DEPARTMENTAL RESEARCH PROJECTS PROPOSED TO BE TAKEN UP (vide item 12 of the text)

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ANATOMY:--

1. Cytoarchi technics of the Cerebral Cortex of the Indian buffaloe.

2. Histochemical differentiation of Skeletal muscle fibres in the Caprine fetus.

GENETICS:-

3. Blood groups in animals as an aid in selection.

4. Progeny testing of bulls and bucks.

5. Evolving a new breed of poultry adapted to Kerala conditions.

6. Studies on Immunogenetics in animals.

MICROBIOLOGY:--

7. Classification of Bacterial Species associated with pneumonia in pig.

8. Staphytococcal species associated with Mastitis.

9. Drug sensitivity of organisms isolated from diseased conditions.

NUTRITION:

10. Influence of Carbohydrates on Protein utilisation.

11. Metabolic changes due to Synergestic and antagonistic actions of Amino acids.

12. Nutritive value of unconventional feeds and fodder for animals.

13. Caprine Vrolithiasis with special reference to minerals.

14. Nutritional requirements of the Indian Elephant.

OBSTETRICS AND GYNAECOLOGY:

15. Incidence of Repeat breeding with special reference to infective Agents.

16. Reproductive response in Sindia-Jersey graded females under different climatic conditions.

17. Haematology of pregnant cow.

18. Pathological conditions in the genetalia of Cow.

19. Effect of Season on physico-chemical characteristics of Semen in Surti Buffaloes.

20. Effect of Vitamin-A deficiency on the secondary organs of the Boar.

21. Calcium-glucose concentration in oestrus[illegible] and its relation to conception rate in cows.

22. Pathological conditions of genetatia in cloes and dogs.

23. Sesonal variation in Semen characteristics of Jersey.

PARASITOLOGY:-

24. New techniques in diagnosis of Parasitic diseases.

25. Spirurids of Poultry.

26. Coccidiosis of goats.

27. Schistosomiasis of domestic animals.

28. Cestodes of Ruminants.

29. Parasites in captive zoo animals.

30. Helminthic parasites of elephants.

31. Evaluation of anthelminthic Indigenous drugs.

32. Studies on Trypanosomiasis.

33. Cestodes in poultry.

34. Nematodes of goats and pigs.

35. Studies on fasciliasis and amphistomiasis in Cattle.

36. Immunity in parasitic diseases.

37. Study of Cercarial fauna of Kerala.

38. Biology of Teramonas Species from an Indian crane.

39. Typing the coccidia of calves.

40. Serological studies in parastitic infection.

PATHOLOGY:--

41. Studies on Bankok haemorrhagic disease of poultry.

42. Neoplastic manifestation in spirocerca tumor of dogs.

43. Comparative pathology of Aflatoxicosis

44. Pathology of foot and mouth disease in pigs.

45. Pathology of Coccidiosis in Goats.

46. Tumors in ducks.

47. Pathogenesis, Pathology and Etiology of Enzootic Bovine Haematuria.

48. Pathogenesis and Pathology of necrosis of Tail in buffaloes.

49. Pathology of Coanial Sinus neoplasms of Cattle.

50. Pathologis changes of Pancreas in Bovine.

51. Omail disease in Chicken.

52. Relation of thymus/Bursa of Fabricine to disease susceptibility in chicken.

53. Posterior Paralysis in goats.

54. Epidemology and control of Rabies in animals.

55. Etiology and Pathology of Enzootic pnewmonia in goats.

PHARMACOLOGY:-

56. Toxicity of organophosphorous Compounds and other insecticides and their Residual effect on milk production, reproductive cycle, egg production and hatchability.

57. Toxic Plants and their effects on animals.

PHYSIOLOGY:--

58. Studies on Sedimentation and fragility of erythocytes of animals.

59. Biochemical aspect of thiamine, Choline and Riboflavine deficiency in poultry.

60. Digestive physiology of Rumen in Goats.

61. A Comparative study of amino acid composition of duck and hen egg protein.

62. Liver function in birds.

63. Kidney function in birds.

64. Effect of environmental factors on production capacity of ducks.

65. Ruminology of Buffaloe.

66. Crude fibre digestion in elephants.

POULTRY SCIENCE:--

67. Trace element requirements of broilers and layers.

68. Evolving economic poultry rations utilising industrial waste and agricultural by-products.

PREVENTIVE MEDICINE.

