7.1.4 Water conservation facilities available in the Institution

7.1.4 Water conservation facilities available in the Institution:

1. Rain water harvesting
2. Bore well /Open well recharge
3. Construction of tanks and bunds
4. Waste water recycling
5. Maintenance of water bodies and distribution system in the campus

1. Rain Water Harvesting:

Rainwater harvesting system, also called rainwater collection system or rainwater catchment system, technology that collects and stores rainwater for human use. The stored water is used for gardening and raw use. Besides natural percolation tanks, concrete storage tanks have also been built and rain water has been stored after proper filtration paving the open places with concrete roads is avoided so that rain water can be percolated

- The rainwater harvested during rains not only helps to save water from conventional sources, but also to save energy and reduce expenses incurred on transportation and distribution of water. Awareness programmes on water conservation and rain water harvesting have been conducted regularly through various service of the college**.**

- In order to minimize the abstraction of ground waters, maintain the underground water table and control the hardness of the water supplied in the campus, the rain water potential has alsobeen estimated for its tapping.

- As per the scheme the roof top water shall be collected in the underground tanks/ sumps, whereas the water collected from paved and unpaved areas shall pass through grease cum silttrap and clean water shall be either directly used or shall be used for recharging the existing bore wells within the campus as per drawings. One such Rain water harvesting tank near Students mess is shown below. Similar structures shall be replicated at different locations within premises and other institutions. The institution has roof top rain water harvesting system which is installed on the roof of the institution.

Photo: Roof Top Rain Water Harvesting

Photo: Rain water harvesting systems

2. Borewell and Open well (Pond) Recharge:

As the water crisis continues to become severe, there is a dire need of reform in water management system and revival of traditional systems. As a part of revival to traditional wisdom, in this institute we built a pond to collect and storage the rainwater for reuse on-site, rather than allowing it as run off.

Photo: Borewell Recharge System in the Campus

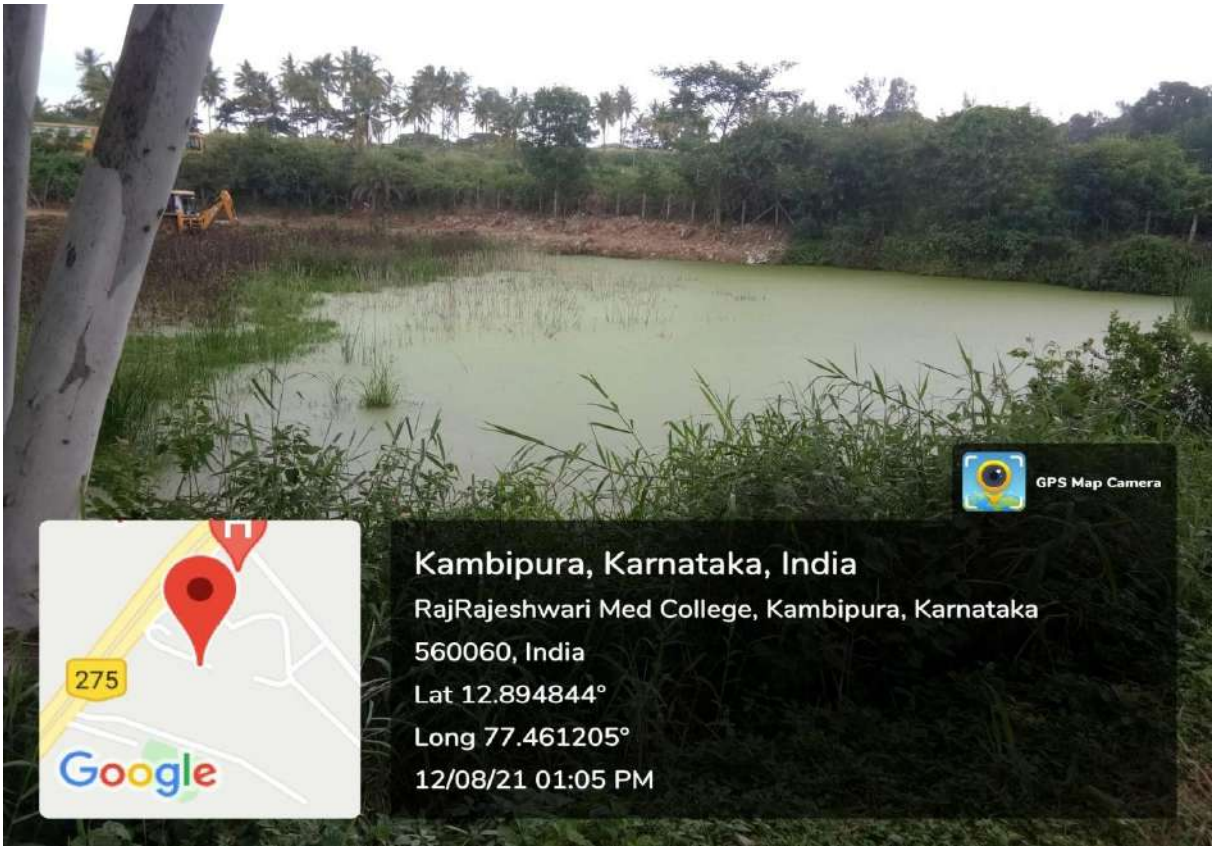


Photo: Open Well (Pond) Recharge

3. Waste Water Recycling

[A] In order to treat the domestic and other waste waters, the sewage treatment plants (STPs - 2 no) have been installed and successfully operated within the premises. The STP capacities are 250 KLD and 300 KLD respectively to handle the waste waters generated from College building, Hospital, Hostels, Canteens and recreational areas such as gymnasium etc.

