



KELAPPAJI COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY

FACULTY OF AGRICULTURAL ENGINEERING & TECHNOLOGY

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Historical Background

The Kerala Agricultural University established the Faculty of Agricultural Engineering & Technology in the year 1985 by upgrading the 'Institute of Agricultural Technology' (IAT), established in 1975. "Kelappaji College of Agricultural Engineering & Technology" (KCAET), came into existence on October 2, 1985 under the Faculty of Agricultural Engineering and Technology. KCAET, the one and only Agricultural Engineering College of Kerala State, is located in Tavanur village on the southern banks of the holy river, Bharathapuzha.

The College is named after the veteran freedom fighter and well known social reformer Shri. K. Kelappan who is renowned as the 'Kerala Gandhi' for his dedication to Gandhian principles.

The landmarks in the history of KCAET are:

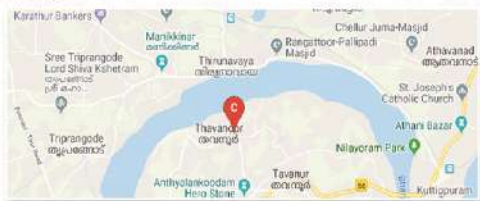
- On October 2, 1985, Kelappaji College of Agricultural Engineering and Technology came into existence as a full-fledged professional degree college in Agricultural Engineering.
- Post Graduated programme in Agricultural Engineering started at KAU, Vellanikkara in 1979
- B.Tech (Agricultural Engineering) programme started in Jan 1986
- B.Tech (Food Engineering) programme started in 2011
- All the courses offered in the college are accredited by ICAR.
- B.Tech. (Agri. Engg.) and B.Tech (Food Engg & Technology) programmes got AICTE Accreditation in 2016.

Mandate

Impart excellent education in Agricultural Engineering to young men and women, guide them in research and extension programmes, foster their talents and leadership qualities and mould them into worthy citizens, competent professionals and capable leaders of the nation. The college strives for building and sustaining the partnership between the traditional eco-friendly approach and the modern scientific farming technology.

Location

The 40 hectare KCAET campus is located in Tavanur village (100 51' North latitude and 750 58' East Longitude) in Malappuram district. This place is 7 km west of Kuttippuram Railway Station and 12 km north of Ponnani, beside the National Highway No.17, on the Kuttippuram – Ponnani sector. Tavanur is about eight kilometers from Kuttippuram Railway Station on the Shoranur– Mangalore sector of Southern Railway.



Salient Features

- The campus comprises of Academic Blocks, Workshops, Library, Instructional Farm, Library, and Hostels.
- Well equipped Laboratories,
- All India Co-ordinated Research Programme Centre for Postharvest Engineering & Technology
- All India Co-ordinated Research on Farm Power Machinery
- Centre for Excellence in Post Harvest Technology.
- Farm Machinery Training and Testing Centre.
- Agri- Business Incubator.
- Precision Farming Development Centre (PFDC)
- Krishi Vigyan Kendra

Strength of the station- Manpower

The Dean is the head of the Faculty and also the head of the College. The Faculty consists of Professors, Associate Professors and Assistant Professors working in the five Departments of the College and also in Schemes and Projects. Out 80 sanctioned scientific posts in the faculty of Agricultural Engineering & Technology, 54 are positioned at the college. The senior-most Professor/Associate Professor in a Department is appointed as the Head of that Department by the Executive Committee of Kerala Agricultural University.

There are five statutory departments

1. Department of Basic Engineering and Applied Sciences (BEAS)
2. Department of Farm Machinery and Power Engineering (FMPE)
3. Department of Irrigation and Drainage Engineering (IDE)
4. Department of Soil and Water Conservation Engineering (SWCE)
5. Department of Processing and Food Engineering (PFE)

The faculty members of each department handle the academic, research and extension activities. In addition, Assistant Professors on contract basis, selected based on UGC / ICAR norms are also engaged to ensure high quality education to the students. Technicians and other supporting staff assist them in the Workshops/Laboratories/Fields.

