

VISION



To foster academic excellence by imparting knowledge in Agricultural Engineering to meet the ever-growing needs of the society.

MISSION



To provide quality education to produce agricultural engineers with social responsibility.



To excel in the thrust areas of agricultural engineering to identify and solve the real-world problems.



To create a learner-centric environment by upgrading knowledge and skills to cater the needs and challenges of the society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Core Competency: Successful professional with core competency and interdisciplinary skills to satisfy the Industrial needs.

PEO2: Research, Innovation and Life-long Learning: Capable of identifying technological requirements for the society and providing innovative solutions to real time problems.

PEO3: Ethics, Human values, and Entrepreneurship: Able to demonstrate ethical practices and managerial skills through continuous learning.



**Dr. U. S. Ragupathy,
Ph.D.,**

Greetings to the Department of Agricultural Engineering on the joyous occasion of releasing the departmental newsletter for the academic year 2024–2025. This publication stands as a reflection of the collective dedication, creativity, and commitment of both students and faculty members..



**Dr. D. Ambika, Ph.D.,
HoD**

Congratulations to the students and teachers of the Agriculture Engineering Department on the successful publication of this newsletter. The release of Agri Clickz 24-25 presents a wonderful opportunity to highlight the vibrant activities and achievements of our department. This internal newsletter serves as a valuable platform to share updates, celebrate progress, and showcase the collective efforts of our community. I believe this initiative fosters teamwork, motivates our young learners, and helps build a strong culture of consistent newsletter publication. I extend my sincere gratitude to all my colleagues and peers for their unwavering support and commitment to continuous improvement.

ABOUT AGRO CLIKZ'25 NEWS

The AGRO CLIKZ'25 News is the voice of Agricultural Engineering; it is a newsletter from the Department of Agricultural Engineering which mainly focuses on the day-to-day happenings in the department. It speaks and visualizes the events happening in the department and the participation of students in various inter and intra college events. It encourages and brings out the talents of students in various fields.

ABOUT DEPARTMENT OF AGRICULTURE ENGINEERING

Agricultural Engineering is started in the year 2017 with an intake of 60 students. Agricultural Engineering is a branch of engineering that deals with the design of farm machinery, location and planning of farm structures, farm drainage, soil management, erosion control, irrigation, rural electrification and processing of farm products. This is to find out the solution of the problems in the field of agriculture for increasing agricultural productivity, increasing the standard of living of the farmers.

Hands on training on crop production using tractor operated farm implements is offered in the farm. Our students are undergoing internships and trainings in farm machinery manufacturing industries, drip irrigation companies, food processing industries, dairy industry , renewable energy industries, etc. The Department has signed MoUs with various allied agriculture industries through which Students get Placements with good packages in Modern Dairy processing Industries, Roots Irrigation Ltd., Shri Pachaiammal Agro Industry, Universal Power Suppliers and many more.

INFRASTRUCTURE

The following laboratories have been established and students are being given hands-on training.

LABORATORY FACILITIES

- | | |
|--|--------------------------------------|
| ✚ Soil Science Laboratory | ✚ Farm Implements Laboratory |
| ✚ Crop Production and Husbandry Laboratory | ✚ Unit Operations Laboratory |
| ✚ Farm Tractors Laboratory | ✚ Irrigation and Drainage Laboratory |
| ✚ Maintenance of Farm Machinery Laboratory | ✚ Food and Dairy Laboratory, etc., |

ACADEMIC SEMINAR

The Agricultural Engineer's Association of Nandha organized an academic seminar on 18th July 2024 for the final-year Agricultural Engineering students on the topic **Remote Sensing for Sustainable Agricultural Practices**. The session, held from 9:30 AM to 12:30 PM at Block 7 – Hall 205, was delivered by **Mr. K. Santhosh Kumar**, Assistant Professor, Department of Agricultural Engineering, Sri Shanmuga College of Engineering and Technology, Sankari, Salem. Drawing on his extensive expertise in Remote Sensing and GIS, the resource person shared valuable insights into the transformative role of these technologies in modern agriculture. The seminar explored applications such as satellite imagery, drones, and sensor-based tools for enhanced crop monitoring, resource optimization, and sustainable farming practices. Students were provided with a comprehensive understanding of how remote sensing can drive data-driven decision-making, improve productivity, and promote environmental stewardship in agricultural systems. The event was organized by Mr. T. Bragadeeswaran, Assistant Professor, Agricultural Engineering.



