

# KALASALINGAM ACADEMY OF RESEARCH AND EDUCATION

(DEEMED TO BE UNIVERSITY) Anand Nagar, Krishnankoil - 626126, Tamil Nadu



# SUSTAINABILITY REPORT

2024-25

# **STRUCTURE**

PROLOGUE

HISTORY OF GREEN ARMY

**VISION** 

**MSSION** 

SETTING AND INFRASTRUCTURE

ENERGY AND CLIMATE CHANGE

WASTE

WATER

TRANSPORTATION

EDUCATION AND RESEARCH

**EPILOGUE** 

#### **PROLOGUE**

#### From Chancellor's desk.....

I am very much pleased to know that the Green Army of Kalasalingam Academy of Research and Education (KARE) is releasing its "Sustainability Report – 2024-25" for creating awareness on environmental issues among students and faculty members. The KARE is fully committed to improve the environmental ambience by using energy efficient technologies, enhancing the green cover and recycling wherever possible. I am very happy to note that Green army volunteers and Green team members have shown a spontaneous involvement in creating a tempo of environment consciousness to make this campus greener and Clean. I very much appreciate the efforts and achievements of our Green Army volunteers for bringing in a new dimension of activities within the campus.



Dr.K.Sridharan

#### **Message from Vice President**

I am very much delighted to see the Green Army emerging out of this campus. No doubt we all should join hands in keeping our environment clean and green. Student power is magnificent and everything is possible if they are motivated in right direction. I am sure that the Green Army will do wonders not only in campus but also outside the campus. I congratulate them for coming forward to shoulder the responsibility. Wish you all a great success.



Dr. S. Shasi Anand

#### Message from the Vice Chancellor

It gives me immense pleasure to know that a new dimension of activity emerging from the campus on environmental consciousness – The Green Army. KARE has taken many initiatives to make the campus environment- friendly. This campus is being maintained plastic-free for many years and plantation is a continuous activity within and outside the campus. KARE has a dedicated effluent treatment plant for recycling the waste water which is an example, a proof how much KARE is conscious on conserving natural resources. I wish all the Green Army volunteers and Green Team faculty members for organizing successful events in the academic year 2024-25.



Dr. S. Narayanan

#### Message from the Registrar

This year's most striking activity of the campus is the initiation of a battalion of Green Army. It was a longtime need of the KARE to have a dedicated team of volunteers to take care of the natural resources within the campus via water, energy and forest. KARE is fully committed with the support of Management not to leave any stone unturned towards safeguarding the environment. I am sure that the Green Army will emerge as one of the best volunteers in making not only the University campus but also the surrounding areas synergize with environment. I wish all the very best to all Green Army volunteers and Green Team faculty members.



Dr.V.Vasudevan

#### Vision:

To bring zero pollution level in the university by means of adopting new technologies and continuous monitoring.

#### **Mission:**

To inspect, survey and analyze energy usage and emission of greenhouse gases in the area in order to reduce the amount of carbon foot print without affecting the output(s).

#### **Objectives:**

- ✓ Ensure judicious usage of fans and lights inside and outside the class rooms to minimize electricity consumption.
- ✓ Ensure litter-free environment inside the class room and corridor of the respective classroom
- ✓ Organize minimum two events in line with "Swachh Bharath" campaign within the campus and outside the campus under the leadership of Green Team (Faculty) members in a semester.
- ✓ Educate and advice co-students to follow environment friendly practices inside and outside the class room and in the campus as well.
- ✓ Report to the Green Team if any abuse of environment by any stack holders observed within the campus.

## **SETTING AND INFRASTRUCTURE**

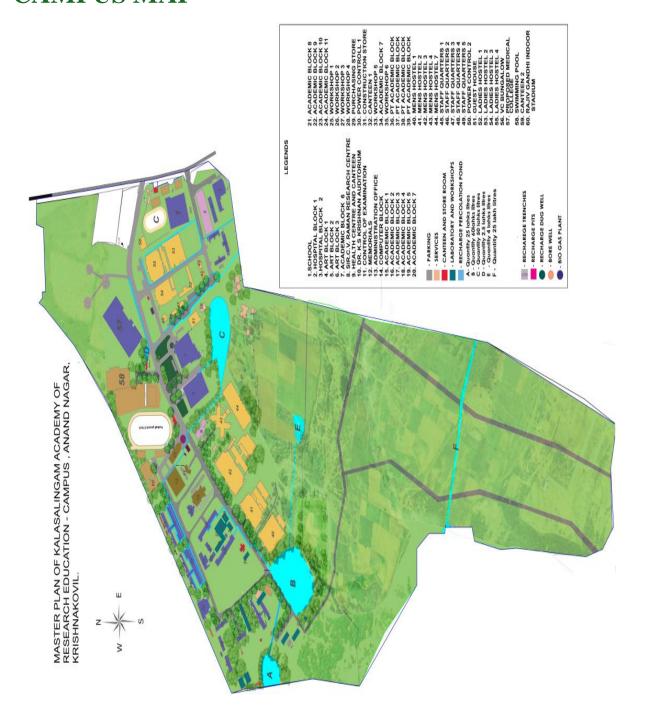




Kalasalingam Academy of Research and Education (KARE) formerly Arulmigu Kalasalingam College of Engineering was established in 1984 by Kalvivallal Thiru. T. Kalasalingam, Founder Chairman who was a freedom fighter and philanthiropist. KARE is located at the pristine foothills of scenic Western Ghats of Southern Tamil Nadu at Krishnankoil, Virudhunagar District, TamilNadu and it is situated near the Thirumangalam-Kollam highway (NH 744) at a distance of 65 km from Madurai and 12 km from Srivilliputtur. KARE has the total land area of **379.79 acres** (**1536957 m²**) and total building area of **314431.11 m²**. KARE obtained the Deemed to be University status in 2006. The Institution has been serving society for thirty-eight long years and it caters to the needs of students from all walks of society. KARE offers **46** UG programmes, **19** PG programmes and **27** Ph.D. programmes. It is the first Institution in India to introduce a special B.Tech. programme in engineering for the differently able (speech and hearing impaired) students.

KARE has sprawling infrastructure spread over **379.79** acres encompassing 58 academic blocks with air-conditioned gallery type classrooms, 9 hostel blocks, an air-conditioned auditorium for staging major cultural programmes, air-conditioned seminar halls to support co-curricular activities, outstanding sports facilities including the avenue for yoga, gymnasium, indoor stadium, faculty and nonteaching residences and support services such as cafeteria/canteens/shops and other facilities. The entire campus has **100%** power backup.

