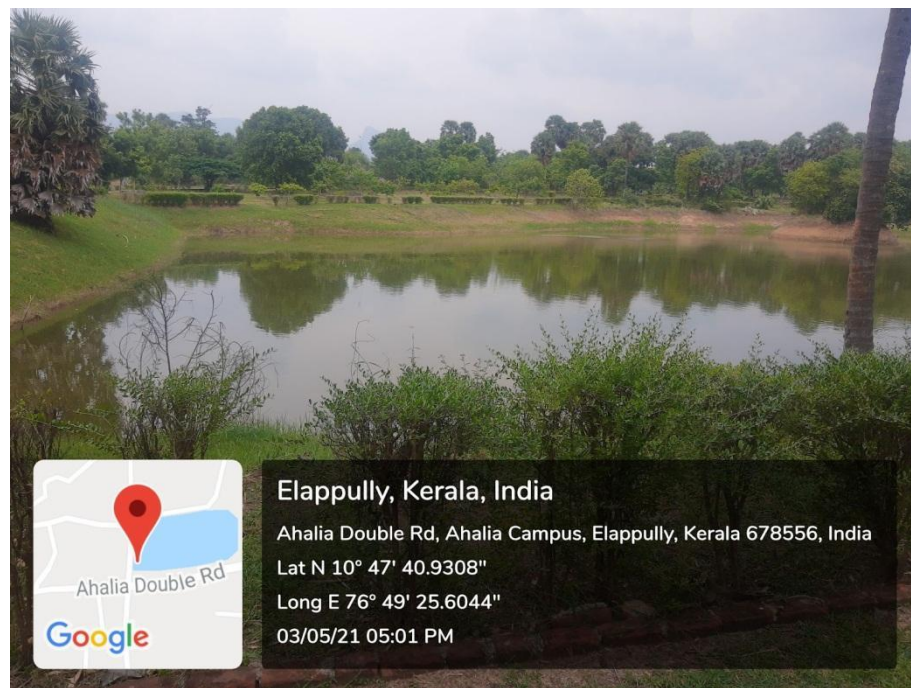


### **“A Campus Self-sufficient in Energy, Water and Residential Accommodation”**

Ahalia is the largest edu-health campus in the State of Kerala, located in a water scarce and rain shadow region, close to Plachimada, from where Coca Cola had to leave, after being forced to stop groundwater tapping. The second biggest industrial region of Kerala, Kanjikode, is adjacent to the Ahalia Campus. Two decades back, Ahalia Campus was founded on an arid extent of land, with very rare green sprouts and absence of water. Rain water conservation has done a miracle to this campus and it is now a fully green water-conserved campus, the largest in Kerala. Over the past two decades, Ahalia Campus has constructed ten rainwater harvesting (RWH) lakes with a total capacity of approximately 230 Million liters.



These lakes are designed and constructed considering the topography of the land. Channels and pipes, above and below the water surface, are made to ensure that rainwater from rooftops, roads and other catchment areas is directed to these rainwater harvesting

lakes for in-situ reuse rather than allowing run off. A rainwater harvesting system comprises various components such as pipes or drains for transporting rainwater, chambers for intermediate diversion, filtration tanks and storage tanks. Rainwater harvesting has always been proposed as a solution to recharge the local aquifers and ensure water availability in water-scare zones. While this technique is a long-term and cost-effective solution and relatively less complex to construct, the availability of land is often the bottleneck. LDPE sheets are placed in the borders at the lowest elevation (or level) to prevent water from overflowing to the surrounding region. During heavy rainfall, when the lakes overflow, chambers divert water to the surrounding areas. The water conservation efforts in Ahalia campus have been recognized several times by the Kerala State Pollution Control Board (PCB). The presence of these lakes have greatly benefitted the campus and the nearby locality by maintaining the water table high, especially during the hot summers.



Besides this, these water bodies help in maintaining a thriving eco-system and is a source of relaxation for human body and mind. Since the creation of these RWH lakes, many organizations have visited the campus to visit these lakes and understand their making with the goal of creating such lakes in their campuses. The development of the Ahalia Campus in this arid region has become a saga in the history of Kerala.



## (ii) Treatment Plants

Sewage treatment, or domestic wastewater treatment, is the process of removing contaminants from waste water and household sewage, both runoff (effluents) and domestic. It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants. Its objective is to produce an environmentally safe fluid waste stream (or treated effluent) and a solid waste (or treated sludge) suitable for disposal or reuse (usually as farm fertilizer). In Ahalia Campus there are seven treatment plants located in proximity to the hostels, hospitals and other institutions. These treatment plants remove the contaminants from the waste water using physical, chemical and biological processes to produce treated waste water that is safer for the environment.

A by-product of sewage treatment is a semi-solid waste or slurry, called sewage sludge. The sludge has to undergo further treatment before being suitable for disposal or application to land. The various types of STPs include activated sludge pump, rotating disc system, submerged aerated filter, suspended media filter, sequence batch reactor, non-electric filter and trickling filter.



