"ഭരണഭാഷ- മാതൃഭാഷ"

കേരള സർക്കാർ

കൃഷി (ഐ.എഫ്.എ) വകുപ്പ്

നമ്പർ.AGRI-IFA2/103/2025-AGRI

തിരുവനന്തപുരം,
തീയതി: 13-05-2025

പ്രേഷകൻ

പ്രിൻസിപ്പൽ സെക്രട്ടറി

സ്വീകർത്താവ്

ഡയറക്ടർ & കൺവീനർ (Integration Committee),
മണ്ണ് പര്യവേഷണ മണ്ണ് സംരക്ഷണ വകുപ്പ്,
തിരുവനന്തപുരം.

സർ,

വിഷയം:- കൃഷി വകുപ്പ് - കാർഷിക എഞ്ചിനീയറിംഗ് വിഭാഗം രൂപീകരിക്കുന്നതുമായി ബന്ധപ്പെട്ട നിവേദനം - സംബന്ധിച്ച്.

സൂചന:- 1. 14.11.2024-ലെ സ.ഉ(കൈ) നം.129/2024/കൃഷി.

2. മലപ്പുറം തവനൂർ കേളപ്പജി കോളേജ് ഓഫ് അഗ്രികൾച്ചറൽ എഞ്ചിനീയറിംഗ് & ഫുഡ് ടെക്നോളജി' ഡീൻ കാർഷിക സർവകലാശാല വൈസ് ചാൻസലർ മുമ്പാകെ സമർപ്പിച്ച 24.04.2025-ലെ കുറിപ്പ്.

3. ചെങ്ങന്നൂർ സെന്റ് തോമസ് കോളേജ് ഓഫ് എഞ്ചിനീയറിംഗ് & ടെക്നോളജി പ്രിൻസിപ്പലിന്റെ 30.04.2025-ലെ നിവേദനം.

സൂചനയിലേക്ക് താങ്കളുടെ ശ്രദ്ധ ക്ഷണിക്കുന്നു. കൃഷി വകുപ്പിലെ കൃഷി എഞ്ചിനീയറിംഗ് വിംഗ്, മണ്ണ് പര്യവേക്ഷണ മണ്ണ് സംരക്ഷണ വകുപ്പ്, കേരള ലാൻഡ് ഡെവലപ്പ്മെന്റ് കോർപ്പറേഷൻ (കെ.എൽ.ഡി.സി) എന്നിവ സംയോജിപ്പിച്ച് എഞ്ചിനീയറിംഗ് വകുപ്പ് രൂപീകരിക്കുന്നതിന് പ്രൊപ്പോസൽ തയ്യാറാക്കുന്നതിന് സൂചന (1) ഉത്തരവ് പ്രകാരം രൂപീകരിച്ചിട്ടുള്ള കമ്മിറ്റി, സൂചന (1), (2) പ്രകാരമുള്ള കുറിപ്പ്/നിവേദനങ്ങളിലെ ആവശ്യം കൂടി പരിശോധിച്ച് പ്രൊപ്പോസൽ തയ്യാറാക്കുന്നതിനായി പകർപ്പ് ഇതോടൊപ്പം ഉള്ളടക്കം ചെയ്യുന്നു.

വിശ്വസ്തതയോടെ,
ജയകൃഷ്ണൻ കെ ജി കെ എ എസ്
അണ്ടർ സെക്രട്ടറി
പ്രിൻസിപ്പൽ സെക്രട്ടറിയ്ക്കുവേണ്ടി

അംഗീകാരത്തോടെ
Signed by
Manesh C M
Date: 13-05-2025 13:09:46
സെക്ഷൻ ഓഫീസർ.

St. Thomas College of Engineering & Technology

Approved by AICTE - Govt. of Kerala
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NAAC ACCREDITED INSTITUTION &
NBA ACCREDITED PROGRAMMES

No. STC/Prl/PS-Agri/011

30-04-2025

To

The Principal Secretary to the Government (Agriculture) and
Agricultural Production Commissioner, Govt. of Kerala,
Vikas Bhavan, Thiruvananthapuram-695 033, Kerala

Respected Sir,

Sub:- Suggestion for Enhancing the Productivity of the Agriculture by Instituting Department of Agricultural Engineering - reg.