# **CAMPUS MAP**



Campus Total Area :  $1536957 \ m^2$ 

Ratio of open space to total area: 94.7%



Total area campus covered in forest =568583.8 m2Total area on campus covered in forest (%) = 36.06%



Total planted vegetation area:  $673802.2 \text{ m}^2$ 

Percentage area: 43.84%





Area of the water absorption =  $214483.30 \text{ m}^2$ 

Percentage = 13.95%

#### Campus\_facliities\_for\_disable\_special\_needs\_and\_or\_maternity\_care:

Ramps and handrails are installed at all academic blocks with wheel chairs at various locations for the ease and safe access of facilities in the campus for the disabled persons.



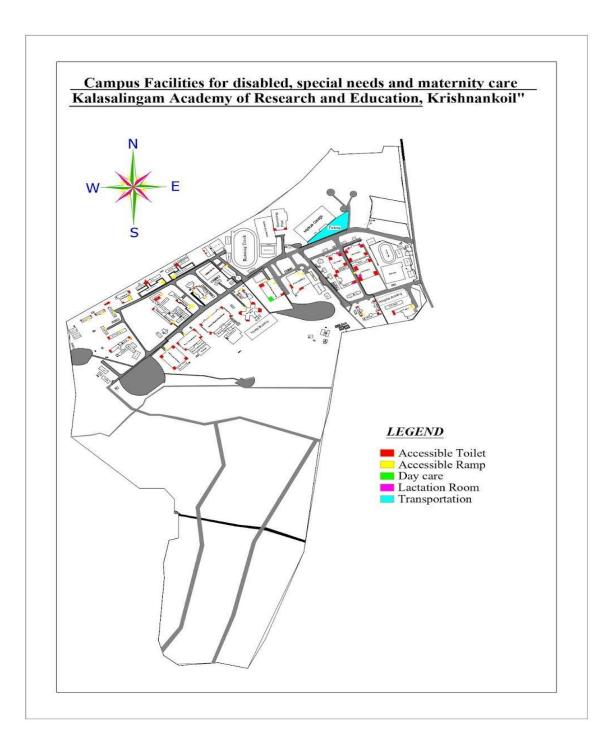
Students can select scribes from the approved list of scribes KARE as per the guidelines for visually impaired or orthopedically challenged candidates using scribes. Assistive persons in lifts for disabled students at a university can significantly enhance accessibility and support. They are trained in Understanding different disabilities and individual needs, Safe lifting and transfer techniques and Emergency protocols. Set up a dedicated phone line or intercom system at lift entrances.



A lactation room is available in Block 2 and is open for use by faculty members, students attending convocation, and members of the public visiting for admissions or other university-related events who have recently given birth. This facility ensures a private and comfortable space for breastfeeding or pumping, supporting the needs of new mothers within the university community.



KARE offers essential counselling services for students, addressing a range of issues including personal concerns, mental tension, depression, and academic apathy. The appointed counselor is dedicated to supporting students in navigating challenges like faculty relationships, exam failures, and emotional losses.



#### Security and safety facilities:

Security personnel and CCTV cameras monitor campus areas to maintain a secure environment around the clock (24/7 Surveillance). CCTV cameras at various locations on the campus, ensure additional safety for the campus inmates. Restricted access to certain areas of the campus helps prevent unauthorized entry and ensures safety in academic, residential, and administrative buildings. The security team is trained to handle emergencies, such as medical incidents, fire, and other critical situations, with swift response protocols in place.



**CCTV** 



Fire Hydrant

#### **KARE Hospital:**

Kalasalingam Medical College and Hospital was established in 2021 by the pioneering Kalasalingam Anandam Ammal Charities. Located at the pristine foothills of the scenic Western Ghats. Kalasalingam Medical College and Hospital is a healthcare and medical education institution. It offers medical training and provides a range of healthcare services to the community. The hospital delivers patient care across various specialties.



Conservation: plant, animal, and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities: >95%

#### **Long Term Conservation:**

The campus is equipped with a state-of-the-art cryogenic preservation facility that uses Liquid Nitrogen at -196°C to store valuable plant germplasms securely. This low-temperature environment ensures the long-term viability and genetic stability of various biological materials, including cells, plant tissues, and tree seed embryos.

Kalasalingam School of Agriculture and Horticulture, we are successfully running certified seed production program and are officially registered with the Government of Tamil Nadu. The major crops we are focusing on for certified seed production are Rice (ASD 16), Black gram (Vamban 8), Tomato (PKM 1) and Cluster bean (Pusa Navbahar). By providing quality seeds to the farming community, we aim to raise awareness among farmers about the importance of using certified seeds

# **QUALITY SEED PRODUCTION**

# As Entrepreneurial Skill Development

griculture feeds nation! Seed feeds agriculture! Quality seeds always play a vital role in agriculture and allied sectors. Quality seeds are produced and distributed under the various seed legislations viz., Seed Act 1966, Seed Rule 1968 and Seed Control Order 1983. Hence, the person entering quality or certified seed production business should follow the legal norms and should have proper seed seller licence. As per the Seed Control Order 1983, no person can involve in seed business without a licence. Hence it is necessary to enrich the knowledge of students and the youths through hands-on training in quality seed production with seed legislation.

Kalasalingam Academy of Research and Education gives such training to the students through Experiential Learning Programme for the past four years. So far the students have produced both Foundation and certified class seeds of Black gram var. VBN 8, Cluster Bean var. Pusa Navbhar, Paddy var ASD16 and Tomato var. PKM-1. Kalasalingam Academy of Research and Education is the only successful PKM1 tomato seed producer in Virudhunagar District of Tamil Nadu. Every year a team of students can get hands on training on certified seed production, it includes seed farm registration, field inspection, seed processing at an approved processing unit, seed quality test and bagging, tagging, sealing and marketing certified seeds. All the above mentioned processes are entered in the Seed Production Enforcement and Certification System (SPECS) portal.

#### What is SPECS?

Seed Production Enforcement and Cer-



SPECS portal is userfriendly and this portal helps to know the current status of seed production in various districts of Tamil Nadu.

tification System (SPECS) is a unique portal, started in the year 2018. Earlier the seed farm registration and its follow up actions were maintained manually by the Assistant Director of Seed Certification office. Now, the SPECS portal is user-friendly and this portal

#### About the **AUTHORS**

Dr. V. Vasudevan, Registrar and

Dr. K. Selvarani, Assistant Professor.

