

Project proposal for RIDF (NABARD)

**PROPOSALS FROM
COLLEGE OF VETERINARY AND ANIMAL
SCIENCES, MANNUTHY, THRISSUR-680 651,
KERALA**



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INTRODUCTION

College of Veterinary and Animal Sciences, Mannuthy was established in 1955 and is one of the constituent colleges of the newly established Kerala Veterinary and Animal Sciences University. The College has made extensive contribution for the development of animal husbandry sector of the state. In addition to development of human resources for serving the livestock farmers of the state, the college is also instrumental in various research, extension, consultancy and clinical services besides acting as a source of high quality germplasm and animal products to the farmers and general public respectively.

The livestock sector confers an immense contribution to the rural livelihood and food security of the masses. It provides employment to millions of livestock farmers while acting as a supplementary source of income to many agricultural farmers. It is also disproportionately benefits women being the primary animal husbandry activists in rural areas, and therefore, this sector serves a great contribution to economic and social wellbeing of women. Women involvement is more than 80% in this sector. Further, the sector provides valuable nutritional sources to the growing children and working population in the form of milk, meat and eggs.

Kerala, which forms only 1.13 percent geographic area of the country, is bestowed with a beautiful yet fragile ecosystem and is not very suitable for location of heavy industries. However, the vegetation is plenty and climate is hospitable showing little differences between summer and winter seasons, thus is very congenial for livestock and poultry farming. High population density and increased land pressure are the major issues affecting agricultural sector in the state. The human resources are generally of high quality with higher concern on health and welfare. This causes great demand for livestock food products like milk, meat and eggs, the major chunk is now sourced from the neighbouring states. Development of livestock farming in rural and semi-urban areas in Kerala is a high priority for the Government, which not only creates employment opportunities, but also augment the overall economy of the state.

Kerala is the only state in the country having complete network of Veterinary institutions at the Grama panchayat level. During the last four decades Kerala achieved spectacular growth in livestock sector in the country and could attain quantum jump in milk production.

In this context, development of infrastructure facilities for animal production, extension and research activities of College of Veterinary and Animal Sciences, Thrissur would immensely and exponentially help in improving the economic, livelihood and food security of the public in general and rural folk of Kerala in particular.

TITLE OF THE PROPOSALS

- 1) Establishment of Central Training Complex, Mannuthy
- 2) Establishment of Digital Radiology Unit
- 3) Development of Farmer Training infrastructure at Thumburmuzhi and Thiruvazhamkunnu Campuses
- 4) Establishment of Integrated Rural Poultry Production Centre
- 5) Academic Staff College
- 6) Establishment of Institute of Dairying, Food Technology and Value addition at Kerala Veterinary and Animal Sciences University, Mannuthy Campus
- 7) Establishment of Distance Learning Centre

FINANCIAL OUTLAY OF THE PROPOSALS

	Project	Cost (in lakhs)
1	Establishment of Central Training Complex, Mannuthy	580
2	Establishment of Digital Radiology Unit	55.00
3	Development of Farmer Training infrastructure at Thumburmuzhi and Thiruvazhamkunnu Campuses	253
4	Establishment of Integrated Rural Poultry Production Centre	547
5	Academic Staff College	98
6	Establishment of School of Dairying, Food Technology and Value addition at Kerala Veterinary and Animal Sciences University, Mannuthy Campus	745
7	Establishment of Distance Learning Centre	320
	Total	2598.00

DETAILED PROPOSALS

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2	Establishment of Digital Radiology Unit	11
3	Development of Farmer Training infrastructure at Thumburmuzhi and Thiruvazhamkunnu Campuses	15
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5	Academic Staff College	25
6	Establishment of School of Dairying, Food Technology and Value addition at Kerala Veterinary and Animal Sciences University, Mannuthy Campus	29
7	Establishment of Distance Learning Centre	41

CENTRAL TRAINING COMPLEX (CTC) AT MANNUTHY

Salient features of the project

Title	CENTRAL TRAINING COMPLEX (CTC) AT MANNUTHY
Locale	COLLEGE OF VETERINARY & ANIMAL SCIENCES, MANNUTHY
Local Body	CORPORATION OF THRISSUR
Extend of area	14 DISTRICTS OF THE STATE
Capital outlay	RS.5.80 CRORES

CENTRAL TRAINING COMPLEX (CTC) AT MANNUTHY

I. INTRODUCTION

In the era of globalization, food security and food safety issues are emerging. Scientific farming activities need knowledge dissemination in the areas of breeding, feeding, management, disease control and marketing. Therefore, capacity building is an important area in scientific livestock farming. Farmers require training in the areas of sustainable livestock production to meet the emerging challenges of food security and food safety. Moreover, National Agricultural Policy envisages market-led extension programme and production strategies in order to augment production of livestock products. Compared to conventional farmers' training centres, a central training complex with the latest applications of information and communication technologies with residential facility is proposed.