Interaction session between students and guest

CONSERVATION DAY

The Agricultural Engineer's Association of Nandha organized and celebrated World Nature Conservation Day 2024 on 26th July 2024 with a series of impactful and educational activities aimed at promoting environmental awareness and sustainability. The event, held from 9:30 AM to 4:30 PM at Govt Boys Higher Secondary School, Perundurai and NEC – Placement Auditorium, featured Mr. N. Muruganatham, Head Master, Govt Boys Higher Secondary School, Perundurai, Erode, as the resource person. The celebration included an inspiring awareness session and a tree planting program, symbolizing the institution's commitment to preserving natural resources and enhancing green spaces. Tree plantation drives were conducted both at the school and at Nandha Engineering College, fostering community participation and environmental stewardship. The event was a resounding

success, serving as a reminder of the collective responsibility to address environmental challenges and protect the planet for future generations. The program was organized by Dr. K. K. Suvain and Mr. K. Anandhu, Assistant Professors, Agricultural Engineering.



Memorable moment of chief guest address

DEBATE ON NATURE CONSERVATION

On 26th July 2024, Nandha Engineering College hosted a thought-provoking debate on nature conservation, emphasizing the urgency of environmental protection and exploring diverse perspectives on achieving sustainable solutions. Organized by the Agricultural Engineering Department, the event brought together students, faculty, and guests for a lively and intellectually engaging discussion on one of the most pressing issues of our time. The debate was conducted in both Tamil and English, enabling broader participation and inclusivity. The topic, "Sustainable use of natural resources – Fact

or Myth", challenged participants to critically examine the practicality, challenges, and opportunities in balancing resource utilization with environmental preservation. The session fostered awareness, encouraged critical thinking, and inspired participants to reflect on their role in promoting sustainability.



Students engaging actively with special guest

SEED SOWING CEREMONY

The Agricultural Engineer's Association of Nandha organized a Seed Sowing Ceremony on 8th August 2024 at the Agricultural Field, marking the beginning of a new agricultural season and symbolizing growth, prosperity, and new beginnings. This traditional event, held from 9:30 AM to 12:30 PM, reflects deep cultural significance, where seed sowing is often accompanied by rituals, prayers, or blessings to invoke a bountiful harvest. In many traditions, such ceremonies are conducted on auspicious days to ensure

agricultural success and community well-being. The seeds sown during the ceremony were chosen for their importance to the community, including staple crops and culturally valued plants. The event not only celebrated agricultural heritage but also emphasized the importance of preserving age-old farming practices while inspiring students to connect with the roots of sustainable agriculture. The program was organized by Mr. K. Anandhu, Assistant Professor, Agricultural Engineering.



Memorable moment during seed sowing ceremony

WORKSHOP

The Agricultural Engineer's Association of Nandha organized a workshop on 17th August 2024 for Agricultural Engineering students on the topic *"One Step to Career Triumph: Leveraging Innovation for Success."* Held from 9:30 AM to 4:00 PM at Block 5 – MBA Conference Hall, the session featured Mr. R. Tamilselvan, B.E., Trainer at Shankar IAS Academy, as the resource person. Drawing from his extensive

experience, he guided students on higher education opportunities and competitive exam preparation, offering practical insights into achieving academic and career advancement.

The workshop aimed to equip participants with strategies for excelling in competitive exams, selecting suitable higher education programs, and adopting effective study techniques, time management practices, and exam preparation methods. The session covered various competitive exams, including UPSC, SSC, TNPSC, and RRB, with a focus on understanding exam patterns, aligning choices with career goals, and recognizing their role in professional growth.

Key topics included effective study methods such as active learning and spaced repetition, the importance of mock tests and performance analysis, stress management techniques, and awareness of emerging industry trends. The workshop also highlighted career opportunities after higher education, the value of certifications, and professional courses for enhancing employability. Overall, the program empowered participants with the knowledge, skills, and confidence to navigate both academic and professional pathways successfully. The event was organized by Mr.