69. Epidemiology of pnewmonia in goats.

70. Necrosis of Tail in cattle.

SURGERY:-

71. Experimental surgical studies involving modified techniques in anaesthesiology and Radiology.

THERAPEUTICS:--

72. Haematology of domestic animals in various disease conditions.

73. Rumen pH in digestive disorders and methods of treatment.

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MODEL SCHEME ANNEXURE - VI

"EARN WHILE YOU LEARN" POULTRY PROJECT FOR STUDENTS

Name of the Project: "Earn While You Learn" Students' Poultry Project, ~~Kx~~

Location: Kerala Veterinary College & Research Institute, Mannuthy.

Object:

In order to provide adequate practical training to students, three important principles underlined are (i) Productive activity in education (ii) Co-relation of curriculum with productive activity and the physical and social environment and (iii) intimate contact between the educational institution and community. Educators believe that the concept of "work experience" similar to that of "productive work", forms an integral part of education and, therefore, should be introduced in institutions of higher education. The project therefore is aimed at providing such an opportunity to the students.

Control and supervision:

The project will be controlled by the Department of Poultry Science. One of the teaching staff will be nominated as the Officer-in-charge of the Project.

Technical Programme:

A sum of Rs.20,000/- will be provided by the Agricultural University to the Project as a revolving Fund. Similarly building for housing the birds, vaccine, electricity and technical help will be free of cost by the University. Twenty st[illegible]

Third and Final B.V.Sc. classes will be chosen after a suitable test for participation in the Project. One of the participants will be nominated as the Student Leader. He will be responsible for running the Project as per directions from the Officer-in-charge. To start with, 1100 day-old chicks of hybrid variety will be purchased using the revolving fund. The cost of feed and other incidental charges will be met from the revolving fund. The eggs produced, culled birds, manure and the birds after one year of production will be sold on a price fixed by the student leader in consultation with the Officer-in-charge. The whole project has to be managed by the students including manual labour. The birds after one year of production will be disposed off, and day-old chicks will be procured to keep the Project going. A small percentage of the profit will be paid to the University towards the building cost and about 10 per cent of the net profit will be paid as an incentive allowance to the Officer-in-charge. The balance after meeting all liabilities and repayment of revolving fund will be divided amongst the participants.

Anticipated cost and Returns:

I. NON-RECURRING:

i) Construction of permanent poultry house with asbestos roofing - 2500 sft. floor space at Rs.10/- per S.ft. including water and electric connection (Vide sketch attached). .. 25

ii) Office-cum-store building - 600 S.ft. with tiled/asbestos roofing including water and electric connections at Rs.12/- per S.ft. (Vide sketch attached).

iii) Equipments:-

a) Brooders - 4 nos. at Rs.100 each	..	400.00
b) Chick size waterers and feeders	..	200.00
c) Hanging Feeders - 40 nos. at Rs.20/- each	..	800.00
d) Linear automatic waterers - 8 nos. at Rs.100/- each	..	800.00
Total		34400.00

II. RECURRING:

1. Cost of chicks (hybrids) at Rs.3.75 each - 1100 nos.	..	4125.
2. Feed:-		
a) Chick mash 2 Kg./chick at Rs.750/- a ton	..	1650.00
b) Grower mash 9 Kg./chick at Rs.650/- a ton	..	6435.00
c) Layer mash 36 Kg./bird at Rs.700/- a ton	..	25200.00
III. Miscellaneous expenditure	..	3000.00
Total		40410.00

TOTAL COST

1. Recurring	..	40,410.00
2. Depreciation on building at 5% per annum for one and half years.	..	2,415.00
3. Depreciation of equipments at 20% per annum	..	440.00
Total		43,265.00

INCOME

i) By sale proceeds of egg assuming 210 eggs per bird per year, 1000 birds, at 20 paise per egg.	..	42,000.00
ii) By sale proceeds of birds at the time of liquidation - live weight 1½ Kg. per bird at Rs.3.50/Kg.	..	5,250.00
iii) Sale proceeds of manure at 20 Kg. per bird - Rs.100/- per ton	..	2,000.00
Total		49,250.00

TOTAL INCOME - Rs.49,250.00

TOTAL EXPENDITURE - Rs.43,265.00

NET PROFIT - Rs. 5,985.00

Note:- Details of culls and deaths have not been accounted in this estimate).