Ongoing Academic Programmes

- Four year UG programmes: (B.Tech) in Agricultural Engineering and B.Tech in Food Technology (Cost sharing programme)
- Post Graduate Programmes (M. Tech and Doctoral degree) in the three major disciplines of Agricultural Engineering, viz, Soil and Water Conservation Engineering, Farm Machinery and Power Engineering and Processing and Food Engineering.

The annual student intake capacity is 50 for UG Agricultural Engineering, 30 for Food Technology, 21 for PG and 8 for PhD programmes in various disciplines. Twenty five percent of the total seats in PG and PhD programmes will be filled on all India basis by ICAR.

Admission Procedure

B Tech Programmes

UG admission is through the common entrance examination for the professional degree programmes conducted by the commissioner for entrance examinations, Govt of Kerala. Candidates should have passed the plus two examinations with Physics, Chemistry and Maths as optional subjects with a minimum of 50% marks.

M Tech Programmes

Admission to M.Tech programmes is through an entrance examination conducted by the Kerala Agricultural University. Masters degree is offered in three major disciplines of Agricultural Engineering. B.Tech degree holders from any SAU's are eligible to apply for the PG programme. Candidates with valid GATE Scores will be given priority.

PhD Programmes

Admission to the Ph.D programme is through detailed selection procedure conducted by the University. Weightage is given for all credentials of the applicant including academic merit, publications, experience, relevance of research proposal etc. Doctorate degree is offered in three major disciplines of Agricultural Engineering. Eligibility for admission is M.Tech degree of KAU or other SAU's.

Physical Facilities

Academic Block

The Academic block houses the various departments of the college and offices. The college office, seminar hall, committee room, examination hall, drawing hall and digitized class rooms equipped with LCD projectors function in this building.

Computer Centre

A well established air conditioned Computer centre having 40 computers with high speed broad band internet connection (NKN) is available in the academic block.

Library and Information Centre

A fully automated modern Library and Information centre (KCAETLIC) is on its way to becoming an outstanding learning resource centre catering to the ever growing information and intellectual requirements of the students, faculty members and researchers of the college. The stack room and reference section is kept open on all working days from 10.00 a.m. to 5.00 p.m. A reading room is also attached to the library which is kept open on all days from 8.00 a.m. to 8.00 p.m. Computers with internet facility and essential books are also made available in the reading room.



The Library in-house keeping operations are managed by the software namely Koha (Integrated Library Management Software). The Online Public Access Catalogue and repository can be accessed from anywhere in the campus through LAN.

ICT for Academic Programmes

Classrooms are equipped with state of the art facilities including LCD Projectors and WIFI connectivity. The college has well equipped conference and seminar halls with smart interactive boards, LCD Projectors, Television, Fixographs, Audio Visual systems, Video conferencing facility etc. High speed internet connectivity through National Knowledge Network (NKN) is available in the campus.

Workshops and Laboratories

The Central Workshop consists of separate facilities for Carpentry, Smithy, Welding, Machining and Fitting. Besides, Laboratories in Physics, Chemistry, Farm Machinery, Heat Engines, Electrical Engineering, Hydraulics, Strength of materials, Surveying, Soil and Water Engineering, Irrigation Engineering, Remote Sensing, GIS, Agricultural Processing Machinery, Product Analysis, Engineering Properties of Foods, Packaging of Foods, Food Engineering, Food Analysis Instrumentation, Drying, Heat and Mass Transfer and Refrigeration are functioning under the various departments. A well-equipped Language Laboratory has been established in the College with a vision to enhance the communication skills of the students.



Instructional Farm and Sales Counter

The facilities of the instructional farm attached to this College are used for conducting field trials of students and faculty research. It also produces quality seeds and seedlings for distribution among the public. The seeds, planting materials and vegetables produced in the farm are supplied to the farmers through the sales counter.



Hostel Facilities

There are two Men's Hostels with a total intake capacity of about 170 students. The extension of the new hostel in progress.. The college also has two hostels for girls having a total intake capacity of 200 students. Together the college has facilities for accommodating all the students admitted to various programmes.