K. Pradeep Kumar, Mr. M. Prasanth, and Ms. S. Vanisha, Assistant Professors, Agricultural Engineering.



Honoring the chief guest with memento

ENTREPRENEUR SEMINAR

The Agricultural Engineer's Association of Nandha organized a one-day workshop on 24th July 2024 at the NEC Placement Auditorium on the topic "Overcoming the Fear of Failures in Entrepreneurship Journey." The session was delivered by Mr. S. P. Kishore from Sai Irrigations, Thindal, Erode, and coordinated by Mr. M. Prasanth, AP/Agri. The workshop was designed to equip Agricultural Engineering students with strategies to manage and overcome fear of failure, build resilience, and adopt a growth mindset. The resource person highlighted the psychological aspects of fear, its influence on entrepreneurial decision-making, and provided practical tools to transform challenges into learning opportunities. Students benefitted through

enhanced mindset development, emotional intelligence, problem-solving skills, networking opportunities, and self-reflection, thereby strengthening their preparedness for entrepreneurial careers.



Chief guest addressing enthusiastic young minds

The Department of Agricultural Engineering organized an Awareness Program on "Innovating a New Future: Exploring the Challenges Faced by Youth Indulging in Drugs, Gadgets, and Substance" on 27th September 2024 at 10.30 AM in the NEC Placement Auditorium. The session was graced by Dr. R. R. Pranesh, M.B.B.S., MD (Psy.), who served as the Chief Guest and resource person. A total of 95 participants attended the program, which aimed to sensitize students to the risks and consequences of drug use, substance abuse, and gadget addiction. The interactive session

provided students with critical insights into the health, legal, and social impacts of addiction, while also equipping them with strategies to make informed and healthier choices. The outcome of the program reflected positively, with post-awareness surveys showing improved knowledge about specific drugs, their effects, and addiction patterns. Students expressed that the session helped them realize the ease of falling into addiction, understand the long-term health consequences, and



Memorable interaction between dignitaries and students

feel more empowered to make healthy life decisions. Many participants acknowledged that the program inspired them to rethink their choices and stay determined to remain drug-free. The initiative was mapped with PO6 and PO7 and aligned with the United Nations Sustainable Development Goals (SDG 3: Good Health and Well-Being), reinforcing

the institution's commitment to student welfare and holistic development.

77.89 LAKH GRANT FROM ATMAN 2.0 FOR IOT-BASED TURMERIC PROCESSING PROJECT

A major breakthrough was achieved by the Department of Agricultural Engineering and the Department of Mechanical Engineering (Innovation & Incubation Cell), which jointly secured a prestigious grant of Rs. 79.6 lakhs under the **ATMAN 2.0** scheme by IIT Bombay's **TIH Foundation for IoT & IoE**. The funded project titled "*IoT-Driven Boiler Management System for Optimized Turmeric Processing and Drying*" is led by Dr. M. Easwaramoorthi (Professor /Mechanical) Mr. K. Pradeep Kumar and Mrs. P. Sandhiyadevi, (AP/Agricultural Engineering). The system will utilize real-



After the presentation at IIT Bombay Atman 2.0

time IoT monitoring to control steam temperature, optimize energy usage, and reduce emissions in turmeric boiling units.

This innovative solution is expected to empower rural processors and MSMEs through sustainable, technology-driven post-harvest systems.

AICTE-ATAL SANCTIONS RS. 1 LAKH FOR FDP ON ENERGY & CLIMATE RESILIENCE

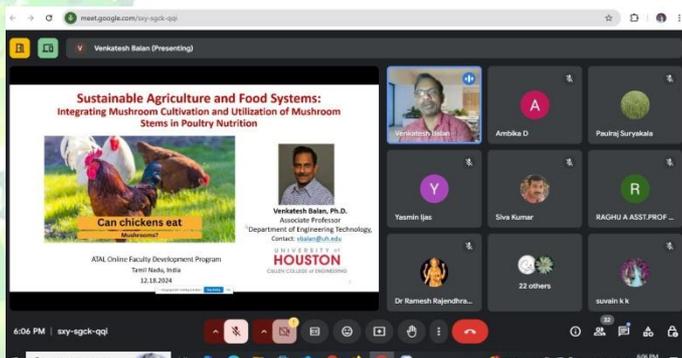
In line with NEC's mission to integrate sustainability into engineering education, the Department of Agricultural Engineering received funding of Rs.1,00,000 from **AICTE-ATAL** to conduct a Faculty Development Programme (FDP). The 5-day FDP on *"Innovative Approaches to Energy, Sustainability, and Climate Resilience"* will be coordinated by Dr. D. Ambika and Dr. K. K. Suvain. This program will empower faculty members from across the nation with knowledge and strategies to integrate climate resilience, renewable energy, and sustainability into academic curricula and research, thereby shaping environmentally responsible engineers and professionals. Eminent academicians and industry leaders will deliver expert sessions and workshops.

