EXTENSION

Extension activities of TNAU are mainly carried out by the 14 Krishi Vigyan Kendras (KVKs) located in different districts of the state. During the lockdown period, KVKs have provided commendable extension services to the farming community to perform farming activities without any disruptions. The salient activities of TNAU KVKs during the lockdown are given below.

Farm Advisory Services

KVK scientists provided farm advisories on soil testing, soil mulching, green manuring, summer ploughing, seed production in pulses, value addition in amla, jack and vegetables, cotton kapas plucker, nutrient management in coconut, banana and mango, overcoming zinc deficiency in paddy, bee keeping, vermicomposting, mushroom production, fodder cultivation (hydropicos), silage making, animal health management, backyard poultry, farm implements and machineries, seed stock position and inputs availability, weather advisories, plant protection, management of rugose spiraling whitefly in coconut, control of banana wilt, rodent and algali management in paddy fields. Advisories were provided through newspapers, All India Radio, telephones, audio/visual conferencing, website of KVKs, WhatsApp groups and m-Kisan portal.

Around 1,250 messages were provided to 15,598 farmers through 93 farmers WhatsApp groups. Totally, 63 messages were sent to 1,07,185 farmers through m-Kisan portal. Farm advisories of KVKs to the tune of 121 news items were published in Tamil dailies during the lockdown. KVK Scientists participated in 70 AIR phone-in live programmes.

Market linkage support by KVKs

- KVK, Salem with the support of Dept. of Agrl. Marketing & Agri. Business, assisted the Kallaray Hills Farmers Producer Organization (FPO) of Panamaruthupatti block to sell vegetables and fruits through Salem-Namakkal highways Outlet at Namakkal village. For this, the KVK networked several farmers with the FPO for supply of vegetable and fruits.
- KVK, Madurai assisted jasmine growers (around 100 nos.) belonging to Usilampatti, Thunnaparkundram, Thirumangalam, Chellampatti and Sattiyampattu blocks by getting vehicle pass from Madurai Collectorate for transporting the flowers to Chennai Bio Scent, Flora Aromacs and Jasmine floras at Nalkaiettai, Dindigul district.
- Along with Dept. of Horticulture, the KVK, Villupuram assisted the SHG of Chittappattanam village, Muppupur block to procure vegetables such as brinjal, bhendi, gourds, chillies and tomato directly from farmers’ fields and to sell it in other parts of the district.
- Temporarily interruption of scientists of KVK, Tirunelveli helped the farmers of Dharpuram, Vellanavak and Mooleanur blocks of Trivoor to market their produce. KVK scientists contacted the district administration and obtained vehicle pass for transport of climacteric superbe (the state flower and a valuable medicinal plant of Tamil Nadu) seeds to Haryana.
- KVK, Tirunelvur facilitated marketing of vegetables by the Karkan Kal Pulse Farmers Producer Company (PFC) of Mannargudi block. The PFC was able to sell vegetables to the tune of one tonne everyday through a Mobile Vegetable Van, in different bag sizes for Rs.100, Rs.150 and Rs.200. A WhatsApp group named Thiru Kathakal has also been created for marketing vegetables.

Report on Activities undertaken during COVID-19 Lockdown Period

The pandemic caused by COVID-19 has resulted in the lockdown of the entire Nation since March 25, 2020 causing unprecedented disruption in agriculture and allied activities. During this lockdown period, the Tamil Nadu Agricultural University (TNAU), notwithstanding the crisis, discharged its functions effectively in the areas of education, research and extension. Unlike other Universities, TNAU has two main clientele groups ie., students and farmers, which prompted the University to cater to the needs of these groups even during these challenging times. The details are presented under the following sub-heads:

1. Education
2. Research
3. Extension

TNAU’s crisis management preparedness and responsiveness to emerging challenges right from the Green Revolution period has been noteworthy.

PAST CRISES MANAGEMENT

TNAU’s assistance to Hospitals to combat COVID-19

Scientists of the Centre for Plant Molecular Biology & Biotechnology (CPMB&B) of this University offered technical assistance to the medical team of ESIMedical College & Hospital, Coimbatore in preparing and optimizing necessary chemical reagents for collecting swab samples of COVID-19 patients. As sampling kits have become scarce and expensive, the Centre provided ready-to-use swab collection kits, which were promptly delivered to the hospital.