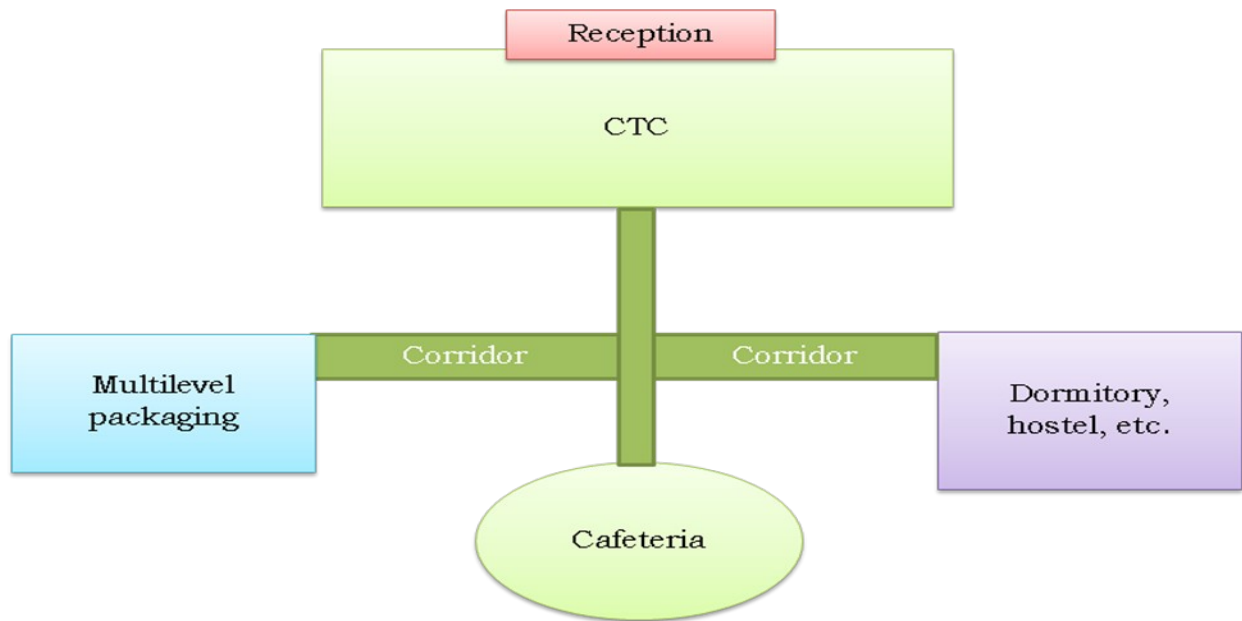
II. UNITS PROPOSED UNDER THE PROJECT

1. Smart Class Rooms
2. High - tech Seminar Hall
3. Training hall for practicals and demonstrations
4. Reception and front office
5. Modern Caffeteria
6. Hostel for Trainees
7. Dormitories for Ladies & Gents
8. International Trainees and Trainers Accommodation
9. Parking multilevel

III. FINANCIAL DETAILS

I	Facilities Required			
A	Buildings			
	The rate for construction and finishing the building is @ Rs. 25,000/- per Sqm. This includes the flooring, plumbing and electrification charges also. Slidable sound proof walls/partitions between class rooms which can be combined to accommodate more. On turn key basis			
Sl No	Units	Cap & No of rooms	Area sqm	Amount Rs (Lakhs)
i	Smart Class Rooms	25 Pax 3 Rooms@ 50 sqm	150	37.5
ii	Smart Class Rooms	50 Pax 2 Rooms @100 sqm	200	50.0
iii	High - tech Seminar Hall	150 pax X 1 room	200	50

v	Training hall for practicals and demonstrations	150 sqm X 1 rooms	150	37.5
vi	Reception and front office	100 sqm	100	15.0
vii	Modern Caffeteria *	200 sqm	200	35.0
viii	Hostel for Trainees *	50 pax @ 8 sqm	400	80.0
ix	Dormitories for Ladies &Gents *	50 pax X 2 @ 4 sqm	400	80.0
x	International Trainees and Trainers Accommodation *	25 pax @ 25 sqm	625	100.0
xi	Parking multilevel (behind main block and approachable from all around			10.0
* Behind the main block and approachable through corridors from main block.				
B	Furniture, Fixures and interior decoration for class rooms, seminar halls, hostels, etc			50.0
C	Power Generator 100 KVA with Generator room, wiring, Licence and other charges to KSEB and Electrical inspectorate			10.0
D	AC for class rooms, seminar halls 1 & 2, etc -			10.0
E	Audio Visual communication, Computer, Networking, Net connection, Video conferncing, etc			15.0
F	Land –Scaping			5.0
G	Fire fighting equipments			5.0
	Grand Total			580.0
Rounded off			Rs.5.80 Crores	



IV. JUSTIFICATION

This proposed Central Training Complex will help in imparting training facilities to farmers coming from different districts of the State.

ESTABLISHMENT OF DIGITAL RADIOLOGY UNIT

Salient features of the project:

Title	ESTABLISHMENT OF A DIGITAL RADIOLOGY UNIT
Locale	DEPARTMENT OF VETERINARY SURGERY AND RADIOLOGY, COLLEGE OF VETERINARY AND ANIMAL SCIENCES, MANNUTHY, KERALA
Local Body	THRISSUR MUNICIPAL COPORATION
Extend of area	JURISDICTION OF THE INSTITUTION IS WHOLE OF KERALA STATE
Capital outlay	RS. 55 LAKHS

ESTABLISHMENT OF A DIGITAL RADIOLOGY UNIT

I. INTRODUCTION

The Department of Veterinary Surgery and radiology is extending clinical and radiological services to the farmers of the different parts of Kerala, specifically to those at Thrissur district since last 50 years. Radiological diagnosis is given to the cases presented to the Veterinary Hospital of the College of Veterinary and Animal Sciences, Mannuthy, those that are presented by the farmers or those referred by the field veterinarians. The service is at present rendered using a conventional X-ray machine, which is 20 years old. The technical advancement that spread in this field of imaging during the last decade is the introduction of digital radiography. Digital radiography utilizes an imaging plate instead of x-ray films that are used in conventional radiography. The imaging plate on scanning with a laser scanner cast a digital image in the attached computer. The digital image can be manipulated with the software that the quality of the radiograph can be altered in such a way that the lesions that may go unnoticed will be expressed. Thus it improves the quality of diagnosis and reduces the expenditure, labour and radio-exposure of the patient and the personnel while making repeated radiographs. Repeat radiographs may often become essential in conventional radiography, especially in case of large animals with heavy body. The digital radiographs sent to the referred veterinarian over internet so that the data can be transferred without any alteration in quality. This also helps making consultation with experts elsewhere in the country or world

II. UNITS PROPOSED UNDER “ESTABLISHMENT OF DIGITAL RADIOLOGY UNIT”

1. Computed Radiology Unit with scanner
2. Digital Image Intensifier (C-arm)
3. Dental X-ray Unit

II. FUNCTIONS OF “ESTABLISHMENT OF DIGITAL RADIOLOGY UNIT”

1. Providing best quality radiographic diagnosis to the farmers
2. Supporting rural veterinary practitioners by providing high quality radiographs for diagnosis of conditions like fractures, traumatic reticulo-pericarditis etc.