### (iii) Plantation activities

Ahalia Campus has an extensive green belt that is used for various agriculture and environment related projects. There are earmarked locations for cultivation of paddy, herbal plantation (medicinal plants of 5000 different varieties), vegetables (such as tapioca, radish, brinjal, ladies finger, cabbage, etc.), palm trees, cashew trees, mango trees, coconut trees, jasmine plantation, neem trees and other spice trees. As part of our afforestation efforts, every year around 1000 saplings are planted and taken care of. Our water conservation efforts have significantly helped us maintain our landscapes during the summer season as well. Treated waste water from our treatment plants are also used for irrigation purposes. Additionally, in order to maintain this green belt, extensive



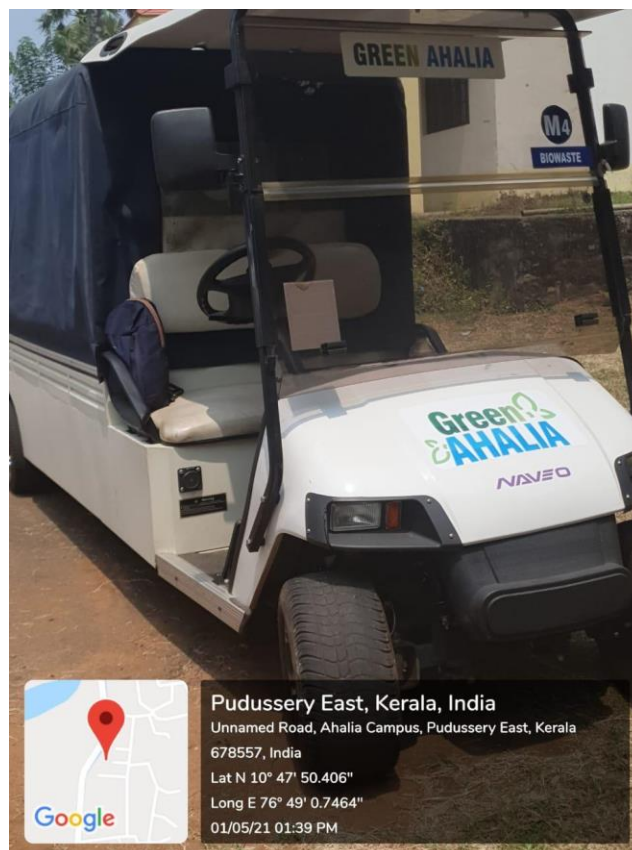
underground pipes are laid and sprinkler systems are used. In areas where this is not possible manual efforts are undertaken. In addition to these, there is a farm in the campus with cattle, poultry, goose, turkey, rabbits and goats. Fish farming and sericulture are other activities.



#### (iv) Renewable Energy Activities

Ahalia's endeavor towards energy self-reliance, energy secured future and developing clean energy started more than a decade ago. Ahalia Alternate Energy Pvt. Ltd. (AAEPL), was formed to channelize and prioritize the efforts in developing renewable energy in the year 2013. It installed the 8.4 MW wind farm (four 2.1 MW turbines) in Ahalia Campus - the first of its kind by a private investor in the state, after due discussion with Kerala State Electricity Board (KSEB). In addition to using wind energy, we installed a 1 MW solar

plant in our Campus and upgrading our biogas plant. As part of our efforts to move towards a carbon neutral campus, we also have electric vehicles and a movable solar panel generator that is used for irrigation purposes. These are a great source of interest for visitors to the campus.



(v) Awareness Activities

Ahalia Campus has conducted various activities related to water conservation, energy conservation and other environment related activities that is beneficial for the residents of the campus and the general public. Some of the programs conducted in Ahalia Campus are listed below.

(a) World Ozone Day 2020

**16 SEPTEMBER 2020**

**world ozone day**

Natural Resources Protection Force

**Dignitaries Attending the Programme**

 <b>K. K. Krishnakumar</b> Senior Mentor Green Army International & KTU Advisory Committee Member	 <b>Dr. Jayaraj P.</b> Programme Coordinator Center for Agricultural Knowledge, Kannur	 <b>Dr. Joy Varghese V. M.</b> State Coordinator APJAKTU NSS Cell
 <b>Dr. P. R. Sreemahadevan Pillai</b> Director, Academics, Ahalia Group of Institutions	 <b>Dr. Krishna Kumar Kishor</b> Asst. Director, Academics, Ahalia Group of Institutions	 <b>Live Webinar</b> Link <a href="https://meet.google.com/igk-evsm-zib">https://meet.google.com/igk-evsm-zib</a> <b>16<sup>th</sup> SEPTEMBER - 2020</b> <b>TIME : 3.00 P.M.</b>

