



SCMS SCHOOL OF ENGINEERING & TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, ERNAKULAM – 683576, PHONE: 0484-2882900, 2450330

E-Mail: sset@scmsgroup.org Website: www.scmsgroup.org/sset

7.1.2_3 The Institution has facilities and initiatives for water conservation facilities available in the Institution:

1. Rain water harvesting
2. Borewell /Open well recharge
3. Construction of tanks and bunds
4. Waste Water Treatment Plant
5. Waste water recycling (ETP)

INTRODUCTION

SCMS School of Engineering and Technology (SSET) is a technological institute in Kerala which offers graduate and postgraduate programs in engineering and technology. The college was established in 2001 on a 29-acre (117,359 m²) campus at Karukutty in Ernakulam District of Kerala. The campus has a total built up area of about 1,57,440 square feet which includes one administrative block, two academic blocks, a ladies hostel, a junior men's hostel, laboratories, canteen and auditorium. Senior men's hostel is outside the campus. The campus has strength of 233 staff and 2430 students, out of which 782 reside within the campus. The canteen is equipped to provide food for about 1000-1500 persons per day.

The major source of water for the campus is bore wells. Electricity for the entire campus is provided by KSEB (Kerala State Electricity Board). The campus houses an effluent treatment plant and a power house with diesel generator sets as backup during power failures.

Key facts about the site are provided in Table 1. Figure 1 provides a Google Earth bird's eye view of the area and location of the SSET campus.

Table 1 Key facts about the site

Name of Project	SCMS School of Engineering and Technology
Address	Karukutty, Angamaly, Ernakulam
Average Annual Rainfall	3232 mm
Water source	Bore well
Water harvesting system	Roof top system that collects rain water falling on roof and then send it for well recharge



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Water harvesting potential	~7600 kilo litres
Average daily water demand	~387 kilo litres
Average monthly energy demand	~41682 Units
Average daily waste produced	445 kg
Total built-up area	37,972.66 Sq. metres

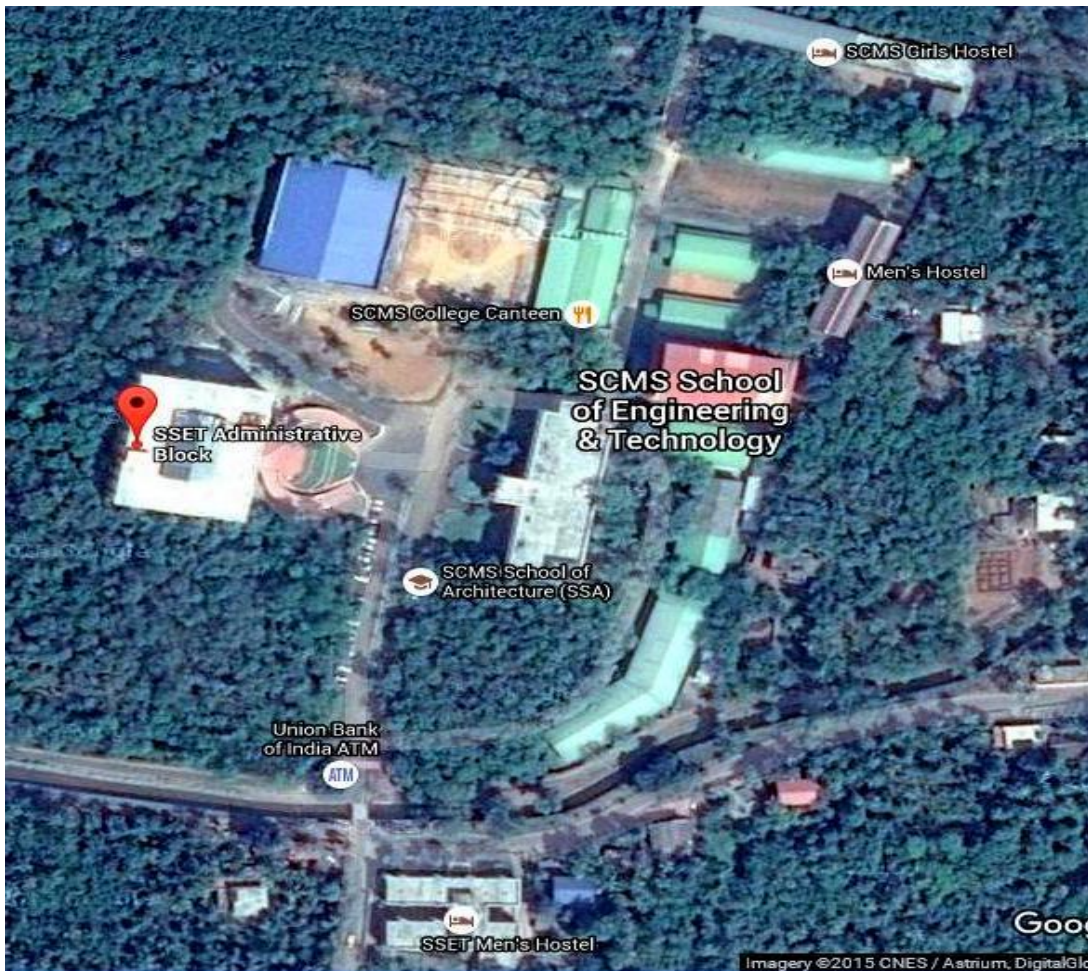


Fig. 1 Location of SSET, Karukutty, Ernakulam

SSET campus has been proactive in installing rainwater harvesting systems. The details are given below.



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Rain Water Harvesting System at SSET

Rain water harvesting is the accumulation and deposition of rainwater for reuse on site rather than allowing it to runoff. Proper rainwater harvesting can conserve huge amount of fresh water. In the campus, presently rain water harvesting is done for Administrative block, Academic block-I and senior men's hostel.

Rain water collected in the open terrace of administrative block is carried to a well and a bore well for ground water recharge. Inorder to prevent aquifer contamination, the rainwater is passed through a pressure sand filter before passing into the bore well. Rain water collected by the roof of academic block-I is carried to a tank at ground level (Fig. 2). Presently, this water is used for various construction activities that are going on in the campus.

The total roof area available = 3413.31 sq meter

Average annual rainfall at Angamaly = 3.2 meters

(Assuming 70% of the rain water collected is harvested)

Thus, the total potential for rainwater collection = 7600 KL

Inclusion of the roof area of academic block- II, canteen and hostels can increase the rain water being harvested.



Fig. 2 Open Tank



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The rainwater harvesting installations provided at SSET consist of installation for a borewell as shown in Fig 2 and for an open well as shown in Fig 3.



Fig. 2 Borewell recharge installation. Rain water collected at rooftop is treated using Pressure sand filter before taken for bore well recharge





Fig.3. Recharge well. Rainwater collected from rooftop after filtration is recharged into an open well



Fig. 4. Effluent Treatment Plant



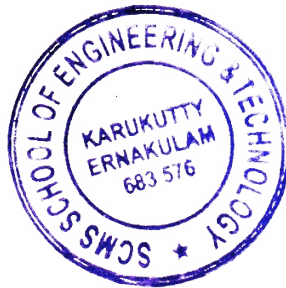
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Fig. 5 Water Treatment Plant



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PRINCIPAL
SCMS SCHOOL OF ENGINEERING & TECHNOLOGY
VIDYANAGAR, PALLISSERY, KARUKUTTY
ERNAKULAM, KERALA-683 576