Kalasalingam Academy of Research and Education, Tamil Nadu helps to know the current status of seed production in various districts of Tamil Nadu. Moreover, it tracks the status of registered seed farms. This portal provides the overall data for the seed farm registration, number of field inspections carried out by Seed Certification Officers (SCOs), the total number of seed samples received by Seed Testing Laboratories, the number of substandard samples and Standard samples, the status of tagging, etc.,

#### **How does SPECS portal work?** Seed Producer

The person who wants to start seed production should register in SPECS with the help of the Assistant Director of Seed Certification office. Under single seed producer, many seed growers can be added. After seed producer registration in SPECS, a unique user name and password will be provided. Once the seed crop is raised, the seed farm should be registered in SPECS by giving the farm details and the procurement details of source of seeds sown. After seed farm registration in SPECS portal,

54 — AGRICULTURE TODAY May 2024



Students on practical session at Farm



Distribution of organic bio fertilizer to rice cultivation farmer in watrap area

#### **Energy and Climate Change:**

To tap the alternate energy sources, KARE has installed 1124.22kWp rooftop solar power panels on top of nine blocks. About 45% of the energy consumption is met by the solar energy leading to the reduction in carbon foot print. The institution has also installed 152 solar street lights throughout the campus which amounts to a saving of about 9.56 kWh per annum. Further, solar water heaters are installed in the hostels and solar pumps are installed in the agriculture farms to tap solar energy.



Solar installation in all academic blocks

Institute has taken efforts to save energy by installing sensor-based equipment from the kitchen to common areas in the campus. To highlight some of the major initiatives, around 152 automatic daylight sensors are installed in the street lights





#### **Energy Efficient Appliances Usage:**

S. No	Appliances	Total Energy saved (in MWh/year)	CO2 emission saved (t CO <sub>2</sub> /annum)
1.	Slim tube lights & LED bulbs	185.58	185.58
2.	Energy Efficient fans	330.9	341.48
3.	Air conditioners	168.7	174.09
	Total	672.65	701.15

The amount of 701.15 tCO<sub>2</sub> emission saved is equivalent to planting 10,016 Neem trees over 20 years' lifetime approximately (Considering 3.0–5.0 kg CO<sub>2</sub> per tree per year).

#### **Energy produced by Biogas Plant:**

There are totally 7 hostels in the campus and approximately 3400 students are residing in the campus at any point of time. The food is prepared in a common kitchen and distributed to the various hostels. The fresh vegetable peels are collected from the cooking area and part of it was utilized for biogas production. The collected waste is chopped into small pieces using a mixer and fed into the digester.



**Total Renewable Energy generation (in kWh per annum)** 

S. No	Renewable Energy Source	in kWh
1	Solar Plant	3657119
2	Solar Street lights	9.56
3	Biogas	1486
4	Wind power	3600
	Total	36,62,214.56

% of power Generation through Renewable Energy =  $(3662224.56 / 7998960) \times 100$ 



Pedestrian friendly pathways around the campus

Faculty members and students are encouraged to use bicycles inside the campus. The parking lots for bicycles are provided at various locations in the campus. To reduce air pollution and save fuel, battery-powered vehicle facility is available in the campus. People can use the shuttle service that is provided with the use of electric vehicle



KARE engages various community engagement programme that highlights the active participation of students in addressing local needs and promoting sustainable development. Through student-led initiatives, learners collaborate with community members to identify issues and implement practical solutions that create a positive social impact Activities often include awareness campaigns, skill development workshops, environmental conservation drives, and support for underprivileged groups



#### **Waste Management:**

Kalasalingam Academy of Research and Education collects all the biodegradable organic waste materials from the campus and they are segregated in to different types and each types are cut in to small pieces using a shredder machine. After that, all the different types of the waste materials are mixed together and spread under shade as a long narrow pile with different layers for about one-meter height and sprinkled with fresh cow dung slury for about 7-10 days with regular turning. This pre-digestion helps mainly for the breakdown the complex cellulose and hemicellulose materials. After the pre-digestion process is over, the material is loaded in the vermicompost tanks and earthworm are released. Within 45-60 days of worm release, all the waste materials are converted in Vermicompost. The compost will be collected from the tank and sieved and utilized as organic manure. This manure will be used in our farms and also it will be supplied to the local farmers in subsidized rate.







Organic Waste management through Vermicomposting

#### Total volume organic waste treated this year:

	Amount (Ton)					
Type of waste	Produced			Treated		
	Last year	This Year	Reduced	Reused	Down- Cycled	Up-Cycled
Organic	192	178	6	52	26	26
Food waste	88	79	2	26	15	11
Leaf, etc.	84	82	0	25	14	11
- etc	20	21	2	10	7	3

In 2024-2025, a total of **52 tons of organic waste** were successfully treated at KARE Campus. This treatment primarily focused on the reuse of biodegradable waste generated from various campus sources, including food waste, garden leaf litter, and other organic matter. Out of the 178 tons of organic waste produced, approximately **29%** was treated and repurposed through sustainable methods such as composting and biogas generation. Specifically, **26 tons of food waste** and **25 tons of leaf waste** were reused, while **10 ton of other organic waste** was also processed. These treated outputs contribute to campus greening efforts and organic farming, reducing the environmental footprint and promoting a circular economy model. The initiative highlights the institution's commitment to effective waste management and resource recovery through eco-friendly practices.

#### **Organic Waste Treatment:**



Nearly 178 tons of organic wastes were generated, marking a reduction of 6 tons from the previous year due to improved waste segregation and awareness initiatives. Of the total, 52 tons were effectively reused through composting and organic farming practices within the campus. Food waste and leaf litter are segregated and processed using compost pits and biogas units, converting them into nutrient-rich manure. The compost is utilized in the university's green spaces and agricultural plots, supporting a circular waste economy. This treatment strategy not only reduces landfill pressure but also enhances environmental sustainability on campus by turning waste into a valuable resource.

#### **Water Conservation:**

The rainwater collected is also used to recharge the groundwater through the campus's bore wells and open wells. Open wells and Borewells, which are strategically placed throughout the campus, are also used to recharge the groundwater. To meet the water needs of the campus community and also to help the nearby communities, the institution maintains open wells on its land near the campus.