3. Imparting training to the undergraduate and postgraduate students of College of Veterinary and Animal Sciences, Mannuthy on a state-of-the-art facility
4. Imparting training to the field veterinarians in digital radiography
5. Imparting training to the students of proposed course on Imaging techniques
6. Providing consultancy services to Animal Husbandry Department and similar organizations on establishment of Digital Radiology Unit
7. Creating a digital radiographic archive which can be used for education, reference and exchange with other universities and colleges
8. Supporting research activities of the College and other organizations

V. CAPITAL EXPENDITURE

Table 1. Capital expenditure anticipated for the project submitted to NABARD

Item	Amount (Rs Lakhs)
1. Land Development	Existing
2. Service facility and Utilities	Existing
Equipments and other accessories	50.0
Furniture & Fixtures	5.0
Total	55.0
Grand Total	55.0

V. JUSTIFICATION OF THE PROJECT PROPOSAL

ESTABLISHMENT OF DIGITAL RADIOLOGY UNIT will help to provide a high quality radiographic diagnosis to the farmers of Kerala, especially in and around district of Thrissur and provide diagnostic support to the Veterinarians of the Kerala. The establishment of digital radiology is functioning by using reusable Imaging plates, so that the recurring expenditure of films and chemicals can be avoided, thus reducing the operational cost. The image created can be improved in quality digitally so that lesions that are not expressed in the conventional radiography can be identified by this. This advantage is helping to reduce the expense and risk of re-exposures to make perfect radiographs through conventional radiography. Storage of images are easy and least space consuming as it can be done with the help of computer or a memory apparatus. The images

stored can be reproduced easily, displayed at multiple locations helping the UG and PG teaching and training to the Professional, both veterinary and para-veterinary personnels. Consultations with experts around the globe become possible so that the best possible treatment can be given to the livestock

DEVELOPMENT OF FARMER TRAINING INFRASTRUCTURE AT THUMBURMUZHI AND THIRUVAZHAMKUNNU

Salient features of the project

Title	DEVELOPMENT OF FARMER TRAINING INFRASTRUCTURE AT THUMBURMUZHI AND THIRUVAZHAMKUNNU CAMPUSES
Locale	THRISSUR, PALAKKAD
Local Body	THUMBURMUZHI, THRISSUR DISTRICT THIRUVAZHAMKUNNU, PALAKKAD DISTRICT
Extend of area	ENTIRE STATE
Capital outlay	RS. 686 LAKHS

DEVELOPMENT OF FARMER TRAINING INFRASTRUCTURE AT THUMBURMUZHI AND THIRUVAZHAMKUNNU

I. INTRODUCTION

Training facilities with residential facility is proposed in this project.

II. UNITS PROPOSED UNDER THE PROJECT

1. Farm Training halls
2. Seminar Hall (AC)
3. Laboratory
4. Trainees Hostel
5. Dormitory
6. International Accommodation
7. Demonstration units

III. FINANCIAL DETAILS

Sl. No.	Units	Amount Rs Lakhs
1	Farm Training hall 2 # .1200 sqft x 2	48
3	Lab + equipments	30
4	Office Block	30
5	Cafeteria	3
6	Trainees Hostel – 50 # 80 sqft	50
7	Dormitory – 100 # X 40 sqft	35
9	Compound Wall and fencing 2 Km x 4000	30
10	Establishment of demonstration units 3 #	2
11	Transportation and Communication	25
	TOTAL Rs 253	

IV. JUSTIFICATION

Training Centres under RIDF will help in strengthening scientific livestock farming practices in the State.

ESTABLISHMENT OF INTEGRATED RURAL POULTRY PRODUCTION CENTRE

Salient features of the project

Title	INTEGRATED RURAL POULTRY PRODUCTION CENTRE
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Locale	COLLEGE OF VETERINARY AND ANIMAL SCIENCES, MANNUTHY, THRISSUR, KERALA.
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Local Body	CORPORATION OF THRISSUR AND DIFFERENT PARTS OF KERALA
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Extend of area	ENTIRE KERALA
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Capital outlay	RS. 547 LAKHS
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INTEGRATED RURAL POULTRY PRODUCTION CENTRE

I. INTRODUCTION

Poultry sector in India showed a substantial growth in the last decade and has grown to the status of an Industry in many of the Indian States. In Kerala, poultry rearing has largely remained as a backyard venture till a couple of years back. Kerala has very high demand for poultry meat and eggs. The State is deficient in production of poultry products and it depends heavily on neighbouring states for egg and poultry meat. Enhancing the poultry activities in Kerala would bring about positive impact on the food and nutritional security in the State and will create more employment avenues in rural and semi-urban areas.

Recently, more entrepreneurs are coming forward to undertake various Animal husbandry activities in general, and Chicken farming in particular, sensing an improvement in the industrial scenario of State. Public sector support is essential for fortifying the 30 lakh households rearing domestic fowls in the State.

With the formation of the new Kerala Veterinary and Animal Sciences University in the State, it is expected that various livestock and poultry husbandry activities would receive a stimulus. Among twenty institutions transferred to the new University from Kerala Agricultural University, three major stations viz. Centre for Advanced Studies in Poultry Science, Mannuthy (CASPS), University Poultry and Duck Farm, All India Coordinated Research Project on Poultry are included. A Director in CASPS, at present coordinates the activities of various poultry-related units in the discipline.

Existing Divisions/Units/Farms/Research Stations in Poultry Science Discipline

1. Department of Poultry Science – UG/PG Education
2. University Poultry and Duck Farm – Non Plan
3. AICRP on Poultry, Mannuthy – EAP ICAR 75:25
4. CAS in Poultry Science – Non Plan
5. Revolving Fund Poultry Project – Autonomous project.

Poultry Science discipline has played crucial role in production and supply of backyard poultry and alleviating poverty in the State and other states. The discipline now plans to substantially increase its research, extension and entrepreneurship activities and if the project is sanctioned and implemented, will bring about multitude of desirable changes in the poultry production scenario of Kerala. The project will create significant infrastructure for expanding the poultry activities of the state.

OBJECTIVES

1. Enhancement of training and consultancy facilities for small- and large scale farming
2. Improved production and supply of chicks and poultry feed to rural farmers
3. Advancement of research in ratites, Japanese quails and ducks in Kerala

II. UNITS PROPOSED AND THEIR RESPECTIVE FUNCTIONS

OBJECTIVE ONE: ENHANCEMENT OF TRAINING AND CONSULTANCY FACILITIES FOR SMALL AND LARGE SCALE POULTRY FARMING

A KUKKUD VIGYAN KENDRAS (OFF CAMPUS)

Counseling to backyard poultry growers, aspiring entrepreneurs and consultation to established poultry businessmen requires a dedicated Farmers' Counseling Centre/Consultancy Centre. Three Poultry KVK (Kukkud Vigyan Kendra)/Farmer's Counseling Centre/Consultancy Centre with Expert Panel can be established in northern, central and southern Kerala for boosting the poultry extension activities. During the current year one KVK will be established at an out lay of Rs. 50lakhs This centre can also give an income by charging a consultancy / training fees.