Job Prospects

The job prospects of the students graduated from the college The improved during the past few years and a number of our graduates were absorbed in Government Departments/Public Sector Undertakings and in Private firms. Many of the students are getting placed in International and National institutes in research and development sectors.

Placement Cell

The Placement Cell interacts with reputed organizations all over the country for arranging campus interviews for the final year students. With the constant efforts of this cell, our graduates have obtained jobs in firms such as Weltweit Food Certifications Pvt Ltd, Hills and Fort Landscape, UAE, Jain Irrigations Ltd, Netafirm, Redlands, Ashlyn Motors Plc., Kerala Agro Industries Corporation, Kerala Agro Machinery Corporation, Nationalized banks etc. Many of the students are also getting positions in International and National institutes in the research and development sector.

Our Alumni

The Graduate Engineers from this college are doing well in competitive examinations conducted for admissions in prestigious Management/ Research /Post-graduate Institutes like Indian Institutes of Technology, National Institutes of technology, CFTRI Mysore, IIM, Institute for Rural Management, IARI New Delhi, NIFTEM Haryana, IIFPT Thanjavur apart from SAU'S and ICAR institutes. We are proud of our alumni who are working in key posts as permanent and visiting faculties in various national and international institutes like

- IIT Madras, and IIT, Kharagpur
- Purdue university, University of Arkansas, and North Dakota State University, USA
- CISRO and James cook University, Australia
- ICARDA, Jordan

Our alumni have also risen to the status of being the editorial board members of national and International journals. About 40 of our students have entered Kerala Government service as Assistant Engineers in the last few years.

Co-Curricular activities

Students Union

The elected student representatives comprise the students union and various co-curricular activities are arranged by the various clubs under the union. Different clubs like Eco Club, Sports Club, Technical Club, Reader's Club, Quiz Club, She Club, Social Forum, Entertainment Club, Arts Club, Placement Club, Health Club, and Magazine Club are formed under students union to undertake various programmes of social, cultural and academic relevance.



National Service Scheme

The KCAET NSS Unit has a good number of enthusiastic volunteers with sincerity and dedication. Regular activities and special student camps are being organized.

Sports and Games

The College has a Multi-purpose Playground of size 110 m x 70 m with facilities for football, cricket, athletics etc. Annual sports and athletic meets are organized regularly and the winners represent the college at university and inter university levels. Besides, there are courts for Basketball, Volleyball and Badminton. An indoor court for playing Table Tennis and Ball Badminton and a 6 station multi gym also add to the sports infrastructure of the college.



Parent Teacher Association

A Parent Teacher association is actively collaborating in the functioning of the College. Regular meetings are conducted to discuss various issues of the students of the College. The PTA is providing financial support for student activities like arts, educational scholarships and career development related activities.

Grievance Redressal Committees

The college has a well-defined grievance redressal mechanism with separate statutory committees for Internal Complaint Committee for the prevention of sexual harassment of women at work places, committee for SC/ST. Measures contemplated in the UGC regulations on curbing the menace of ragging are strictly adhered in the campus. Anti-Ragging Committee and Anti-Ragging Squad are re-constituted at the beginning of every academic year.

Research

The faculty of the college is involved in research works in the frontier areas of Agricultural and Food Engineering and Technology by mobilizing funds from various external agencies.

On-Going Externally Aided Projects

- "Centre of Excellence in Post harvest Technology" funded by State Planning-Board,
- AICRP on Post Harvest Engineering and Technology funded by ICAR
- Precision Farming Development Centre (PFDC) sponsored by the National Committee on Plasticulture Applications in Horticulture (NCPAH).
- AICRP on Farm Implements and Machinery, funded by ICAR
- Farm Machinery Testing Centre (Revolving Fund) supported by RKVY, Govt. of India.
- Sub Centre of Excellence in Agrl. Mechanization – Extension Services and Research and Development - State Plan Project
- Development of light weight climbers and household extractors for coconut milk and oil – State Plan Project
- Development and Testing of Tractor operated tuber/ rhizome harvester for homestead cultivation - State Plan Project.
- NAHEP-CAAST project entitled "Knowledge and skill development on coconut based secondary agriculture

Centre of Excellence in Post-Harvest Technology

The centre of excellence in post-harvest technology is a pioneering centre for agricultural research and development in post harvest technology. It aims in creating an effective system by enabling start-ups and growth of innovative research for developing cost-attractive post-harvest technologies for agricultural commodities, particularly fruits and vegetables, spices and rice.