#### Rain water storage:

The rainwater is also stored in the check dam and percolation pond. Due to this facility the groundwater level within the campus has increased. Rainwater harvesting facility is also provided in each building so as to harvest the rainwater and store them for a long period.











carbon-neutral contest promotes environmental sustainability by encouraging participants to reduce their carbon emissions and adopt energy-efficient practices, which directly mitigates climate change. It cultivates innovation by motivating the development of new, scalable green technologies, while raising public awareness about the importance of carbon reduction. Additionally, the contest enhances the reputation of businesses or individuals committed to sustainability, encourages collaboration, and can influence positive policy changes, leading to a broader societal shift toward a low-carbon future



**Contest on Carbon Neutral** 

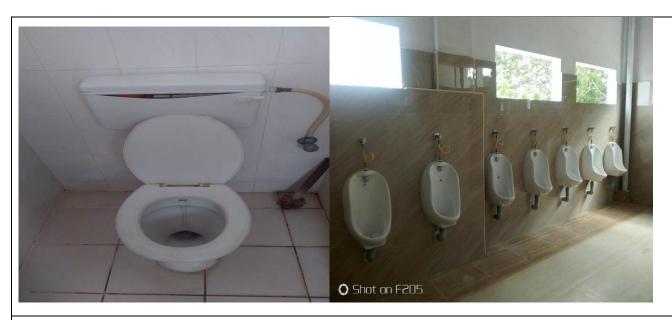
#### **Reverse Osmosis (RO) Plant:**

Hard Water is treated by RO plant. Treated water is supplied from the RO plant to the different drinking water tanks available at various locations at the campus. The plant has a capacity of 3000 litres per hour. The water sample is tested once a month by the Department of Chemistry.





# Recycled water used for gardening and flushing of toilets:



**Treated Water used for flushing the toilet** 







Treated Water used for watering the lawn through Sprinklers

#### **Water Analysis:**

KARE has analyzed the water quality parameters and it is compared with BIS standards. The following table shows the quality of drinking water and it proves that it is pure, safe and clean.

Drinking water quality in KARE Campus:

No.	Parameters	KARE Value	BIS Standards
1	рН	7.6	6.5-8.5
2	Turbidity	NIL	1 NTU
3	Conductivity ( µ mhos)	90.4	<250
4	Hardness (ppm)	40.71	200
5	Total Dissolved Solids (ppm)	58.5	500
6	Chloride (ppm)	32.07	<250
7	Salinity (ppm)	74.3	<500
8	Nitrates (ppm)	-	45
9	Sulphates (ppm)	6.85	200
10	Phospate (ppm)	0.01	1.5
11	Fecal Coliform counts/ml	-	-

The institution uses Information and Communication Technology (ICT) tools to effectively plan, monitor, and evaluate water usage, conservation, and treatment practices across the campus. The following digital practices and systems are in place:

- Smart/digital water meters installed in key buildings (hostels, academic blocks, staff quarters) help track consumption.
- Sewage Treatment Plant (STP) parameters such as flow rate, pH, TDS, and output volume are digitally monitored.
- Leakages, overflows, or plumbing faults are reported via mobile apps, WhatsApp groups, or internal portals to estate/maintenance departments.
- Complaints are tracked digitally (KAFKA Complaint System) for faster resolution.
- Timer-based or sensor-based drip irrigation systems reduce water wastage in gardens. Some areas use soil moisture sensors or scheduled irrigation to regulate treated water use.
- Audit reports, consumption data, and treated water usage are stored digitally.

## **Transportation (TR):**

The total number of vehicles (cars and motorcycles with combustion engines) divided by the total campus' population (TR.1)

No.	Vehicle	<b>Total Number</b>
1	Car managed by the university	5
2	Cars entering the university	51
3	Motorcycles entering the university	242
	Total	298

The Green Army Club organized "Vehicle & Emission Free Day" on September 28, 2024, to raise awareness about vehicular pollution. Forty-five club members actively participated, promoting the use of bicycles and public transport. Their efforts led to a successful no-vehicle day on campus.





EV for Shuttle Services



Bicycles/EVs used inside the campus



Green Army Volunteers checking Vehicle Emission Testing



EV for Shuttle Services

#### **Campaigns and Awareness Programmes:**

KARE regularly conducts campaigns and awareness programs to promote green and safe transportation. Events like "Car-Free Day" and "Cycle to Campus" encourage students and staff to use bicycles, electric vehicles, or walk instead of using fuel vehicles. Posters, rallies, and workshops help everyone understand the importance of reducing pollution and saving energy. These activities build a strong sense of responsibility toward protecting the environment and creating a sustainable campus.







Event: ZeDay2K25: Awareness Rally on Zero Emission

Date: 13.09.2025 Time: 9.00 A.M. -1.30 P.M.

Venue: Srivilliputhur Ratha Veethi

Chief Guests: Mr. A. Raja, B.Sc., PGDCA, Deputy Superintendent of Police, Srivilliputhr, Sub Division & Mr. P. Muthukumar, Inspector of Police, Srivilliputhure Town Circle.







#### Awareness program on Zero Emission

Zero Emission Vehicles bicycles

(both university operated & Staff/Students bicycles = 160

Two Wheeler EV's = 18

Total number of zero emission vehicles = 178

Total campus population = 10345

The total number of Zero Emission Vehicles (ZEV)

divided by the total campus population = 178/10345 = 0.0172

Total Parking Area =  $2384.5 \text{ m}^2$ 

Total area for parking the vehicles (2025)  $= 3526 \text{ m}^2$ 

Total Parking Area =  $2384.5 \text{ m}^2$ 

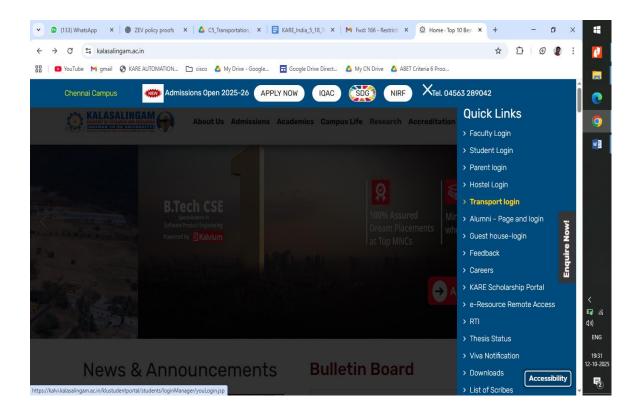
% of Reduction = (3526 - 2384.5/3526) = 32.3 %

# Planning, implementation, monitoring and/or evaluation of all programs related to Transportation through the utilization of Information and Communication Technology (ICT)

KARE uses Information and Communication Technology (ICT) to plan, implement, monitor, and evaluate all transportation programs. Shuttle services, bicycles, and electric vehicles are managed through digital scheduling systems and online booking platforms, ensuring efficient operations. GPS and RFID tracking allow real-time monitoring of vehicle movements and usage patterns, helping reduce idle time and optimize routes. ICT dashboards provide data on trips, occupancy, and carbon emission reductions, while online surveys collect feedback from students and staff. These technology-driven practices improve transport efficiency, encourage sustainable mobility, and support a cleaner, greener campus environment.