B MOBILE POULTRY UNIT/CLINIC

Many of the management problems of poultry farms can be solved only by on-site inspection. Establishment of a Mobile Poultry Unit/Clinic will improve the farm outreach activities.

C SUPPORT SERVICE CENTRE FOR LSGs

Local Self Government institutions like Panchayats, Municipalities and Corporations come up with innovative projects in poultry activities. Support can be extended from the Support Service Centre for managing such projects.

D FARMERS' TRAINING CENTRE/FARM SCHOOL

For conducting Training programmes for farmers and Veterinarians, a modern training hall need to be established. Roofed facility is already available in the CASPS. This will be expanded and modernized by fabricating side grill, false ceiling, placing curtains, chairs and modern audio visual aids, to be used for conducting regular training programmes for the farmers.

E LIVE POULTRY MUSEUM CUM DEMONSTRATION UNIT

Separate demarcated visitor area need to be constructed for demonstration of various breeds of poultry, models of poultry farms and activity demonstration units. This would help in improving the biosecurity of the proposed seed egg and chick production unit by preventing disease outbreaks.

OBJECTIVE TWO: IMPROVED PRODUCTION AND SUPPLY OF CHICKS AND POULTRY FEED TO RURAL FARMERS

F CHICKEN SEED EGG/HATCHING EGG PRODUCTION UNIT

There is an extreme demand from the farmers and Self Help Groups for improved backyard chicks. Commercial Poultry Industry does not cater the needs of these groups. At the same time, University farms or State Government farms are not able to meet the demand from farmers. Presently, Egger Nurseries run by SHGs get day-old chicks only after 6 months of booking. A **Modern Elevated Poultry House**

needs to be constructed to expand the breeder farm activities, especially for dual type birds which are in great need for farmers. This unit will house parent dualtype/improved backyard type birds for supply of hatching eggs to the hatchery unit. This unit can undertake contracts for supply of chicks to the farmers / SHGs.

G JAPANESE QUAIL HATCHING EGG PRODUCTION UNIT

This unit will produce hatching eggs by making line/strain crosses of egg type and meat type breeder Japanese quails. Japanese quails are in great demand in the market and existing infrastructure in public and private sector is not sufficient to meet the demand.

H PRODUCTION UNIT FOR PARTLY GROWN CHICKEN AND QUAILS

Partly grown chicken and quails have a big market as farmers can avoid brooding requirements and other issues common during the young age of poultry birds. Brooder houses needs to be constructed for housing the birds during the brooding/growing period (about two months). This unit can also facilitate brooding of the young parent birds needed in the chicken and quail hatching egg production unit.

I MODERN HATCHERY UNIT

This modern hatchery unit will work in association with the chicken and quail hatching egg production unit. Hatching eggs will be collected from the breeder farm and incubated. The day-old chicks will be supplied to the farmers.

J COMPOUNDED POULTRY FEED PRODUCTION & SUPPLY UNIT

Presently the Revolving Fund Poultry Project of CASPS produces and supplies animal and poultry feed to the University farms and Animal Husbandry Department (Government of Kerala) farms. We intend to expand the feed supply to individual farmers also. Moreover, in the market, poultry feeds are available in bags of bigger quantities, which is suitable only for big poultry farmers. It is also proposed to market various poultry feeds in lower quantity packaging. Therefore, **modern milling and mixing equipments** need to be procured for expanding feed production activities.

K FEED AND FEED INGREDIENT GODOWN/WAREHOUSE

In the present circumstances, expansion of feed milling and mixing activities are not possible due to limited storage space for feed ingredients and finished feeds. Available space for storage of ingredients is enough for only about 5-7 days. Therefore, more infrastructure need to be created for expanding storage space.

OBJECTIVE THREE: ADVANCEMENT OF RESEARCH IN RATITES, JAPANESE QUAILS AND DUCKS IN KERALA

L QUAIL RESEARCH CENTRE

Research in selection and breeding, pure-line development, housing, nutrition and management of egg type and broiler type Japanese quails will be undertaken in this centre.

M RATITE RESEARCH CENTRE (OFF CAMPUS)

This centre will boost research activities in Kerala in the areas of production, management, nutrition, physiology and product development of emu, ostrich and other ratites. This centre can also supply young ratites to the interested farmers.

N R&D CENTRE FOR DUCKS (OFF CAMPUS)

This centre will undertake research in various aspects of production of native as well as exotic duck varieties. The centre will also undertake production and supply of meat-type ducklings, which are in great demand, to farmers.

III CAPITAL EXPENDITURE

Proposal	Infrastructure (In lakhs)	Equipments (In lakhs)
Kukkud Vigyan Kendras (Off Campus)	35	15
Mobile Poultry Unit/Clinic	0	15
Support Service Centre for LSGs	5	2
Farmers' Training Centre/Farm School	20	5
Live Poultry Museum cum Demonstration Unit	20	5
Chicken Seed Egg/Hatching Egg Production Unit	40	15
Japanese Quail Hatching Egg Production Unit	25	20
Modern Hatchery Unit	35	20

Production Unit for Partly Grown Chicken & Quails	30	20
Compounded Poultry Feed Production & Supply Unit	25	50
Feed and Feed Ingredient Godown/Warehouse	25	10
Quail Research Centre	15	5
Ratite Research Centre (Off Campus)	25	20
R&D Centre for Ducks (Off Campus)	30	15
Total	330	217
Grand Total	Rs. 547 Lakhs	

IV JUSTIFICATION FOR THE PROJECT

In the field of extension, Animal Husbandry Sector is clubbed with Krishi Vigyan Kendras and in general, poultry husbandry activities do not receive the needed impetus in proportion of the size of the sector. In order to rectify this situation, we need to expand the extension activities in poultry husbandry. The proposed Kukkud Vigyan Kendras in three geographical areas of Kerala would fill this gap to a great extent. The Mobile Poultry Clinic will visit farmer households and farms and would give necessary advise and help in controlling disease outbreaks and improving production. The Support Service Centre for LSGs will act as an office centre for running LSG projects managed by the Poultry Discipline. The proposed Farmers Training Centre will undertake regular training and practical sessions to farmers on various topics related to poultry husbandry. The Live poultry museum will work with the training centre, where farmers can see various breeds and varieties of poultry, various models of farms, watch brooding and rearing activities etc, without disturbing the routine farm activities and biosecurity of the farm.