TNAU’s assistance to Hospitals to combat COVID-19

- With respect to Kisan Rath mobile app, 3,663 farmers were sensitized on the use of this app of GOI, which helps farmers to transport their produce, whereby 3,098 farmers downloaded the app for their use.
- Around 18,544 farmers were sensitized by KVK scientists on utility of Anokya Setu app through newspapers, AIR and WhatsApp, whereas 3,098 farmers installed the app.
- With respect to Kisan Rath mobile app, 3,663 farmers were sensitized on the use of this app of GOI, which helps farmers to transport their produce, whereby 3,155 farmers downloaded the app for their use.
The salient educational activities undertaken by 124 constituent colleges and 29 affiliated colleges of TNAU during the lockdown period are grouped and presented as follows:

**Undergraduate**
- Students are kept actively engaged through online classes, sharing of study materials, carrying out assignments, and taking make-up exams through the ‘G Suite’ app viz., Classroom, Hangouts, Drive, Forms, Docs, Sheets, Photos, Gmail and e-Books.

**Post Graduate**
- Online classes are being conducted for all the Masters and Doctoral programmes using ‘MS Teams’ app. Students present their experiments, and take make-up exams through Term Papers through Google Hangouts Meet. Thesis Advisory Committees guide their Masters and Doctoral students through ‘MS Teams’ app. Ph.D. thesis defense was conducted online for seven students during the lockdown period, wherein the Advisory Committee Members, External Examiners and the Students had interactions through ‘MS Teams’.

**Online Exam Paper Evaluation**
- 51,750 final exam answer papers were evaluated online by 553 Teachers, for more than 100 UG courses, belonging to different constituent and affiliated colleges of TNAU. Teachers were assigned duty to set question papers for 189 subjects for the ensuing mid-semester and final exams under various degree and diploma programmes.

**Text Books**
- Text Book writing work is under progress on topics viz., Botany of Horticultural Crops, Breeding in Plantation Crops, Post-harvest Technology of Horticultural Crops, Nutritive Value and Value Addition in Minor Fruits, Introductory Nematology, Renewable Energy & Green Technology, Genetic Mapping and Marker Assisted Selection, Thermodynamics, Industrial Tree Cultivation, and others.

**Online Courses**
- Students and staff attended MOOCs (Massive Online Interactive Courses) through online learning platforms such as ‘SWARM’, ‘Coursera’, ‘Google Digital Garage’, ‘Iab’, ‘The Open University’, ‘TCS ID’ and ‘NDEX’, etc. For instance, MBA students and staff members attended an online certificate course on “Fundamentals of Digital Marketing” through Google Digital Garage.

**Webinars**
- Students and staff participated in Webinars such as: Business Webinar (Harvard Business School), Accelerated Plant Breeding Methods (ICRISAT), Next generation Genomics and Integrated Breeding for Crop Improvement (ICRISAT), Scientific Writing Skills (Springer) and Water Security for Future (Kerala State Council for Science, Technology & Environment).
- Webinars on ‘Horticulture: an Emerging Sector for Employment Generation’ was delivered by Dr. Nirmala Devi, Secretary, Director of Extension Education, TNAU, Coimbatore. Dr. B. Shridhar, Dean (Agril. Engineering), TNAU, Coimbatore presented a webinar titled ‘Business Opportunities in Food Processing’.
- Postgraduate Endowment lecture on ‘Breeding rice varieties for salt-tolerance’ was delivered by Dr. Rakesh Kumar Singh, Principal Scientist (Plant Breeding), National Centre for Biosaline Agriculture (ICBA), Dubai.

**Coaching Classes**
- Coaching classes are being conducted online for UG students, for the All India Entrance Examination for Admission (AIEEA) to Bachelor Degree Programmes conducted by ICAR (Indian Council of Agricultural Research).

**Internship Programme**
- MBA students have joined Virtual Intern Programmes in Tan90, Maya Greens, Payagri, KPMG, BCG, TANFLORA, and Centre for Aquatic Livelihood Jaljeelva.

**Open & Distance Learning (ODL)**
- Under ODL mode of education, online classes were held for PG/Diploma courses viz., Coconut Production Technology, Production, Quality Control & Marketing of Medicinal Plants, Tea Plantation Management, Organic Agriculture, Commercial Production of Bio-control Agents, and Food Science & Processing.

**EDUCATION**

**RESEARCH**

**With the intention of making sanitizers to stay longer on hands, TNAU has developed a hand sanitizer with nano adsorbents. The hand sanitizer formulated by the Dept. of Nano Science & Technology, has been tested for its efficiency against hand microflla and release pattern has been confirmed.**

**TNAU Nano Sanitizer**

**With the intention of making sanitizers to stay longer on hands, TNAU has developed a hand sanitizer with nano adsorbents. The hand sanitizer formulated by the Dept. of Nano Science & Technology, has been tested for its efficiency against hand microflla and release pattern has been confirmed.**

**TNAU Nano Sanitizer**