#### **Online Transport Booking System:**

Activities/Programs	ICT Utilization	Stage	
Transport Booking System	Mobile application or web platform	Implemented, evaluated, and is currently revised	
	GPS tracking, real-time communication	Implemented, evaluated, and is currently revised	
	Geographic Information Systems (GIS) and route optimization software	Implemented, evaluated, and is currently revised	



# **Research and Education:**

# **Sustainability Course introduced:**

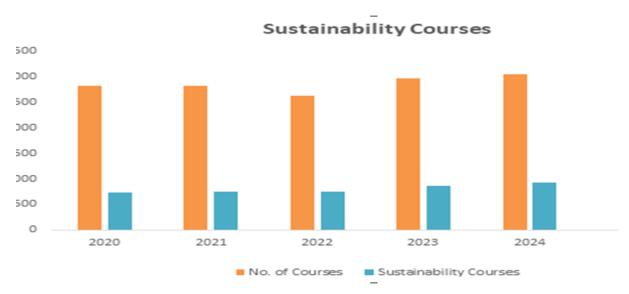
Course Title	Notes		
B.Tech.(Civil) - Smart Conservation of Water resources	Focuses on innovative techniques to preserve and optimize water usage. Emphasizes sustainable practices for long-term resource management.		
B.Tech.(Biotechnology) - Techno- Economic Analysis of Byproduct Production from Wastewater Effluents	Evaluates the economic viability of extracting valuable byproducts from wastewater. Combines technical and financial assessment for waste-to-resource solutions.		
B.Tech.(Civil)-Water Quality Analysis	Covers methods to test and ensure safe water standards. Addresses contaminants and treatment protocols for clean water supply.		
B.Tech.(Civil) - Design-Build Water Pressure Management Systems	Involves designing systems to regulate water pressure efficiently. Aims to reduce leaks and improve distribution network performance.		
B.Tech -EXSEL Course on Water Reuse	Teaches advanced strategies for recycling an reusing water. Highlights applications in industria and municipal settings.		
B.Tech - Rainwater Harvesting	Explores techniques to collect and store rainwater for sustainable use. Reduces dependency on traditional water sources.		
B.Tech.(Civil, Biotech) - Wastewater Treatment and Nutrient Recovery	Focuses on treating wastewater while recovering nutrients like phosphorus. Supports circular economy in water management.		
B.Tech (All) - Water Leakage detection and management	Uses technology to identify and mitigate water leaks in pipelines. Enhances conservation and cos savings.		
B.Tech.(Civil) - Water Pipe Descaling	Addresses methods to remove scale buildup in pipes. Improves water flow and system longevity.		
B.Tech.(All) - Water Pressure Management Systems	Combines treatment processes with advanced analysis for effluent quality. Ensures compliance with environmental standards.		
B.Tech(All) - Waste water treatment and analytical techniques	Promotes effective waste separation to maximize recycling. Reduces landfill dependency and environmental impact.		

B.Tech (All)- Sustainable Waste	Strategies to recycle and repurpose plastic waste.
Sorting and Segregation for Resource	Aligns with circular economy principles to
Efficiency	minimize pollution.
B.Tech (All)-Plastic Waste	Techniques for recycling and reusing metal waste.
Management and Circular Economy	Reduces mining demand and energy consumption.
B.Tech (All)- Sustainable Metal Waste	Focuses on converting farm waste into useful
Management	products like compost or biofuel. Enhances sustainability in agriculture.
B.Tech (All)- Agricultural Waste	Transforms food waste into value-added products.
Management	Addresses food security and waste reduction.
B.Tech (All) - Sustainable Food Waste	Solutions for recycling textile waste into new
Processing: From Degradation to Product Development	materials. Supports sustainable fashion initiatives.
B.B.A, M.B.A, B.Tech (Civil, Biotech	afe disposal and treatment of medical waste.
& Chemical) - Textile Solid Waste	Prevents health hazards and environmental
Management and Circular Economy	contamination.
Biotechnology, Biomedical	Encourages recycling paper waste into new
Engg- Biomedical Waste Management	products. Reduces deforestation and carbon
	footprint.
B.Tech (All)- Paper Waste	Proper disposal and recycling of used batteries.
Management and Circular Economy	Mitigates toxic leakage and recovers valuable metals.
B.Tech (EEE) - Battery waste	Manages dangerous waste through safe treatment
management	and recycling. Minimizes environmental and public health risks.
B.Tech (Civil & Mech) - Hazardous	Covers EV technology and infrastructure
Waste Management and	development. Accelerates transition to clean
Circular Economy	transportation.
B.Tech(EEE & Aero)- Electric Vehicle	Designs localized energy grids for reliability and
,	sustainability. Integrates renewable sources for
Integration (E-Mobility)	decentralized power.
M.Tech(VLSI), M.Sc (Physics) -	Explores harnessing wind power for electricity
Microgrid System	generation. Focuses on turbine technology and
microgra bystem	efficiency.
B.Tech(EEE & Aero) and B.B.A -	Promotes appliances and systems that reduce
Wind Energy Conversion System	energy consumption. Lowers costs and
Wind Energy Conversion System	environmental impact.

B.Tech(Civil & EEE),and <u>B.Sc(</u> Viscom)- Energy Efficient  Devices / Energy Efficiency  Improvement (Energy Savings)	Installs and maintains photovoltaic systems for solar energy. Expands renewable energy adoption.
M.Sc.(Physics) - Solar PV System	Technologies like batteries for storing renewable energy. Ensures stable power supply during fluctuations.
B.Tech (all) - Energy Storage System	Uses sunlight for heating applications in industries/homes. Provides an eco-friendly alternative to fossil fuels.
B.Tech(Civil), <u>M.Sc(</u> Physics)- Solar Thermal Systems	Optimizes energy use in buildings via automation. Enhances efficiency and reduces waste.
M.B.A and <u>B.Sc(Physics)</u> - Smart Building Energy Management	Tailors solar solutions for inaccessible regions. Improves energy access in underserved communities.
B.Sc(Physics) and M.Sc(Physics)- Solar Optimizer for Remote Off-Grid Areas	Monitors and optimizes battery performance.  Critical for EVs and renewable energy storage.
B.Tech (All)- Battery Management Systems and Modeling	Creates apps for efficient transport planning. Enhances user experience and reduces congestion.