The proposed chicken and quail breeder and brooder units and hatchery unit will substantially improve the supply of day-old and partly grown chicks to the farmers. The feed mill and godown would supply compounded poultry feed (for various poultry varieties like chicken, quails and ducks) to the individual farmers and for various projects of panchayats.

The proposed Research Centres on ratites, Japanese quails and ducks would enhance the conduct of advanced research (breeding and selection, nutrition, management and housing etc.) in these species. Rearing of ratites like emu and ostrich is an emerging field and very less research is being

conducted in India on various aspects of ratite rearing and marketing of products. Japanese quail rearing has already been recognized as a profitable business, yet there are wide gaps in the knowledge about nutritional and housing aspects of the species. As far as duck rearing is concerned, there is a big deficiency in availability of good exotic meat-type ducklings in the State. In this context, the proposal to establish research centres for ratites, quails and ducks would substantially promote research in respective fields and therefore is totally justified.

ACADEMIC STAFF COLLEGE

Salient features of the project

Title	ACADEMIC STAFF COLLEGE
Locale	COLLEGE OF VETERINARY AND ANIMAL SCIENCES, MANNUTHY
Local Body	Thrissur corporation
Extend of area	<p>The ASC Thrissur can cater to the needs of</p> <ol style="list-style-type: none">1) Kerala Veterinary and Animal Sciences University2) Kerala Agricultural University3) Kerala Health and Allied Sciences University4) Kerala Kalamandalam(Deemed university)5) Sanskrit University6) Fisheries and ocean Sciences University7) Cochin University of Science and Technology
Capital outlay	Rs. 98 Lakhs

1. INTRODUCTION

Government of Kerala has established Kerala Veterinary and Animal Sciences University (KVASU) to give teaching, research and extension in the areas of Veterinary and Animal Sciences. Head quarters of the university will be at Pookot (Wayanad). University has a well established 50 years old campus at Mannuthy, Thrissur located at the central part of Kerala. Moreover Thrissur is the cultural capital of the state with increase network of educational institutions. Qualified resource persons are available on a variety of subjects in the district. Thrissur is easily accessible through bus, train and air from different parts of the country. The new ASC proposed is to be located in College of Veterinary and Animal Sciences Campus, Mannuthy, Thrissur. The proposal is being prepared as per the National Policy on Education (NPE) 1986 which clearly points to the need for crucial link between teacher motivation and the quality of education.

The UGC stipulates the need for improving the status of the teacher and proposed to provide opportunities for professional and career development that may fulfill their role and responsibility within the system of higher education. NPE also stresses upon motivation skills and knowledge through systematic orientation in specific subjects, techniques and methodologies, and thereby inculcate in them the right kind of values that would encourage them to take initiatives for innovative and creative work.

Keeping the above objectives in view, the following steps were proposed by the UGC:

- a. to organise specially designed orientation programmes in pedagogy, educational psychology and philosophy, and socio-economic and political concerns for all new entrants at the level of lecturers;
- b. to organise such programmes (orientation/refresher courses) for serving teachers, covering every teacher at least once in three to five years;
- c. to organise specially designed orientation programmes/refresher courses in IT for new entrants as well as for in-service teachers; and
- d. To encourage teachers to participate in seminars, symposia, workshops, etc.

2. Objective

The objectives of the present project is to establish an Academic Staff College (ASC) at Thrissur as part of Kerala Veterinary and Animal Sciences University under the ICAR so that new Assistant Professors in all streams including institutions under ICAR will understand the significance of education in general, and higher education in particular, in the global and Indian contexts. As stated by UGC it also will help to understand the linkages between education, socio-economic and cultural development, with particular reference to agriculture, policy and development.

The ASC Thrissur will be located at the Mannuthy Campus of Kerala Veterinary and Animal Sciences University.

The ASC Thrissur can cater to the needs of

- 1) Kerala Veterinary and Animal Sciences University
- 2) Kerala Agricultural University
- 3) Kerala Health and Allied Sciences University
- 4) Kerala Kalamandalam(Deemed university)
- 5) Sanskrit University
- 6) Fisheries and ocean Sciences University
- 7) Cochin University of Science and Technology

Which are located near by.

4. Existing Resources

ASC will draw upon all the possible existing resources available in the university as well as in other universities and learning institutions within the state and outside.

5. Format for ASC

ASC will be established in the university as a separate entity to be newly set up and designated within the university.

6. Functions

Academic Staff College will plan, organise, implement, monitor and evaluate orientation courses for newly appointed college/university Assistant Professors and Assistant Librarians. ASC will also organise refresher courses for serving teachers, and orientation programmes for senior administrators and heads of department, principals, officers, etc. Two batches of training can be simultaneously conducted in a continuous manner.

Thrust areas for each refresher course will be decided by the Academic council. As an institute of ICAR, emphasis will be given to Veterinary, animal science and biological sciences.

7. Structure of the ASC as recommended by UGC

8. Staff patterns

(a) Academic staff:

- i. Professor - Director -: 1
- ii. Associate Professor- 1
- iii. Assistant Professor-1

Guest faculty and consultants can be used for the purpose.

(b) Non-teaching staff:

Mostly on e –governance. Staff pattern will be decided by the management council.

9. Infrastructure required

Sl.No	Building Components	Features	amount
1	Office	1000 sq ft	600000
2	Class rooms 50 seat with accessories	500 sq ft	400000
3	Class room 25 seats with accessories	400 sq ft	300000
4	Library with books and Accessories	400 sq ft	1000000
5	Computer lab with computers	600 sq ft	2500000
6	Hostel	6000 Sq ft	5000000
Total		98,00,000/-	

10. Administrative Structure:

Academic Staff College will be a UGC-sponsored entity. It will be an inter-university institute catering to the needs of colleges and universities within Kerala and neighboring states.