ANNEXURE-VII

SCHEME FOR ESTABLISHMENT OF A PHOTOGRAPHIC UNIT

To meet the wide requirement for photographs of all types (Gross black-and-white, colour, transparencies for projection, microphotographs, etc.) it is necessary to have a well-equipped photographic unit for the college, the facilities in which will be readily available at all times within the college buildings. The college has at present an Artist-Photographer who has a single camera as the sole equipment to improvise facilities for photographic work. Theproposals for a photographic unit include the following:-

(a) List of equipments required for a photographic unit:-

S.No.	Details of items required	Quantity	Approximate cost
1	2	3	4
1.	LEITZ-PANPHOT Photo micrographic equipments complete with acessories.	1	3,000
2.	LEITHOF KARDAN COLOR 4"x5" MONORAIL VIEW camera complete with acessories for copy light units and macro and micro attachment	1	2,500
3.	EXACTA VAREX Camera 35 mm. 1.9 F 40mm. lens with acessories for transperancy making close up photography and recopying	1	2,000
4.	ROLLEIFLEX Camera f 2.8.80 mm. lens with 2 sets of close up lens and accessories.	1	1,500
5.	KODAK SPECIAL II 3 lens turret - 16mm movie camera with acessories for macro and micro photography and remote control exposure mechanism, complete	1	2,000
6.	MOVIE CAMERA - 3 lens turret - 16mm complete with on the spot recording system	1	3,000
7.	AGFA TRONIC - 220 flash light complete with acessories	1	500
8.	COLORMATOR-II Automatic printer (Agfa Gavaert) complete with acessories	1	2,500
9.	Seriograph II 4"x6" electronic printer	1	1,500
10.	AGFA VARIOSCOP - 60.2¼ enlarger complete with COLOUR HEAD and interchangable lens	1	1,500

1	2	3	4
11.	KODAK GLAZING MACHINE - MODEL 15	1	500
12.	Enlarging Easel for Vanioscop. 60:15"x12"	1	200
13.	Automatic print washer, complete	1	300
14.	Thermostatic temperature controlling tank for colour processing	1	1,000
15.	Photocopying Machine (Photostat copying)	1	2,000
16.	Spot light with focussing adjustments (250 V. 500 W)	2	1,300
17.	Dark room safe light	3	200
18.	Filters for darkroom safe lights for Black and White and colour processing (films and papers)	3 sets of each	200
19.	Film drying cabinet with plates and roll film holders (AGIL Model II AC. 230 V. 50 cycles)	1	500
20.	TRIMMER 14" cut and 24" cut	2+1	200
21.	Dehumidifier	2	3,000
22.	Cabinet-sted Medium size	4	3,000
23.	Retouching desk (Agil model)	2	300
24.	AGIL-SULAHSI. convertible studiolight	2	500
25.	-do- 51-5 Parabolic light 43 cm. dia.	2	500
26.	Bajaj Universal Stand Table model	2	300
27.	Filters for colour printing and enlarging	3 set	300
	Total		34,300

Recurring:

28.	Colour film (for 1 year)	..	1,500
29.	Colour processing chemicals (for 1 year)	..	1,000
30.	Colour printing and enlarging paper (for 1 year)	..	500
31.	Black and White films (for 1 year)	..	1,000
32.	-do- chemicals (for 1 year)	..	500
33.	-do- papers etc. (for 1 year)	..	1,000
	Total		5,500
	Grand Total		39,800

(b) Staff required:-

Artist-Photographer Grade I	..	1
Artist	..	1
Photographer	..	1
Assistants	..	2
Attender	..	1
Sweeper-cum-attendant	..	1

SUMMARY OF EXPENDITURE

S.No.	Items	Non-recurring	Recurring
1.	Buildings	25,000	-
2.	Equipments	34,300	5,500
3.	Staff	-	10,000
	Total	59,300	15,500

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ANNEXURE-VIII

SCHEME FOR THE ESTABLISHMENT OF SPERM LABORATORY

A Sperm Laboratory is proposed as an additional unit of the Obstetrics & Gynaecology Department. The regular teaching and research activities of the department give comprehensive coverage to the different aspects of reproductive physiology, pathology and artificial insemination of domestic animals. Since genetic improvement of a population is achieved by transmission of superior hermplasm, a thorough understanding of the biological behaviour and physical and biochemical qualities of germ cells of different species is essential. The existing laboratory facilities in the department are not adequate for the purpose and hence it is proposed to have a sperm laboratory for the department of Obstetrics & Gynaecology with the following objectives.