# **Total Number of Courses/Subjects Offered:**

Year	2020	2021	2022	2023	2024
No. of Courses	2820	2820	2639	2967	3047
Sustainability Courses	727	747	753	867	921



Educational programs	Total Courses	Sustainability Goals- Related Courses
Undergraduate courses	1930	562
Postgraduate courses	958	200
Online Courses	159	159
Total	3047	921

Number of Activities organized by student organization related to sustainability: 40



Blitz2K24: On September 28th, the Green Army Club of KARE hosted BLITZ 2024 to encourage students from the SHIP (Special Education in Hearing Impairment) department to showcase their talents in environmental awareness. The event successfully promoted environmental consciousness among participants. Over 120 students enthusiastically took part in this inspiring event.

**Eco Odyssey-2024:** The Green Army Club organized a two-day field trip to Cochin, Kerala, on 9th and 10th November 2024. A total of 53 students and two faculty members participated. The trip aimed **to study ecological balance along the seashores and parks of Kochi.** 



GreenWave2K25: The Green Army Club, KARE, in collaboration with WeVitamin Global (NGO), organized an awareness rally on March 1, 2025, at Srivilliputhur to commemorate World Forest Day. Over 300 student volunteers carried powerful placards advocating forest conservation, biodiversity protection, and wildlife preservation. The rally was flagged off by Srivilliputhur Deputy Superintendent of Police, Mr. A. Raja, who highlighted the importance of safeguarding trees both in public spaces and at home.



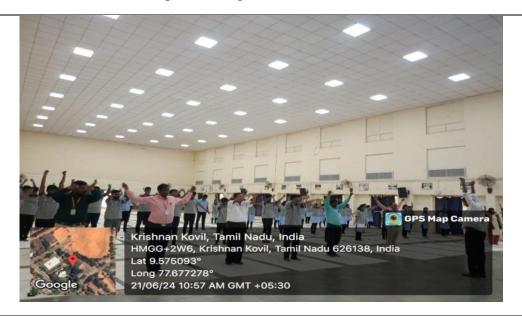


Palm Seeds Plantation on 30.12.2024





NSS Annual Special Camp from 03.12.2024 to 09.12.2024



Yoga and Meditation For Better Health on 21.12.2024





Mega Blood Donation Camp on 21.12.2024



Plantation Drive on 01.03.2025



Involved in Serving food in near temple During the Festival on 09.03.2025



The 78th Independence Day was celebrated with much excitement at the Sports Arena of KARE on 15 August 2024. The event was organized by Lieut Dr. SKM Pothinathan, Associate NCC officer. The chief guest was Dr. K. Sridharan, Chancellor of KARE. The ceremony began with the Chancellor raising the national flag. After that, the Chancellor led everyone in reading the national pledge, a promise to uphold the nation's values and unity



On October 31st, 2024, KARE NCC cadets proudly celebrated National Unity Day, also known as Rashtriya Ekta Diwas, to honor the birth anniversary of Sardar Vallabhbhai Patel, the "Iron Man of India." The event was organized to reinforce the ideals of unity, patriotism, and national integrity among the cadets



International Youth Day on 03–08–2024 organized by Sherlock Holmes club



Sherlock Holmes club organized, Tsunami Awareness Program on 9th November 2024 at Dhanushkodi, a coastal town prone to natural disasters, to educate students about the causes, effects, and safety measures associated with tsunamis





DETECTIVE DAY on 04.01.2025 organized by Sherlock Holmes club. The event aimed to give students a platform to showcase their analytical and problem-solving skills, channeling their inner detectives through various exciting activities.



Photography Club, KARE organized World Photography Day in ATTAIN 2K24 held on 28.09.2024



Photography Club, KARE embarked on a thrilling one-day photowalk to Vagamon, Kerala held on 28.09.2024



The Photography Club and Fine Arts Club organized the festive event Nostalgia 2k24 on 21st December 2024 in the Dr. KS Krishnan Auditorium, celebrating the spirit of Christmas and New Year.



The Photography Club successfully organized a **Photography Basics Workshop** on **28th March 2025** (**Friday**) from **2:00 PM to 5:00 PM** at the **Library Conference Hall**.



Photography Club of Kalasalingam Academy of Research and Education **embarked on an unforgettable photowalk (WANDERLUST'25) to** Wayanad (March 1-2, 2025)—**a perfect blend of** adventure, history, and nature. **From thrilling** zip-lining at Karapuzha Dam **to exploring** prehistoric petroglyphs at Edakkal Caves, **and walking** above the clouds on the 900 Kandi Glass Bridge, **every moment was a story waiting to be captured.** 





**Bhoomi 2025,** organized by the Nature Club – KARE on 5th April 2025, was an awareness rally and street play highlighting water and forest conservation, in line with UN SDGs 13 and 15. With 70 students participating, the rally began at Watrap Bus Stand and featured vibrant slogans, placards, and a folk art performance by Vidiyal Kalai Kuzhu. Flagged off by Mr. T. Marimuthu, Inspector of Watrap Police Station, and coordinated by Dr. A. Bharathi, the event effectively combined student enthusiasm and cultural expression to promote ecological awareness

#### **Cultural Activities**



04.10.2024 - 05.10.2025



14.02.2025- 15.02.2025





04/01/25



29.03.25



04.01.25



13.11.24



05.04.25



30.03.25



14.09.24



## $Number\_of\_events\_related\_to\_environment\_and\_sustainability: 108$

	Name of the Sustainable Development Goals	:	SDG9
1.	Name of the Workshop	:	Machine Learning for Mechanical Engineers
2.	Date of the Workshop	:	04-07-2024 and 05-07-2024
3.	Name of the department Organized	:	Mechanical Engineering
4.	Name of the School Organized	:	School of Mechanical, Aero, Auto and Civil Engineering (SMACE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	80
7.	Name of the Resource Person	:	Mr.K.Arichandran,NIT-Surathkal
8.	Photos related to the Event	:	