While thanking you so much for your integrated efforts in enhancing the productivity of the agriculture sector in Kerala, a suggestion is submitted herewith for your kind attention and necessary action.

The Agriculture Engineering Wing under the Kerala State Agriculture Department, is meant to focus on promoting technological advancements and efficiency in agricultural practices through various programs and initiatives. In line with that the Universities concerned in Kerala designed specialized curriculum to prepare students for modern agricultural practices and provides agricultural engineering education and necessary technological skills through B.Tech courses. However, the growing trend of B.Sc Agriculture graduates grabs the opportunities of Agricultural Engineers who have the capacity to implement mechanization and modern technological advancements including IOT / AI / Drone/ Robotic driven agricultural practices.

Hence, it is submitted that a policy decision may be taken for the creation of the Department of Agricultural Engineering under the Ministry of Agriculture.

In order to increase agricultural productivity and sustainability in Kerala by using advanced engineering technologies, mechanization and AI-based smart irrigation solutions designed to the region's unique agro-climatic conditions, there is an urgent need for the creation of the Department of Agricultural Engineering. This will help in developing and implementing engineering solutions for land preparation, sowing, irrigation, crop management, and post-harvest handling. The verticals of this newly formed Department may focus in the following aspects:

1. Farm mechanization
2. Smart irrigation systems
3. Establishment of tissue culture labs
4. Soil conservation measures

1. Mechanization for Small and Fragmented Farms

- Promote custom hiring centers (CHCs) for farm equipment (tractors, rotavators, planters) to make mechanization accessible to small farmers.
- Develop region-specific machinery, such as lightweight, terrain-adaptive devices suitable for hilly and wetland areas common in Kerala.
- Introduce solar-powered tools and equipment to improve energy efficiency and support green agriculture.
- Use of modern technological advancements including IoT, AI, drone, robotic driven agricultural practices.

2. Smart irrigation systems

- Soil moisture sensors to measure the water content in the soil at different depths.
- Connect field sensors to a central system via wireless technologies.
- Relay data in real-time to cloud-based or mobile applications.
- Can trigger automated irrigation based on set thresholds.
- Drip or sprinkler systems connected to the sensors.
- Deploy smart sensors and IoT devices for real-time monitoring of soil moisture, temperature, and weather to optimize water use.
- Use AI algorithms to:
    - Predict irrigation needs
    - Reduce water wastage
    - Improve crop health through precision irrigation
- Integrate these systems with mobile applications to help farmers make data-driven decisions.

3. Establishment of Tissue Culture Laboratories

- To produce disease-free, high-yielding, and uniform planting material for crops.
- To support large-scale multiplication of commercially important, rare, and climate-resilient crops.
- Use polyhouses or vertical farming units for lowland areas using hydroponic methods.

4. Soil conservation measures

- Surveying and planning soil and water conservation structures.
- Implementing watershed development programs.
- Monitoring and maintaining structures such as check dams, contour bunds, gully plugs, and farm ponds.
- Conducting farmer awareness and training programs.

Submitted for the most favourable consideration and subsequent orders.

Formulation of a separate Department (like in other States) will focus more on agricultural technologies by utilising the B.Tech Agricultural Engineering graduates coming out form KAU and KTU and can also ensure that they are given priority for deserving roles involving mechanization and modern technologies, which are now being employed by science graduates but meant for agricultural engineers. The revised policy of properly placing and including B.Tech. Agri Engineers will not only enhance the efficiency and productivity but also can utilize the full potential of these graduates, and avoid frustration and underutilization of their skills. Let us also march forward at pace with other countries and States giving prominence to modern agriculture for enhanced productivity and efficiency using advanced tools and techniques of modern agricultural technologies.

Thanking you and with best regards,

PRINCIPAL
Dr. AJITH PRABHU V.
Principal
St.Thomas College of Engineering & Technology
Kozhuvallor P.O, Chengannur-689521, Kerala

CC to :-
1) Hon'ble Minister for Agriculture, Government of Kerala
2) The Chief Secretary, Government of Kerala
3) The Vice Chancellor, Kerala Agricultural University