1. To undertake studies on specialised aspects of seminology like physical, biochemical and enzyme behaviour.

2. To conduct studies for evolving suitable extenders for preserving semen of farm animals.

3. To undertake deep freezing of semen of different species of animals.

4. To develop a center for conducting research on male infertility.

5. To evolve and prepare technique for ovum transplantation.

Facilities required.

Non-recurring:

1. Building .. Rs.1.50 lakhs
2. Equipments .. Rs.0.50 "

Recurring:	I yr.	II yr.	III yr.	Total
Chemicals and glasswares	10,000	5,000	5,000	20,000
Contingencies	3,000	3,000	3,000	11,000

Designation	Qualification	No. of post	Scale of pay	I yr.	II yr.	III yr.	Total
Research Officer	M.Sc. in Obstetrics & Gynaecology and research experience	1	700-950	10164	10764	11364	32292
Assistant Research Officer	M.Sc. in OG with 2 years experience	1	400-950	7044	7344	7644	22032
Analysist	M.Sc. in analytical Chemistry with 5 years experience	1	400-950	7044	7344	7644	22032
Chemist	M.Sc. in chemistry with 5 yrs. experience	1	400-950	7044	7344	7644	22032
Biologist	M.Sc. in Zoology with 5 yrs. experience	1	400-950	7044	7344	7644	22032
Laboratory Technician	B.Sc. Chemistry	1	175-275	3816	3900	3984	11700
Clerk-cum-Typist		1	100-210	2400	2472	2544	7416
Attendant		2	70-115	2040	2076	2112	6228
							145764

Total expenditure for three years:-

Buildings and Equipments	..	Rs. 2,00,000.00
Chemicals and Glasswares	..	Rs. 20,000.00
Contingencies	..	Rs. 11,000.00
Pay & Allowances	..	Rs. 1,45,764.00
Grand Total		Rs. 3,76,764.00

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ANNEXURE-IX

KERALA VETERINARY COLLEGE HOSTELS

(DEVELOPMENT PROGRAMME)

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1. Present set up:

Kerala Veterinary College and Research Institute has, at present, two hostels for residential students, one to accommodate 216 boys and another for 20 girls. The men's hostel has a recreation hall and a reading room. The ladies dormitory has no kitchen facilities, the food being carried from the men's hostel. The students are running their own mess on a dividing system under the general supervision of the Assistant Warden. The Principal was functioning as the Warden of the hostel. An Assistant Warden is nominated from among the teaching staff of the college on an allowance of Rs.35/- per month. There is a full time Steward to look after the maintenance of the hostel. The last grade employees of the hostel consist of one Scavenger, one Gardner and four part-time sweepers.

2. Deficiencies and needs:

a) There is no separate office accommodation for the hostel at present.

b) No clerical staff has been provided to assist the Asst. Warden in correspondence and other administrative matters.

c) There is derth of sufficient number of full time last grade servants in the category of Scavengers, Sweepers and Gardeners to meet the requirements of the hostel. This is particularly true of the Ladies dormitory.

d) No funds are provided for meeting recreational amenities of the hostel residents and for replacement of petty items of day-to-day use. These needs are now being met by the students themselves, who have to spend considerablex amount on these items.

e) Lack of separate accommodation for the sevants serving in the hostel kitchen.

3. Proposals for future set up:

Taking into account the needs and deficiencies, the following proposals are recommended for implementation.