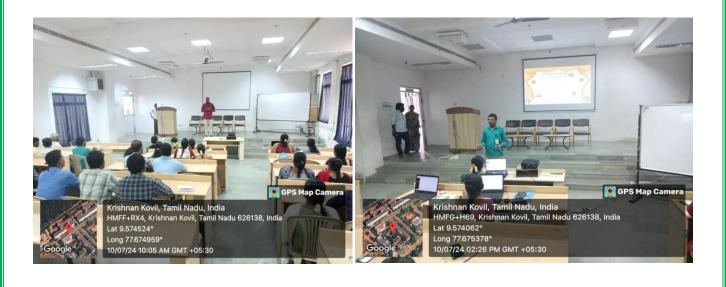


	Name of the Sustainable Development Goals		SDG 8
1.	Name of the Workshop	:	Advancements in agricultural tools and implements
2.	Date of the Workshop	:	09-07-2024
3.	Name of the department Organized	:	Agricultural Engineering
4.	Name of the School Organized	:	School of Bio, Chemical and Processing Engineering (SBCE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Career Development
6.	No. of Participants	:	50
7.	Name of the Resource Person	:	Dr.T.Senthikumar, Principal Scientist, ICAR-CIAE, Coimbatore
8.	Photos related to the Event	:	





	Name of the Sustainable Development Goals	:	SDG4
1.	Name of the Workshop	:	Three days Faculty Training Program on Digital Bloom's Taxonomy and Active Learning Strategies For Mathematics
2.	Date of the Workshop	:	10-07-2024 to 12-07-2024
3.	Name of the department Organized	:	Maths
4.	Name of the School Organized	:	School of Advanced Sciences (SAS)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	50
7.	Name of the Resource Person	:	1. Dr.G.Ebenezer, Associate Professor, Mechanical Engineering, KARE. 2. Dr.M.Kameswari, Associate Professor, Mathematics, KARE.3. Dr.S.Vignesh, Associate Professor, Mechanical Engineering, KARE.4. Dr.K.Jeya Prakash, Associate Professor, ECE, KARE. 5. Dr.P.Karthick, Assistant Professor, Mathematics, KARE
8.	Photos related to the Event	:	



Name of the Sustainable Development Goals		:	SDG 9
1.	Name of the Workshop	:	Training Program on Sericulture Technologies for the Production of Crafting Materials to Empower Woman
2.	Date of the Workshop	:	10-07-2024 to 12-07-2024
3.	Name of the department Organized	:	Biotechnology
4.	Name of the School Organized	:	School of Bio, Chemical and Processing Engineering (SBCE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	40
7.	Name of the Resource Person	:	Dr L. Muthulakshmi
8.	Photos related to the Event	:	

# கலசலிங்கம் பல்கலையில் மகளிர் மேம்பாட்டு திறன் பயிற்சி



சங்கரன்கோவில், ஜூலை 16
நீ வி ல் லி புத்தூர் கல சலிங்கம்
பல்கலையில், புதுடில்லி, அறிவியல் மற்றும்
தொழிற்துறை ஆராய்ச்சி நிறுவனம்
சார்பில் மூன்று நாள்,"மகளிர் மேம்பாட்டு
திறன் சுயதொழில் பயிற்சி " வேந்தர்
முனைவர் கே.நீதரன் தலைமையில்
நடைபெற்றது. துணைவேந்தர் எஸ்.
நாராயணன், பதிவாளர் வி.வாசதேவன்
முன்னிலை வகித்தனர். நாகர்கோவில்,
தமிழ்நாடு பட்டு வளர்ச்சி துறை இளநிலை

ஆய்வாளர், ச.சித்ரா சிறப்பு விருந்தினராக கலந்துகொண்டு பயிற்சிகளை துவக்கி

கலந்துகொண்டு பயிற்சிகளை துவககு வைத்தார்.
அறிவியல் மற்றும் தொழிற்துறை ஆராய்ச்சி நிறுவன புராஜக்ட் திட்ட முதன்மை ஆய்வாளர், பயோடுடக்னாலதி, பேராசிரியர் எல்.முத்துலட் சுமி பயிற்சியை வழங்கி சிறப்பாக ஏற்பாடு செய்திருந்தார். விருதுநகர் மாவட்ட சுய உதவிக்குழு மகளிர் 40 பேர் பயிற்சியில் கலந்து கொண்டு பயனடைந்தனர்.

Name of the Sustainable Development Goals		:	SDG 9
1.	Name of the Workshop	:	"ENGINEERING PRACTICES IN OIL INDUSTRIES"
2.	Date of the Workshop	:	24-07-2024
3.	Name of the department Organized	:	Chemical Engineering
4.	Name of the School Organized	:	School of Bio, Chemical and Processing Engineering (SBCE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Career Development
6.	No. of Participants	:	80
7.	Name of the Resource Person	:	Mr. M. Suresh, Senior Project Engineer, Zallaf Libya Oil and GasCompany
8.	Photos related to the Event	:	





Name of the Sustainable Development Goals			SDG 9	
		•		
1.	Name of the Workshop	:	Inauguration of KARE IEEE Robotics and Automation Society Student Branch Chapter C IoT Application Development Workshop	
2.	Date of the Workshop	:	25-07-2024	
3.	Name of the department Organized	:	CSE	
4.	Name of the School Organized	:	School of Computing (SoC)	
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development	
6.	No. of Participants	:	80	
7.	Name of the Resource Person	:	Dr. S. Radha, Treasurer, IEEE Madras Section, Mr. Senthilkumar Murugesan, Co Founder, JioVio healthcare	
8.	Photos related to the Event	:		



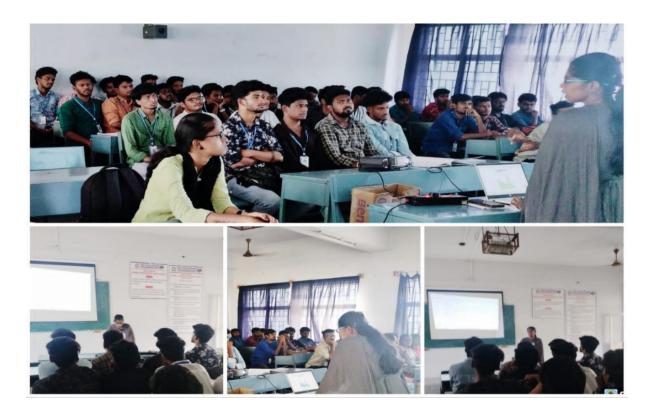


Name of the Sustainable Development Goals		:	SDG 9
1.	Name of the Workshop	:	AeroXperience 2024
2.	Date of the Workshop	:	27.07.2024
3.	Name of the department Organized	:	Aeronautical Engineering
4.	Name of the School Organized	:	School of Mechanical, Aero, Auto and Civil Engineering (SMACE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	56
7.	Name of the Resource Person	:	Shri. R. R. Elangovan, Retd. ISRO Scientist
8.	Photos related to the Event	:	