STATE-LEVEL RECOGNITION FOR SMART SOLAR FARM INNOVATION: WINS RS.1 LAKH PRIZE AT 'NIRAL THIRUVIZHA'

Mr. M. Gobinath and Team, final-year students from Agricultural Engineering, brought laurels to NEC by winning the State Innovation Award at the "Niral Thiruvizha", organized by the Government of Tamil Nadu. His innovation, developed under the mentorship of Dr. P. Komalabharathi for small holder farm operations. His sustainable rural mechanization model won him Rs.1,00,000 in prize money and attracted industry interest. The achievement demonstrates NEC's ability to nurture student innovators through experiential learning and strong mentoring.



Dr. K. K. Suvain explained the project to the Honorable Deputy Chief Minister



Hands-on Training on Smart Irrigation Conducted for 3 Days From July 1st to 3rd, the Department of Agricultural Engineering conducted a **3-day hands-on training on Smart Irrigation**, sponsored by TNSCST. The program was themed *"Innovation in Irrigation Technology: Empowering Farmers to Start Farming in a Way of Smart Farming,"* and was coordinated by Dr. K. K. Suvain and Mrs. P. Sandhiyadevi. The sessions covered automation of drip systems, integration of IoT sensors, water quality testing, and fertigation techniques. Over 100 participants—including students, researchers, and progressive farmers benefited from real-world demonstrations and interactive sessions held in the smart farming field laboratory.



Extra and Co curricular achievements

The Department of Agricultural Engineering proudly celebrates the remarkable achievements of its students who have excelled in cultural, technical, and sports events across various institutions. Their dedication and diverse talents have brought great recognition to the department.

In the field of innovation and engineering excellence, a remarkable achievement was recorded by our third-year students. Under the mentorship of **Ms. P. Santhiyadevi**, the team comprising **Mr. Mowneesh S, Mr. Sanjay R, and Ms. Kamali R.V** won **1st Prize in the Project Expo** conducted during the **Kongu Vellar and Vidiyal Pothu Nala Eyakam** held at **Chennimalai** from **11/02/2025 to 16/02/2025**. Their innovative project was well-received and appreciated by industry experts and academicians alike, reflecting the strong project-based learning culture nurtured within the department.



Our students continue to shine in co-curricular activities and competitions beyond the classroom. **Mr. GOWTHAM. R**, a III-Year student, brought laurels to the department by securing the **1st Prize in Singing** and **2nd Prize in Short Film** at an intercollegiate cultural event hosted by **Loyola College of Arts and Science, Namakkal** on **January 23, 2025**. His artistic talent and creative expression made a significant mark, adding to the vibrant cultural spirit of our department.



We are delighted to announce that the **Department of Agricultural Engineering**, Nandha Engineering College (Autonomous), Erode, has been honored with the **Best Department Award** by the *National Foundation for Innovative Scientific Research and Technology (NFISRT)* on **December 20, 2024**. This award recognizes our department's consistent efforts in academic excellence, research innovation, and collaborative initiatives, reflecting the dedication of our faculty, staff, and students. This achievement marks a proud milestone in our journey toward excellence and institutional growth.



In an initiative to bridge academia with practical exposure, our department organized a **10-day Internship Program** for

the students of **Government Boys Higher Secondary School, Perundurai**. Held from **20/11/24 to 30/11/24**, this internship provided hands-on experience in the agricultural field at NEC. The program aimed to nurture young minds and ignite interest in agricultural technology, sustainability, and innovative practices through field-based learning modules.