A. Staff:

	No. of posts	Scale of pay
Office Assistants	1	130-270
Typist	1	130-270
Steward	1	130-270
Sweepers	4	70-115
Watchman	1	70-115
Gardener	1	70-115
Matron (for Ladies Hostel)	1	70-115
Phone attender	1	70-115
Peon	1	70-115
Messengers	3	70-115
Lady Courier	1	70-115

B. Buildings:

1. Undergraduate mens hostel for 200 boys.
2. Post-graduate hostel for 50 boys.
3. Kitchen and reading room for ladies dormitary.
4. Quarters for Matron and lady servants.
5. Quarters for Assistant Warden.

C. Equipments:

Water coolers	..	5 nos.
Walk-in-incubators	..	2 "
Walk-in-cool room	..	2
Waste paper caskets - steel	..	250
Soiled cloth lins - steel	..	250
Book shelves closed with glass panes and lockes	..	12
Sun Mice top tables for reading room	..	12
Sofa sets - Double	..	12
" - Single	..	24
Steel chairs	..	60
Vaccum cleaner	..	6
Carpets	..	-
Cash chest	..	1
Steel Almirah	..	2
Executive Officers table	..	2
Office tables	..	4
Office file cub-boards	..	4
Mess utensils	..	-
Typewriter	..	1
Calculating machine	..	1

4. Expenditure:

Items	Non-recurring (Rs.)	Recurring (Rs.)
Construction of Undergraduate hostel	5,00,000	-
" Postgraduate hostel	3,00,000	-
Addition to Ladies Dormitary	50,000	-
Residential quarters for Warden and Asst. Warden	1,00,000	-
Quarters for servants	1,00,000	-
Equipments for hostels	1,00,000	-
Pay and allowances	-	40,000
Student Recreati on	-	15,000
Repairs etc.	-	10,000
Total	11,50,000	65,000

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ANNEXURE-X

Livestock and Dairy Farm - Physical Target

Item	72-73	73-74	74-75	75-76	76-77	77-78	78-79
1. Staff	Management and breeding section staff to be provided	Central Stores staff to be complete	Dairy section staff to be complete	-	-	-	-
2. Buildings	Management, Breeding and Central stores buildings	Dairy section buildings.	-	-	-	-	-
3. Purchase of animals, special appliances, tractor, van, furniture, etc.	Tractor, trailor, furniture, pump set.	Van; chilling plant; Animals, Furniture.	Dairy equipments.	-	-	-	-

ANNEXURE-XI

Livestock and Dairy Farm - Financial target (In lakhs Rupees)

Item	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
1. Construction	3.50	-	3.50	-	-	-	-	-	-	-	-	-	-	-	7.00	-
2. Pay & allowances of staff	-	0.25	-	0.25	-	0.25	-	0.30	-	0.30	-	0.30	-	0.35	-	2.00
3. Animals	-	-	0.50	-	-	-	-	-	-	-	-	-	-	-	0.50	-
4. Chilling Plant	-	-	-	-	0.80	-	-	-	-	-	-	-	-	-	0.80	-
5. Van	-	-	0.30	-	-	-	-	-	-	-	-	-	-	-	0.30	-
6. Tractor and Trailor	0.30	-	0.30	-	-	-	-	-	-	-	-	-	-	-	0.60	-
7. Pump set & accessories	-	-	0.12	-	-	0.10	-	-	-	-	-	-	-	-	0.22	-
8. Dairy equipments.	0.10	-	0.10	-	0.10	-	0.10	-	-	-	-	-	-	-	0.40	-
9. Feed	-	1.50	-	1.50	-	1.50	-	1.50	-	1.50	-	1.50	-	1.50	-	10.50
10. Contingencies	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.35
Total	3.90	1.80	4.82	1.80	1.00	1.80	0.10	1.85	-	1.85	-	1.85	-	1.90	9.82	12.85

ANNEXURE-XII

LIVESTOCK & DAIRY FARM - SPECIAL EQUIPMENTS

S.No.	Articles		Number
1.	Beam balance	..	1
2.	Chaff cutter	..	2
3.	Cultivator	..	2
4.	Disc harrow	..	1
5.	Field leveller	..	1
6.	Grass cutting machine	..	1
7.	Hoe	..	5
8.	Hand rakes	..	2
9.	Khurpier	..	1
10.	Power sprayer	..	1
11.	Power duster	..	1
12.	Push cart	..	2
13.	Pumping set	..	1
14.	Reversible disc plough	..	1
15.	Spade	..	25
16.	Seed drills	..	1
17.	Tractor	..	1
18.	Tractor accessories	..	1
19.	Trolley	..	3
20.	Wheel barrow	..	5
21.	Water cans	..	10