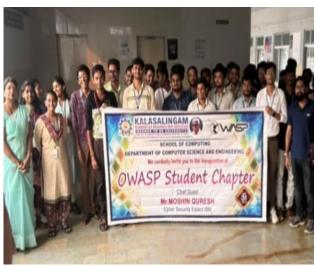


	Name of the Sustainable Development Goals		SDG 4 & SDG 8
1.	Name of the Workshop	:	Workshop on "Tableau"
2.	Date of the Workshop	:	27-07-2024 to 01-08-2024
3.	Name of the department Organized	:	Computer Applications
4.	Name of the School Organized	:	School of Computing (SoC)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	65
7.	Name of the Resource Person	:	Ms.Kaleeswari.G, PhD Research Scholar
8.	Photos related to the Event	:	



	Name of the Sustainable Development Goals		SDG 9
1.	Name of the Workshop	:	Getting into Cyber Security
2.	Date of the Workshop	:	01-08-2024
3.	Name of the department Organized	:	CSE
4.	Name of the School Organized	:	School of Computing (SoC)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	45
7.	Name of the Resource Person	:	Grant Ongers, Founder, Secure Delivery.
8.	Photos related to the Event	:	





	Name of the Sustainable Development Goals	:	SDG 4, SDG 11
1.	Name of the Workshop	:	Technical Lecture on Project Planning and Scheduling in MNC Projects
2.	Date of the Workshop	:	01-08-2024
3.	Name of the department Organized	:	Civil Engineering
4.	Name of the School Organized	:	School of Mechanical, Aero, Auto and Civil Engineering (SMACE)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	44
7.	Name of the Resource Person	:	Dr. J. Senthil, AECOM, Chennai
8.	Photos related to the Event	:	



	Name of the Sustainable Development Goals		SDG 4: Quality Education.
1.	Name of the Workshop	:	A Primer for Navigating Research Studies
2.	Date of the Workshop	:	02-08-2024
3.	Name of the department Organized	:	Business Administration
4.	Name of the School Organized	:	Kalasalingam Business School (KBS)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Research Methodology
6.	No. of Participants	:	30
7.	Name of the Resource Person	:	V.G.Venkatesh, Ph.D., CMILT, CSCP, (SCC-APICS), Vice-Dean (Global Faculty Engagement) C Professor - EM Normandie Business School, France
8.	Photos related to the Event	:	





	Name of the Sustainable Development Goals		SDG 4: Quality Education.	
1.	Name of the Workshop	:	Strategies for enhancing the Quality and Impact of Research to Achieve Publication in Reputed Journals	
2.	Date of the Workshop	:	02-08-2024	
3.	Name of the department Organized	:	English	
4.	Name of the School Organized	:	School of Liberal Arts and Special Education (SLASE)	
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Research Methodology	
6.	No. of Participants	:	45	
7.	Name of the Resource Person	:	Dr B.R. Aravind, Assistant Professsor, KARE	
8.	Photos related to the Event	:		



Name of the Sustainable Development Goals		:	SDG 4
1.	Name of the Workshop	:	SHEROES CODEATHON
2.	Date of the Workshop	:	16-08-2024
3.	Name of the department Organized	:	CSE
4.	Name of the School Organized	:	School of Computing (SoC)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	95
7.	Name of the Resource Person	:	Student Office Bearers
8.	Photos related to the Event	:	



Name of the Sustainable Development Goals		:	SDG9
1.	Name of the Workshop	:	IEEE Robotics and Automation Project Showcase (Round 1 - Problem Analysis)
2.	Date of the Workshop	:	17-08-2024
3.	Name of the department Organized	:	CSE
4.	Name of the School Organized	:	School of Computing (SoC)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants	:	143
7.	Name of the Resource Person	:	Dr. R. Rajasubramanian, Associate Professor, CSE-KARE
8.	Photos related to the Event	:	





Name of the Sustainable Development Goals		:	SDG 4 & SDG 8
1.	Name of the Workshop	:	Nuanaces of research and quality publications
2.	Date of the Workshop	:	17-08-2024
3.	Name of the department Organized	:	Computer Applications
4.	Name of the School Organized	:	School of Computing (SoC)
5.	Category (Entrepreneurship, IPR, Skill Development, Research Methodology)	:	Skill Development
6.	No. of Participants		65
7.	Name of the Resource Person	:	Dr.K.Balasubramaniam, HoD,CA
8.	Photos related to the Event	:	









### **Centre for Sustainable Development**



### **DEDICATED TEAM FOR SUSTAINABLE DEVELOPMENT GOALS**









Dr. K.S. Dhanalakshmi Nodal Officer SDG1



Dean/SMACE SDG 2









SDG 3





Dr. R. Baburaj Ragubalan Assistant Director KEL-TEC SDG 4





Dr. S. Revathy Assistant Professor



SDG 6 & 14



Sharma
Dy. Director/KaiTech
SDG 6 & 14





SDG 7











SDG 10 & 13



















#### **EPILOGUE**

Student's society is a well-being of nature and Environment. Here our university students are willingly participating in environmental development activities. This gives them the importance of Green Earth Goal for Sustainable Energy generation. Thus the new team of volunteers under the name of "GREEN ARMY" will work continuously in taking care of the campus environment. This activity will give an additional opportunity to the students to learn more on nature and resource conservation. This team will work in all four aspects namely

- Energy Conservation
- Water conservation
- Environment Protection
- Tree Plantation
- Cleaning nearby villages
- Helping hands
- Plastic Campaign
- Vehicle Free Day
- Pollution Monitoring
- Industrial Visit

Their effort will certainly yield results in the form of enhanced green area, optimal use of resources and harvesting of water. These activities are continuously encouraged by the management of our University for the students to make ease of clean and litter free campus. With this new evaluation of activity KARE poised to emerge as one of the best environment for educational activities.

The need of the hour is "GREEN AND CLEAN ENVIRONMENT"