Gowtham R (III Year, 22AG016)

Gowtham has showcased outstanding versatility by excelling in both cultural and technical events. He secured 1st Prize in Short Film at Excel Engineering College, Waafe Arrow Talent Gateway, and Sri Sai Ranganathan Engineering College, along with the 3rd Prize at R.P. Sarathy Institute of Technology, Salem. His creativity also earned him the 1st Prize in Talent Explore at Excel Engineering College. In the field of music, he achieved 1st Prizes in Solo Singing at Waafe Arrow Talent Gateway, Loyola College of Arts and Science, Kathir Engineering College, and Sree Sakthi Engineering College, besides 2nd Prizes at Sri Krishna College of Engineering & Technology, Kovai Grand Festival, Saveetha Engineering College, and Loyola College. He further bagged several 2nd and 3rd Prizes in Short Film, Group Singing, and Karaoke competitions across reputed institutions,

bringing home medals, awards, and overall trophies.

Yakneshrohith M (III Year, 22AG053)

Yakneshrohith excelled in both cultural and sports events. He won 1st Prizes in Short Film at Sri Sai Ranganathan Engineering College, Nandha Engineering College, and MPNMJ Engineering College, while also securing the 1st Prize in Kabaddi (Sports Day) and Music Challenge at Nandha Engineering College. He further won the 2nd Prize in Poster Making and E-Games at MPNMJ Engineering College. His creativity in filmmaking was recognized with multiple 2nd Prizes at Gnanamani College of Technology, PPG Business School, and K.S.R. College of Arts and Science, along with shields, medals, and cash prizes. In sports, he represented in volleyball and won the 2nd Prize at Nandha Engineering College Alumni Meet and 4th Place in University Zone Volleyball at Kongu Engineering College.

Hariharan T (III Year, 22AG019)

Hariharan won the 1st Prize in Short Film and secured 2nd Prizes in Poster Making and E-Games at MPNMJ Engineering College, proving his ability to excel in both creative and technical competitions.

Abdul Hakkim M (III Year, 22AG001)

Abdul Hakkim emerged as a strong performer in Short Film competitions. He won the 1st Prize at Sri Sai Ranganathan

Engineering College and Nandha Engineering College, while also securing 2nd Prizes with cash awards at PPG Business School and KSR College of Arts and Science. Additionally, he bagged 2nd Prize in Group Singing at Sri Sai Ranganathan Engineering College.

M. Vijay (IV Year, 21AGL02)

M. Vijay made a mark in sports by winning multiple 1st Prizes in Kabaddi tournaments at Nandha Engineering College, along with first prizes in cash prize events of Rs. 10,000 and Rs. 5000. He also secured the 2nd Prize in Rs. 10,000 and Rs. 5000 events, and achieved 3rd Prize in Kabaddi at NEC and KEC tournaments, showcasing consistent excellence in athletics.

M. Madhumitha (II Year, 23AG023)

Madhumitha displayed her multifaceted talent by winning the 1st Prize in Running, 2nd Prize in Volleyball, and 2nd Prize in Mime at NEC.

Ezhilarasi P (II Year, 23AG012)

Ezhilarasi demonstrated excellence in cultural and sports events, winning 1st Place in Kabaddi and Mehendi, and 2nd Place in Tamil Oratorical at NEC. She also won the Book Review and Rangoli competitions at Nandha Engineering College, proving her all-round abilities.

Technical Magazine

Food Processing-The Growth Engine

A. Abinaya , 4th Year, Agri, NEC

With people becoming health-conscious, the demand for certain variants like highprotein or low-fat food is also there. Traditional methods for processing the food are insufficient to satisfy the demands of the Indian market. The agricultural biodiversity of India can be conducive to the food processing industry. It is necessary to have processes that can add value to the products. Primary processing of food is unlikely to ensure that we have food and nutrition security. There is a need to introduce the latest technology in processing, packaging and distribution to ensure that food products remain fresh for a longer time. Benefits of livestock products like camel milk or goat milk can be realized if we know how to increase their shelf life. The latest technology in storage, packaging and distribution will add value to the food product.

Food security with millets

Dr. K. K. Suvain ., Assistant professor, Agri, NEC

2023 is international year of the millets so the logo and the tagline are everywhere, from advertisements in papers, to food wrappers to railway tickets. There are 'millet meals' and suddenly everything from noodles to biscuits are labelled millets. Millets is a term used for varied crops that are small grained annual cereals, mostly from the 'grass family' Poaceae.