ANNEXURE-XIII

GOAT FARM - PHYSICAL AND FINANCIAL TARGET

Item	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
Farm building	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	0.75	-
Levelling of land	-	-	0.50												0.50	-
Purchase of animals	0.25	-													0.25	-
Equipments	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.85	-
Feed	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	1.0
Contingencies	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.35
Pay & Allowances (Approx.)	-	0.25	-	0.25	-	0.25	-	0.25	-	0.30	-	0.30	-	0.30	-	1.90
Total	1.05	0.45	0.55	0.45	0.05	0.45	0.05	0.45	0.05	0.50	0.05	0.50	0.05	0.50	1.85	3.3

ANNEXURE-XIV

SMALL ANIMAL BREEDING STATION - PHYSICAL AND FINANCIAL TARGET (In lakhs of rupees)

Item	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
Staff	-	0.25	-	0.25	-	0.25	-	0.25	-	0.30	-	0.30	-	0.30	-	1.90
Buildings	1.00	-	0.05	-											1.05	-
Equipments	0.20	-	0.05	-	0.02	-	0.02	-	0.02	-	0.02	-	-	-	0.33	-
Contingencies	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.2
Total	1.20	0.30	0.10	0.30	0.02	0.30	0.02	0.30	0.02	0.35	0.02	0.40	-	0.35	1.38	2.

ANNEXURE XV

POULTRY FARM - PHYSICAL TARGET

	Fourth Plan period		Fifth Plan period				
	72 - 73	73 - 74	74-75	75-76	76-77	77-78	78-79
1) Buildings.	1) One brooder house	One brooder house	..	..	..	..	..
	2) Hatchery buildings	Duck farm; Turkey farm	..	..	..	..	..
	3) 2 layer houses	2 layer houses	One layer house	..	..	..	..
	4) ..	..	..	Technology building	..	..	..
2) Staff:	Appointment of Additional staff	..	..	..	..	..	..
3) Equipments	Hatchery & brooding equipments	Hatchery & brooding equipments	Hatchery & Brooding equipments	Equipments for technology work	..	Purchase and replacements equipments	..
4) Birds		..	..	Target of 1000 layer strength	..	..	..

POULTRY FARM : FINANCIAL TARGET

Annexure V

(In lakhs of Rupees)

	Fourth Plan period				Fifth Plan Period										Total	
	72-73		73 - 74		74-75		75-76		76-77		77 - 78		78 - 79			
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
1. Brooding & rearing house	0.30	..	0.30	..	..	..	..	..	..	..	..	..	..	..	0.60	..
2. Hatchery buildings	0.30	..	..	..	..	..	..	..	..	..	..	..	..	..	0.30	
3. Layer house	1.00	..	1.00	..	0.50	..	..	..	..	..	..	..	..	..	2.50	..
4. Electric water connection, etc	0.15	..	0.10	..	0.10	..	..	..	..	..	..	..	..	..	0.35	..
5. Generator	..	..	0.10	..	..	..	..	..	..	..	..	..	..	..	0.10	..
6. Other equipments and fixtures	..	0.69	..	0.47	..	0.45	..	0.12	0.10	..	0.14	..	0.15	..	..	2.12
7. Feed & contingencies		0.83	..	1.87	..	1.07	..	3.02	3.53	..	3.53	..	3.53	..	..	18.18
8. Pay of staff	..	0.63	..	0.65	..	0.67	..	0.69	0.71	..	0.74	..	0.76	..	..	4.35
	1.75	2.15	1.50	2.99	0.60	2.99	..	3.83	4.34	..	0.74	..	4.44		3.85	25.15

ANNEXURE-XVII

PIG FARM PRODUCTION TARGET (Number of animals)

Year	Foundation stock		Production (Piglings)	Deduction for mortality/destruction (20%)	Balance
	Sow	Boar			
1972-73	10	10	1200	240	960
1973-74	40	20	2400	480	1920
1974-75	200	20	2400	480	1920
1975-76	200	20	2400	480	1920
1976-77	200	20	2400	480	1920
1977-78	200	20	2400	480	1920
1978-79	200	20	2400	480	1920