11. Approval by the UGC ASC Thrissur will be established as per the recommendations of the UGC expert committee.

**ESTABLISHMENT OF
INSTITUTE OF DAIRYING, FOOD TECHNOLOGY
AND VALUE ADDITION**

Salient features of the project

Title	Establishment of Institute of Dairying, Food Technology and Value addition	
Locale	Kerala Veterinary and Animal Science University Mannuthy Campus	
Local Body	Thrissur Corporation	
Extend of Milk shed areas	Thrissur and Palghat districts including instructional farms at Thumboormuzhi and Thiruvizhamkunnu and Livestock Farm at Mannuthy campus	
Capital outlay	a. Advanced Centre for Dairy & Food Technology	Rs 2250 Lakhs
	b. Milk Processing Plant	Rs 1200 lakhs
	Total	Rs 3450 Lakhs

I. INTRODUCTION

In view of the recent trends in the growth of Dairy and Food Processing industries in India, tremendous changes in the curriculum and curriculum delivery of State Agricultural and Veterinary Universities have been proposed at the National level. In response to the present day needs of skilled graduates in various Food industries, it has become necessary to instill entrepreneurship and confidence among the graduates to accept end to end approach in Agri-food business. One of the significant changes proposed in the SAU education is to pursue the potential of the partnership to be established among the University, Industry and the Investors to maximize each others benefit. The purpose of the curriculum re-orientation is to make the graduates acquainted with various facets of professionally managed industries which include production management, raw material purchases, personnel management, sales and marketing by virtue of industrial in-plant training.

The factors that led to the present proposal to establish a new Institute of Dairying, Food Technology and Value addition that can cater to the increasing demand for dairy and food technicians not only in Kerala but also in the country and abroad are summarized below:

- Demand for scientists in R & D support for new product development
- Qualified Personnel for on line quality control
- Process Technologists for production management
- Food incubation centre as a prerequisite to processing units
- Mandatory requirement of curriculum revision to introduce industrial internment facility.

Institute of Dairying, Food Technology and Value addition (IODFTV) envisages setting up of a multi-institutional complex in the Mannuthy campus of Kerala Veterinary and Animal Sciences University which is

situated in Thrissur Corporation but in close proximity to Madakathara Grama Panchayat .

II. INSTITUTIONS PROPOSED UNDER INSTITUTE OF DAIRYING, FOOD TECHNOLOGY AND VALUE ADDITION (IODFTV)

IODFTV is proposed as a multi-institutional complex consisting of seven units supporting each other which include among others a Food park accommodating model units of food processing units and Milk processing plant in the pattern of National Dairy Development Board assisted Vidya Dairy at Anand, Gujarat as well as the Model Dairy at National Dairy Research Institute at Karnal. The functions envisaged for each of these institutions are described in the Detailed Project Report appended along with this proposal. The proposed institutions are the following:

1. Model units of Food Processing Industries
2. Incubation centre for the promotion of Dairy and Food Industries
3. Milk processing plant on the pattern of Vidya Dairy at Anand
4. Advanced Centre for Dairy and Food Technology having facilities for UG, PG and Research
5. Food Processing Training Centre
6. Common Facility Centre
7. Technology Information Centre

The capital expenditure required for the land development, construction of buildings, purchase of equipments and machineries and other utilities for the establishment of IODFTV is estimated as Rs 75.50 Crores. University is anticipating financial support for the successful implementation of various components of the project, from Government of India, Department of Industries Government of Kerala and NABARD.

In the present proposal the University is seeking a financial support from NABARD for an amount of Rs 34.50 crores for the implementation of

two units from IODFTV namely, (1) Advanced Centre for Dairy and Food Technology having facilities for UG, PG and Research and (2) Milk processing plant in the pattern of National Dairy Development Board assisted Vidya Dairy at Anand, Gujarat as well as the Model Dairy at National Dairy Research Institute at Karnal. The details of these two proposals are furnished below.

III. Functions of Advanced Centre for Dairy and Food Technology having facilities for UG, PG and Research

IODFTV provide integrated facilities for Advanced Research and for running UG, PG and Doctoral studies in Dairy Technology and Food Technology. The functions are given in Table 1.

Table 1. Functions of IODFTV

Sl. No	Functions
1	Undertake Undergraduate degree programme in Dairy Technology as well as Food Technology
2	Undertake Post graduate and Doctoral level studies in various branches of Dairy Technology as well as Food Technology
3	Undertake new product development assignments through R&D activities and maintain the food incubation centre at maximum utility level
4	Undertake short term training courses and vocational certificate courses in Dairy and Food Processing
5	Undertake extension activities on various aspects of Dairy and Food processing
6	Undertake the management responsibilities of Milk processing plant under Vidya Dairy system

Academic Requirements

The academic requirement is worked out on the basis of the norms prescribed by the ICAR both for B.Tech (Dairy Tech) and B.Tech (Food Tech.). Requirements of the post graduate curriculum are not considered in this proposal as they can be taken up when the need arises.

The intake strength of students for various academic programmes in IODFTV are given in Table 2. The need assessment of the intake capacity of the proposed B.Tech Degree programme in Food Technology shows that an intake capacity of 25 students would be sufficient for this course as in the case of the ongoing B.Tech (Dairy Tech.) programme. Hence facilities for a maximum number of 200 UG students shall have to be created for the combined College of Dairy and Food Technology. For the two year post graduate programme infrastructural facilities have to be created for a total of 20 students assuming that each department can admit two students. In fact the facilities to be developed for Dairy and Food Research as well as the Food incubation centre will function as the infrastructure for conducting the PG programme.

Table 2. Intake strength of students

Academic programme	Intake capacity			Staff strength
	UG	PG	Ph.D	
B.Tech (Dairy Tech)	25	5	2	23
B.Tech (Food Tech)	25	5	2	23
Total	50	10	4	46

The Table 3 and 4 given below illustrate the advantages of combining the Dairy and Food Technology courses together. Although these two degree programmes will be offered simultaneously and separately, the total requirement of 348 credits can be fulfilled by maintaining six departments only. The Table 3 also gives the weightage distribution in percentage among the six departments. It is evident from the Table that 24% of the total credits will be set up part for the theory and practical portions of Dairy and Food Technology while 25% of the total credits will be utilized for the experiential learning and hands on training on the same subjects.