**AHALIA SCHOOL OF ENGINEERING & TECHNOLOGY**

ISO 9001:2015 Certified Institution. Approved by AICTE & Affiliated to A. P. J. Abdul Kalam Technological University  
Ahalia Health, Heritage & Knowledge Village, Palakkad - 678557. Ph: 04923-226666, [www.ahalia.ac.in](http://www.ahalia.ac.in)

The NSS Unit of Ahalia School of Engineering and Technology conducted a State-Level Ozone Day Observation on 16.09.2020 in association with APJAKTU NSS Cell. The programme was conducted through Google Meet. Mr. K. K. Krishnakumar (Senior



Mentor-Green Army International & KTU Advisory Committee Member), Mr. Roshan Sanu Y. (NSS PO-ASET), Dr. P. R. Sreemahadevan Pillai (Principal-ASET & Director-Ahalia Group of Academic Institutions), Dr. Joy Varghese V. M. (APJAKTU NSS Cell State Coordinator), Dr. Krishna Kumar Kishor (Asst. Director-Ahalia Group of Academic Institutions), Ms. Darsana V. Babu (NRPF State Coordinator), Dr. Jayaraj P. (Programme Coordinator-ICAR Krishi Vigyan Kendra, Kannur) and Ms. Vijitha Khan (Associate NSS PO-ASET) spoke at the event. Around 250 volunteers from various engineering colleges in Kerala attended the session.

#### (b) Natural Resources Protection Force Workshop

APJAKTU NSS Cell of Ahalia School of Engineering and Technology conducted a Regional Level “Natural Resources Protection Force Workshop” at Ahalia Campus, Palakkad on 07.03.2020 in association with Harithakeralam Mission. Dr. Sreemahadevan Pillai (Principal-ASET, Director-Ahalia Group Academic Institutions), Prof. Thulasi Sreekandan (HoD-History Dept., NSS College Nenmara), Ms. Nivedha (S6 EEE), Mr. Y. Kalyana Krishnan (Coordinator, Harithakeralam Mission-Palakkad), Ms. Vijitha Khan (Associate Programme Officer), spoke at the event.





### (c) Bio-Diversity Park

As a part of NSS special camp conducted from 24.01.2019 to 31.01.2019, NSS Volunteers of Ahalia School of Engineering and Technology helped to construct a Bio-diversity Park at GLPS, Chullimada, Palakkad in association with Ahalia Health, Heritage and Knowledge Village. The area was around 2000 sq. ft. inside the school campus. Bio Diversity Park included various sections like medicinal plants, shade trees, seasonal plants, time-bound plants, butterfly park etc. 45 volunteers actively participated in the construction of the park. The activity was coordinated by NSS Programme Officer Mr. Roshan Sanu Y. and Associate Programme Officer Ms. Shwetha.



### (d) Plantation efforts

The greenery in Ahalia campus is due to the dedicated efforts we have taken in planting trees as well as taking care of them. Each year around 1000 saplings are planted and nurtured.



(e) Inauguration of EnSav Club

The Department of Electrical and Electronics Engineering of Ahalia School of Engineering and Technology Inaugurated the Green 9 EnSAv club on 14<sup>th</sup> February 2019.



The motto of the club is to create awareness among the public. The club has been inaugurated by the Founder and Chairman of Energy Efficiency Research Group, Dr. L. Ramesh, Dean, Dr. MGR Educational and Research Institute, Chennai. Dr. P.R.



Sreemahadevan Pillai (Principal, ASET & Director, Ahalia Group of Institutions), Dr. G. Murugananth (Prof. & Head, EEE Department), Prof. Sowmya (EEE Department), Ms. Ambili (S6 EEE) and Ms. Namitha (S6 EEE) spoke at the event.

(f) Walkathon under URJA KIRAN

14 December is celebrated as National Energy Conservation Day. In connection with it Ahalia School of Engineering and Technology & Ahalia Centre for Energy and Environment in association with Centre for Environment and Development & Energy Management Centre, Government of Kerala, Trivandrum, organized a walkathon under URJA KIRAN 2018-19 on 17 December 2018 from Government Higher Secondary School, Kozhippara to Ahalia Campus from 3.00 p.m. to 4.00 p.m.



## Achievements

- Aqua Excellence Award (2019) under the category 'Water Management – Private Sector', from Aqua Foundation during the World Aqua Congress 2019. The award was given by Shri. Gajendra Singh Shekhawat (Hon'ble Union Minister for Jal Shakti)
- First Prize (2018, 2013), from Kerala State Pollution Control Board, Government of Kerala

- Excellence Award (2017, 2016, 2015, 2014), from Kerala State Pollution Control Board, Government of Kerala
- Second Prize (2012), Third Prize (2011), Special Recognition (2010), Appreciation Award (2009) from Kerala State Pollution Control Board, Government of Kerala
- First Prize (2017), Kerala State Akshaya Urja Award from ANERT, Government of Kerala