ANNEXURE-XVIII

PIG FARM - Physical and financial target(in lakhs of rupees)

Item	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
1 Buildings	4.27	-	1.0												5.27	-
2 Vehicle	0.30	-													0.30	-
3 Equipments	1.40	-													1.40	-
4 Livestock	0.25	-			0.25	-					0.25	-			0.75	-
5 Pay & Allowances	-	0.80	-	0.83	-	0.86	-	0.89	-	0.92	-	0.95	-	0.98	-	6.23
6 Labour	-	0.50	-	0.75	-	0.75	-	0.75	-	0.75	-	1.00	-	1.00	-	5.50
7 Feeds	-	2.00	-	3.56	-	3.56	-	3.56	-	3.56	-	4.00	-	4.00	-	24.24
8 Fodder	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.05	-	0.35
9 Contingency	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	0.15	-	1.05
Total	6.22	3.50	1.0	5.34	0.25	[illegible]	-	[illegible]	-	5.43	0.25	6.15	-	[illegible]	7.72	37.37

ANNEXURE-XIX

VETERINARY HOSPITAL - Physical & Financial targets (In lakhs of rupees)

Items	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
Staff	-	0.50	-	1.00	-	1.00	-	1.00	-	1.25	-	1.25	-	1.25	-	7.25
Buildings	-	-	1.00	-	-	-	1.00	-	-	-	1.00	-	-	-	3.00	-
Equipments	-	-	0.50	-	0.50	-	1.00	-	-	-	0.50	-	-	-	2.50	-
Vehicles	-	-	1.00	-	-	-									1.00	-
Drug & Chemicals	-	0.50	-	0.50	-	0.50	-	0.75	-	0.75	-	0.75	-	0.75	-	4.50
Contingencies	-	0.25	-	0.25	-	0.25	-	0.25	-	0.25	-	0.25	-	0.25	-	1.75
Total	-	1.25	2.50	1.75	0.50	1.75	2.00	2.00	-	2.25	1.50	2.25	-	2.25	6.50	13.50

ANNEXURE-XX

PHYSICAL TARGET FOR VETERINARY COLLEGE AND INSTRUCTIONAL FARMS

Item	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
1	2	3	4	5	6	7	8
(b) Research Wing - staff for.	1. (a) Teaching Staff for details see Annexure-I)						
For Department of Nutrition.	(i) Teaching posts (except staff for postgraduate work and research cells, staff for departments of Virology, Swine Husbandry, Goat Husbandry and Meat Technology), Vide Annexure-I						
Departments of Microbiology, Parasitology, Pathology, Obstetrics & Gynaecology, Pharmacology - staff for sperm laboratory.	(i) Staff for postgraduate work (M.Sc) in Microbiology, Surgery, Anatomy. (ii) Staff for sperm laboratory. (iii) Research cell in Pathology. (iv) One Associate Professor each in Swine Husbandry, Goat Husbandry, and Meat Technology.						
Research staff for Microbiology, Bio-chemistry, Extension Departments.		(i) Postgraduate staff for depts. of Preventive medicine (ii) Bio-chemistry (iii) Genetics & Breeding, and (iv) Dairy Science, (v) Staff for Dept. of Meat Technology, (vi) Staff for Dept. of Virology.					
--				(i) Postgraduate staff for Dairy Science, Poultry Science and Virology (ii) Staff for Dept. of Swine Husbandry.			
Research cell for Dairy Science, Virology and Preventive Medicine, Poultry Science.					(i) Postgraduate staff for Dept. of Therapeutics (ii) Staff for Goat Husbandry, department.		
Research cell for breeding, genetics, surgery and anatomy.						(i) Postgraduate staff for Veterinary Public Health and (ii) Extension Departments.	
Research cell in Swine Husbandry, Goat Husbandry, Animal Management and Meat Technology, Therapeutics, research staff for isotope laboratory.							(i) Postgraduate staff for Meat Technology & for (ii) Goat Husbandry and (iii) Swine Husbandry Depts. and (iv) Dept. of Animal Management.