Table. 3 Advantages of running B.Tech courses in Dairy and Food Technology together: Department wise distribution of courses

No	College of Dairy Science & Technology		College of Food Science & Technology (as per ICAR)		College of Dairy & Food Technology	
	Name of the Department	Credit Weightage (%) Total (168)	Name of the Department	Credit Weightage (%) Total (180)	Name of the Department	Credit Weightage (%) Total (348)
1	Dairy Technology	19	Food Science & Technology	28	Dairy & Food Technology	24
2	Dairy Engineering	19	Food Engineering	18	Dairy & Food Engineering	18
3	Dairy Chemistry	11	Food Chemistry & Nutrition	8	Dairy & Food Chemistry	10
4	Dairy Microbiology	12	Food & Industrial Microbiology	8	Dairy & Food Microbiology	10
5	Dairy Business Management	14	Food Trade & Business Management	8	Dairy & Food Business Management	11
6	Dairy Husbandry	6	Nil	Nil	Dairy Husbandry & Extension	2
7	Hands on Training & Experiential Learning under Dairy Technology & Dairy Husbandry	19	Hands on Training & Experiential Learning under Food Technology	30	Hands on Training & Experiential Learning under Dairy & Food Technology & Dairy Husbandry & Extension	25

	Total	100		100		100
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Table. 4 Advantages of running B.Tech courses in Dairy and Food Technology together: Staff requirements

No	Name of the post	No. of posts
	Scientific Staff	
1	Associate Dean	1
2	Professor (Existing - 6, proposed for FT and FE one each)	8
3	Associate Professor (Existing - 7, proposed for FT-2, FE-2, FIM-1, FCN-1, FBM-1)	14
4	Assistant Professor (Existing - 10, proposed for FT-4, FE-4, FIM-2, FCN-1, FBM-2)	23
	Total	46
	Para Technical staff	
1	Technical Assistant	4
2	Lab Assistant Gr. II	10
3	Library Assistant	1
	Total	15
	Administrative staff	
1	Administrative Officer	1
2	Administrative Assistant	3
3	Section Officer	1
4	Assistant Gr. II	8
5	Data Entry operator	1
6	Typist Gr. II (including Steno to Assoc. Dean)	3
7	Duplicating machine Operator	1
8	Attendant/Class IV/	8
9	Driver (LDV)	1
10	Driver (HDV)	1
	Total	28

IV. Functions of the Milk Processing Plant envisaged in the pattern of Vidya Dairy at Anand and Model Dairy at Karnal

Milk Processing plant on the pattern of Vidya Dairy at Anand, Gujarat, as well as the Model Dairy at National Dairy Research Institute at Karnal, is to provide a permanent service centre for custom packing of milk and milk products. The functions anticipated for the Milk Processing Plant are given in Table 5.

Table 5. Functions anticipated for the Milk Processing Plant

Sl. No	Functions
1	State of the art milk processing plant having maximum capacity of 50,000LPD
2	Facility for production of value added Milk products using latest technology
3	Enhance the total milk production in CBF Thumburmuzhi, LRS Thiruvizhamkunnu and ULF Mannuthy of KVASU
4	Procurement of milk from MILMA and other agencies through a Memorandum of Understanding on a long term basis
5	Processing and production of value added products
5	Industry internment and on the job training facilities for the Dairy Technology and Food Technology students in the proposed plant

The proposed Milk processing plant in the pattern of Vidya Dairy at Anand, Gujarat, shall provide a permanent service centre for custom packing of milk and milk products. Vidya Dairy is a concept put forward by the National Dairy Development Board to facilitate the students of B.Tech (Dairy Technology) course and attain hands on training. The students will be benefitted not only with the operation and maintenance of the state of the art processing equipments but also with the management of work force and marketing of the products.

The proposed milk processing plant will have state of the art facilities for fluid milk processing, production of value added products and packaging of the finished products. A medium capacity plant of 50000 LPD is proposed taking into account the scope for product diversification and profitable

running of the plant at optimum conditions especially considering the operational convenience of the Vidya Dairy pattern.

V. CAPITAL EXPENDITURE

The expenditure anticipated for the project submitted to NABARD include the expenditure for land development, services and utilities, establishment of IODFTV and establishment of the Milk processing plant (50000 LPD)

Table 6. Capital Expenditure anticipated for establishing IODFTV and Fluid milk processing plant

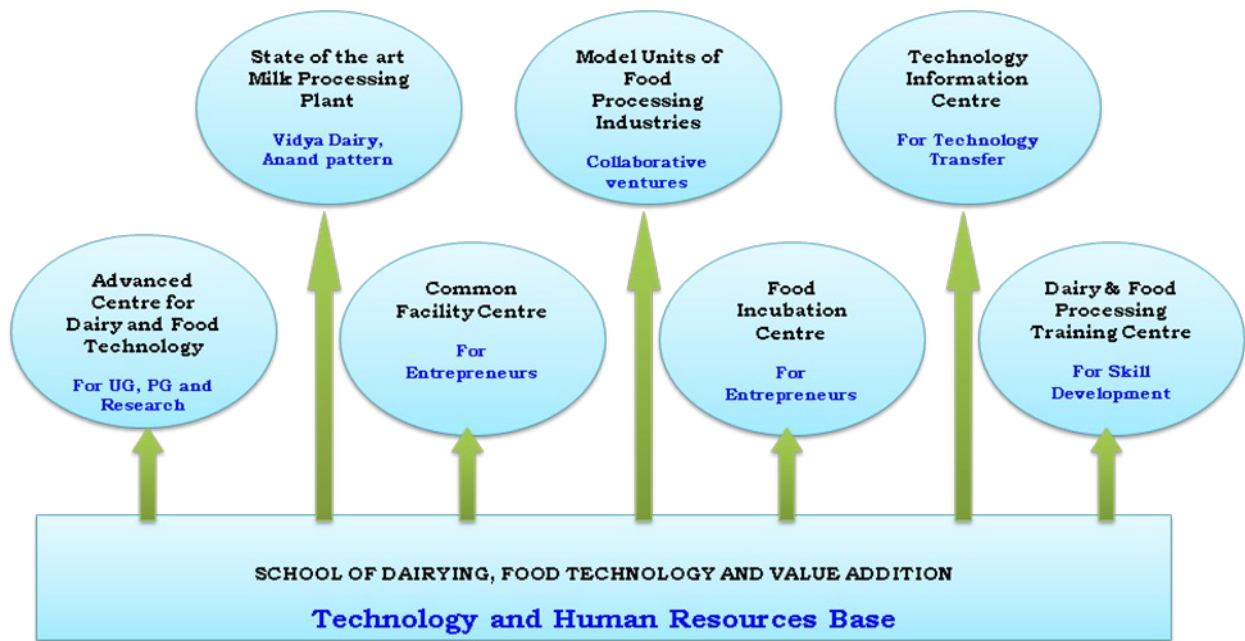
Item	Total (Rs Lakhs)
1. Land Development	20
II. Buildings (Total built area of 100000sq.ft @ Rs1200/- sq.ft.)	400
III. Services and Utilities	30
IV. Equipment & Machineries	
1. Milk Processing Plant	
2. Dairy & Food Engineering Lab	
3. Dairy & Food Technology Lab	
4. Dairy & Food Microbiology Lab	
5. Dairy & Food Chemistry Lab	
6. Food Quality Testing Laboratory	
7. Computer Laboratory	
8. Central Instrumentation Centre	
Total	200
V. Library	25
VI. Vehicles	20
VII. Furniture and Fixtures	20
VIII. Improvement of infrastructure for KVASU Dairy Farms	20
IX. Improvement of infrastructure for milk collection centers within the milk shed	10
Total Capital Expenditure	745