Farm Machinery Testing Centre

Farm Machinery Testing Centre (FMTTC), established in 2013 under the Department of FMPE is well equipped with facilities to test various agricultural machinery manufactured within the country with a view to assess their functional suitability and performance reliability. The centre is also intended to provide test reports to the farm machinery manufacturers to facilitate further improvement in agricultural machinery and also help the beneficiaries to select quality machines for subsidy purpose.

Precision Farming Development Centre

The centre was established in 1995 at KCAET thavanur. The mandates of the centre are to undertake crop-specific trials and experiments, training programmes for farmers, Govt. officials,

Agri-Business Incubator

The Agri-business Incubator (ABI) facility, at KCAET Tavanur encompasses agri-market-oriented development plan that seeks to improve farmers' livelihoods through agri-business incubation. ABI has provided entrepreneur support to five processing ventures and conducted many outreach training programmes to potential entrepreneurs. The centre has developed processing machineries and standardized process protocol for many innovative and healthy food products.



Technologies Included in 'Package of Practices' of KAU

- Power operated continuous Nutmeg sheller
- Process protocol for Garcinia powder
- Black pepper decorticator
- Rotary banana slicer.
- Goat faecal pellet pulveriser
- Coleus peeler
- KAU Helical blade puddler.
- Kaipad bed former & KAU bed former suitable to mini tractor
- Rice production machinery.
- Three row power weeder for paddy
- Udyanamithra (Garden transplanting tool)
- KAU portable split biogas plant
- Seed extractor for ash gourd and cucumber
- Process protocol for canning of tender jackfruit
- HACCP protocol for pepper products

Technologies Transferred

- Banana flour based ethnic health mix
- Seed extractor for ash gourd and cucumber
- Process protocol for canning of tender jackfruit
- Kaipad bed former & KAU bed former suitable to mini tractor
- KAU manure pulverizer (Goat faecal pellet pulverizer)
- Manually operated arecanut dehusker
- Precision farming strategies for Poly house vegetable cultivation.
- Rain shelters for vegetable production in Kerala.
- KAU Coconut palm climber
- Dhenumithra.
- Keramithra.
- Coleus peeler

Patented Technologies

- Coconut Husking Tool (Keramithra)
- Power tiller operated coconut basin digger.
- An attachment to a power tiller for making basins for tree plants
- Development of Ready To Cook jackfruit
- Process protocol for banana flour based ethnic mix
- Process protocol for dried jackfruit flakes
- Retort pouch packaged tender jackfruit
- KAU Coconut palm climber
- Bed former suitable to mini tractors
- Goat faecal pellet pulverizer
- Precision farming strategies for Poly house vegetable cultivation
- Rain shelters for vegetable production in Kerala.

Extension Activities

Faculty of the College is actively involved in extension activities beneficial to farmers, Government officials and NGOs. These activities include: Consultancy services in water management, soil and water conservation, agricultural mechanization and value addition of agricultural produce. Impart training programmes to farmers and officials on various aspects of Agricultural and Food Engineering. Popularization of proven technologies through field demonstrations. Television programmes / radio talks about various aspects of Agricultural Engineering. Establishing agro processing centres to generate income and employment in rural areas through adoption of proven technologies.

Future Strategy:

- Develop as an institution of higher learning in Agricultural Engineering with national and international reputation
- Research and development of agricultural technologies useful at local, regional and national levels
- Collaboration with reputed international Institutions in research and development of agricultural technologies.
- Upgrading agricultural and food engineering education by incorporating artificial intelligence, machine learning, internet – of- things, advanced robotics and UAVs, geo special technologies to meet the future challenges in agriculture and food technology.
- Strengthening academic and research in core and specialised areas by incorporating academic programmes in mainstream and specialized branches of engineering.

CONTACT:

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