(2) Buildings	(c) Other staff
Poultry Science. pathology, nutrition, wards for hospitals, indoor games hall, teachers' hostel, athletics track, additions/ to Obst. & Gynaecology buildings for live stock farms Building for dairy. Residential quarters for staff 12 Nos. New Hostel buildings for residential quarters for Asst. Warden and Warden, servants quarters. Improvements to stadiums.	Additional staff for the clinical wings in medicine, surgery, pharmacology, therapeutics and Obstetrics & Gynaecology, all ancillary staff and additional staff for training courses.
Residential quarters for staff 40 Nos. Block for Photographic units. Improvements to Riding School. New block to accomodate the departments of Virology, Pharmacology, Pathology, Therapeutics, Animal Management with separate experimental animal houses & other constructions for small & large animals, Cold store, Sperm Bank, Dairy, Post-graduate students' hostel. Additions to small Animal Breeding section. Additions to Poultry farm.	Senior Librarian in the cadre of Professor to be appointed with anciliary staff for library
Veterinary Public Health buildings, Dairy Science block, Buildings for Swine and Goat Husbandry departments. Additional buildings for pig farm. Residential quarters for staff to be completed. Constructions for the Earn-While-You-Learn project	Staff for Photographic Unit
Meat Technology Building, Gymnasium Swimming Pool	--
Construction of Laboratory for studies with radio-isotopes	--
--	--
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(Contd..)

4. Vehicles	3. Special equipments, installations
Bus-one Tempo Van - O Jeep-Van - [illegible] Jeep - One [illegible] r	Generators, Electric incinerator, gas plant, research equipments for departments
Bus - One Pickup Van - On Jeep - One Ambulator Van [illegible] [illegible]als - One	X-ray unit - Research equipments for departments. Tools and equipments for dairy farms, meat technology installations. Sports equipments and students recreation aminities
--	Special photographic equipments, Research equipments for departments. Installations for Vety. Public Health Building. Equipments for Earn-While-You-learn Project.
--	Research equipments for departments
--	--
--	Installations for isotope-lab. The purchase to be spread over 3 years.
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ANNEXURE-XXI

FINANCIAL TARGET - Veterinary College & Instructional Farms (In lakhs of Rs.)

Items	72-73		73-74		74-75		75-76		76-77		77-78		78-79		Total	
	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R
1. Staff	-	24.42	-	76.12	-	81.75	-	82.41	-	84.23	-	86.91	-	89.07	-	524.91
2. Buildings	21.62	-	8.35	-	32.20	-	1.50	-	-	-	1.00	-	-	-	65.17	-
3. Equipments & Farm animals & Experimental animals.	3.69	-	3.84	-	9.48	-	5.97	-	4.35	-	4.34	-	2.85	-	44.52	-
4. Vehicles	2.95	-	4.35	-	-	-	-	-	-	-	-	-	-	-	7.30	-
5. Feed, chemicals, and contingencies	-	16.03	-	21.38	-	25.88	-	30.28	-	30.79	-	31.48	-	31.48	-	155.84
Total	33.26	40.45	22.04	97.50	41.68	107.63	7.47	112.69	4.35	115.02	5.34	118.39	2.85	120.55	116.99	680.75

LAY-OUT OF THE CAMPUS OF VETERINARY COLLEGE & RESEARCH INSTITUTE

KEY TO NUMBERS

1) Nutrition Section & Metabolism stalls.
2) Glass House.
3) Small Animal Breeding Station.
4) A.H.P. calf pen.
5) Pump House.
6) Men's Hostel.
7) Hostel Mess.
8) Garage.
9) Assistant Warden's Residence.
10) Live Stock Farm.
11) Artificial Insemination Centre.
12) Dairy
13) Goat Farm.
14) Sports Pavilion.
15) Community Hall.
16) Veterinary College (Main Block)
17) Gas Plant.
18) Poultry Office and Hatchery.
19) Poultry Farm.
20) Store.
21) Incinerator.
22) Obstetrics & Gynaecology Department.
23) Bull shed.
24) Riding track.
25) Campus Veterinary Hospital.
26) Inpatient and out-patient ward.
27) Ladys' Hostel.
28) Staff Quarters.
29) Dean's Residence.
30) Pig Farm Office.
31) Pig Farm.
32) Guard House.
33) Police Station.
34) Pig Breeding Station.
35) Fodder cultivation.
36) Water Tank.