VI. JUSTIFICATION

There are some specific factors that led to the formulation of the present proposal. The institutional complex proposed is to be established in the territorial jurisdiction of Thrissur Corporation but it is very close to Madakathara Grama Panchayat. The institution is expected to establish a strong rapport with the Dairy farmers of the milk shed areas of Thrissur and Palghat districts. The project includes a special package for networking MILMA cooperative societies and individual farmers who run organized dairy farms for the enhancement of milk production and procurement of milk to be processed in the proposed milk processing plant. Production incentives for enhancing milk production in various forms will also be delivered to the farmers in order to ensure sustained milk production.

The state of the art milk processing plant will have facilities not only for production of value added milk products but it will also provide facilities for industry internment and on the job training facilities for the Dairy Technology and Food Technology students. Overall, the IODFTV project once implemented successfully shall cater to the demand for scientists for advancement in Dairy and Food Technology, demand for qualified personnel in on line quality control, process technologists for production management and need for a well managed food incubation centre for promoting entrepreneurship.

There are a number of operational benefits that can be enjoyed by combining College of Dairy Technology and College of Food Technology together. Operational advantages are also there in interlinking the Milk Processing Plant, Food Processing Training Centre, Food Park as well as Food Incubation Centre and establishing them in the vicinity of the academic complex. Hence the concept of establishing an Advanced Centre for Dairy and Food Technology is a viable proposition and the financial support sought from NABARD will help to realize the objectives envisaged in the master proposal.



DISTANCE LEARNING CENTRE

Salient features of the project

Title	DISTANCE LEARNING CENTRE
Locale	COLLEGE OF VETERINARY & ANIMAL SCIENCES, THRISSUR
Local Body	CORPORATION OF THRISSUR
Extend of area	ENTIRE STATE AND NEARBY STATES
Capital outlay	RS. 320 LAKHS

DISTANCE LEARNING CENTRE

I. INTRODUCTION

Livestock sector plays a key role in sustainable rural development and has acquired the status of one of the important livelihood options in the country. Short gestation period, easily marketable commodities, chances of quick returns, better productivity, high nutritive value of the products, etc are some of the advantages of livestock sector. Recent statistics revealed that of the total income, livestock sector contributes more than 34 % of the income from Agriculture. It forms more than 9 percent of the total GDP of the country. More than 80 percent of the workforces in livestock sector in the country are women.

Kerala, which occupies only 1.13 Percent Geographic area of the country, has enormous potential in livestock development. Taking in to account the growing importance of livestock sector, Government of Kerala has established Kerala Veterinary and Animal Sciences University to give more emphasis to education, research and extension in the areas of veterinary and animal sciences.

Objectives

- To create awareness on profitable livestock farming practices among farmers, unemployed youths, women and students.
- To promote livestock based SHGs
- To motivate unemployed youths to start livestock based enterprises in the state
- Create awareness on animal welfare and food safety.
- To promote food security and to maintain livelihood security in the state

II. UNITS PROPOSED UNDER THE PROJECT

Technologies used in distance education are divided into two groups: synchronous and asynchronous. Synchronous technology is a mode of online delivery where all participants are "present" at the same time requiring a timetable to be organized. Web Conferencing is an example of synchronous technology.

Asynchronous technology is a mode of online delivery where participants access course materials on their own schedule. Students are not required to be together at the same time. Message board forums, e-mail and recorded video are examples of asynchronous technology.

Synchronous technologies

- Web-based VoIP
- Telephone
- Videoconferencing
- Web conferencing
- Direct-broadcast satellite
- Internet radio
- Live streaming
- FM radio

Asynchronous technologies

- Audiocassette
- E-mail
- Message board forums
- Print materials
- Voice Mail/fax
- Videocassette/DVD

Full fledged media production unit- with studio, recording and telecasting facilities.

III. FINANCIAL OUTLAY-

1	Multi storied building-10000Sq ft@ Rs1500 per Sq feet-(ground + first floor during first year)	Rs 0.8 crores
2	Full fledged media production unit-	Rs 0.75Crore
3	Fm Radio	Rs 30 lakh
4	Synchronous technologies	Rs 1 Crores
5	Asynchronous technologies	Rs 25 lakhs
6	Miscellaneous	Rs 10 Lakhs
	Total	Rs 3.2 Crores

The Directorate of Entrepreneurship will take a lead role in implementing the distance learning project in the state. Management council and academic council will finalise the HRD requirement and the study modules.

IV. JUSTIFICATION

Even though Kerala has unique advantage of total literacy with complete network of veterinary institutions, there are so many constraints in delivering proper veterinary services in the country. Knowledge dissemination services are one of important delivery systems for livestock development in the state which can create awareness on scientific farming practices, augment production and can maintain food and livelihood security in the state. As part of National Agricultural Policy, Government of

India is giving more emphasis to Market led extension programme. Breeding, feeding, management, disease control and marketing are the major domains of scientific farming practices. There exists a huge gap between knowledge available with the farmers and knowledge required by the farmers. Kerala Veterinary and Animal Sciences University is planning to start distance learning programme in the areas of scientific livestock farming, sustainability, food security, livelihood security and entrepreneurship.

Distance learning in the areas of livestock production, is a field of education that focuses on the pedagogy, technology, and instructional system designs that aim to deliver education to farmers, SHGs, women, entrepreneurs and students who are not physically "on site" in a traditional classroom or campus. It has been described as "a process to create and provide access to learning when the source of information and the learners are separated by time and distance. Distance education courses that require a physical on-site presence for any reason (including taking examinations) is considered a hybrid or blended course of study. This emerging technology will be widely used in Kerala Veterinary and Animal Sciences University to maintain sustainability in livestock production. It is a decentralized flexible form of learning where a student can study from home, work, on the move or wherever else is convenient.