They are grown primarily in tropics and semi tropical regions of Africa and Asia, and were the indigenous grains before white rice, maize and wheat became popular across the world. All millets are annual and drought resistant, with nutritive value better or equivalent to the common staples. You can grow millets even over barren land. You can grow them anywhere on the planet. It is ultimately the responsibility of people to recognize the goodness and shift to the production and consumption of millets. It is our responsibility to save our agriculture and save our planet.

Regenerative Agriculture

R. Sridharshini, Assistant professor, Agri, NEC

Regenerative agriculture practices such as natural farming protect against further depletion of water tables, loss of biodiversity, soil degradation, and increase in greenhouse A High-input, resource-intensive conventional agriculture practices cannot deliver sustainable food and agricultural production. We need to adopt holistic and sustainable solutions which are cost-effective, environment friendly and resilient to changing climatic conditions. Such practices need to be incorporated into national policies to ensure their nationwide adoption and effective implementation. Various studies have documented the effectiveness of Natural Farming in enhancing soil health, fertility, microbial biomass and soil respiration. To ensure

sustainability of agricultural practices it is critical that in addition to policy support, adequate academic and research support is ensured.

Climate-Smart Agriculture

S. Abilash, 4th Year, Agri, NEC

Climate change is one of the most dangerous natural hazards that significantly impair the agricultural production of India. Among the various greenhouse gases, the concentration of carbon dioxide (CO₂) was increased at the rate of 1.5 to 1.8 ppm per year. India is a largest producer of milk, pulses, spices, and cattle in the world, and it is heavily reliant on the climate change. So there is a great deal of concern about future climate changes and their effects on India's agricultural production. According to the estimations, agricultural production will need to rise by 60% in order to fulfill the estimated demand of food and animal feed in future. Moreover, threats to crops, livestock, and fisheries are anticipated to rise in the next decades as a result of climate change. So transformation and reorientation of agricultural production under the new realities of climate change gave rise to concept of climate smart agriculture.

Sustainable food production using hydroponics

R. Nithiya Prakash, 2nd Year, Agri, NEC

Our current agricultural system is handling the massive task of fulfil the caloric

needs of a population of 9.8 billion people by 2050. There are various factors responsible for declining the food production. In order to meet the expanding need for food, we must discover alternatives to the agricultural system. Many of the negative aspects of the world's present agricultural issues can be addressed via hydroponic farming. Farming Plants can be cultivated hydroponically, a farming technique that eliminates the need for soil and allows plants to thrive in nutrient-rich water. Climate change, dangerous infectious diseases, rising urbanization, and the depletion of natural resource deposits are just a few of the pressing.

Agricultural mechanization

K. Pradeep Kumar, Assistant professor, Agri, NEC

Mechanization is a multi-dimensional concept and widely used in agriculture. Agricultural mechanization is the use of machinery and equipment, ranging from simple and basic hand tools to more sophisticated, motorized equipment and machinery, to perform

Agricultural operations. In modern times, powered machinery has replaced many farm task formerly carried out by manual labour or by working animals such as oxen, horses and mules.

It is a key tool to satisfy the need of global food security. Sustainable agricultural

mechanization can also contribute significantly to the development of value chains and food systems as it has the potential to render postharvest, processing and marketing activities and functions more efficient, effective and environmentally friendly.



ACADEMIC TOPPERS
BACHELOR OF ENGINEERING (AGRICULTURAL ENGINEERING)
(2020-2024 Batch)



PREETHI S



SANTHIYA I



JAMUNADEVI S S

"Our greatest ability as humans is not to change the world, but to change ourselves."

- Mahatma Gandhi



ACADEMIC TOPPERS
BACHELOR OF ENGINEERING (AGRICULTURAL ENGINEERING)

(2021-2025 Batch)



GOWTHAM R



VIGNESH S



GOWRI SHANKAR M

ACADEMIC TOPPERS
BACHELOR OF ENGINEERING (AGRICULTURAL ENGINEERING)

(2023-2027 Batch)



NISHMA SHILFANA S



GANIKA R



NITHIYA R



MANISH MAHALIK D



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Nandha Engineering College

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Perundurai - Erode Main Road, Erode 638 052, Tamil Nadu.