[B] Generally 250 KLD STP is attached to near girls hostels and club house. The waste waters emanating from the hostels, The waste water is first disinfected using bleaching disinfectants and then discharged into the under drainage system leading to STP.

[C] The sewage generated from other buildings is directly discharged into the STPand is treated along with other waste waters.

[D] The treatment scheme comprises of a biological treatment called ASP/SBR system wherein the aerobic bacteria stabilizes all the organic matter, neutralizes the microbial population.

[E] The STPs have been performing smoothly and deliver effluents with BOD values below 10 mg/l. The aerobic treatment followed by disinfection results in microbe concentration below 100 units as stipulated in the consent. Likewise all other listed parameters are also complied with. Monthly analysis reports are regularly forwarded tothe KSPCB.

Photo: Sewage Treatment Plant (250 KLD)

Photo: Sewage Treatment Plant

Photo: Sewage Treatment Plant

Photo: Sewage Treatment Plant in operation

Recycle and Re-use of Treated Waste Waters:

In general the STPs are operated at not more than 80% of the designed capacity and atmuch lower capacity during vacations, lock down etc. The treated waste waters from STP 1 and 2 is utilized for the following activities;

i) Gardening and maintaining greenery within the campus. (70 %)
ii) For construction and curing activities within the campus. (20%)
iii) Secondary flushing in toilets in the hostel buildings. (5%)
iv) Dust suppression as and when required. (1%)
v) Buses and other vehicles washing within the campus. (4%)

4. Construction of Tanks and Bunds:

As the water crisis continues to become severe, there is a dire need of reform in water management system and revival of traditional systems. As a part of revival to traditional wisdom, the institution built rain water storage tank, to collect the rainwater and can be used whenever it is required.

The rainwater storage tank is build near to ACSCE campus, Faculty Quarters, Boys Hostel and Girls Hostel, ACSCE Convention Centre.

Photo: Tank to Store Rain Water

5. Maintenance of water bodies and distribution system in the campus

The ground water is pumped into storage tanks located at different places in the campus. There are few numbers of over head storage tanks. The water is distributed through well laid pipe network. Drinking water after treating in RO plant is supplied through a separate set of distribution pipes and water for all other purpose is supplied through another set of distribution pipes. Entire distribution system is well supervised by Civil works people to ensure that there are no leakages and wastages of precious water through joints, valves etc. Waste usage of water is reduced using low pressure flushes. All the stakeholders of the college are well educated to use water economically and efficiently.

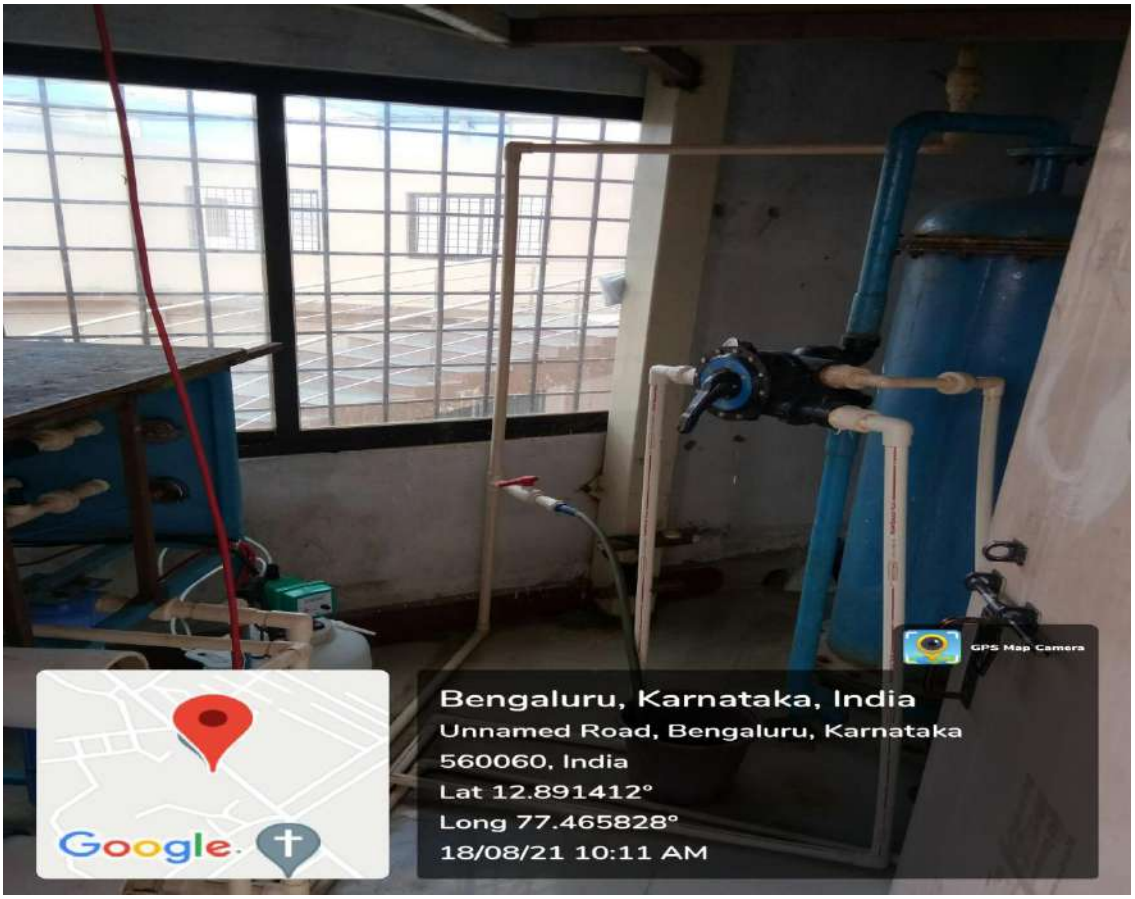
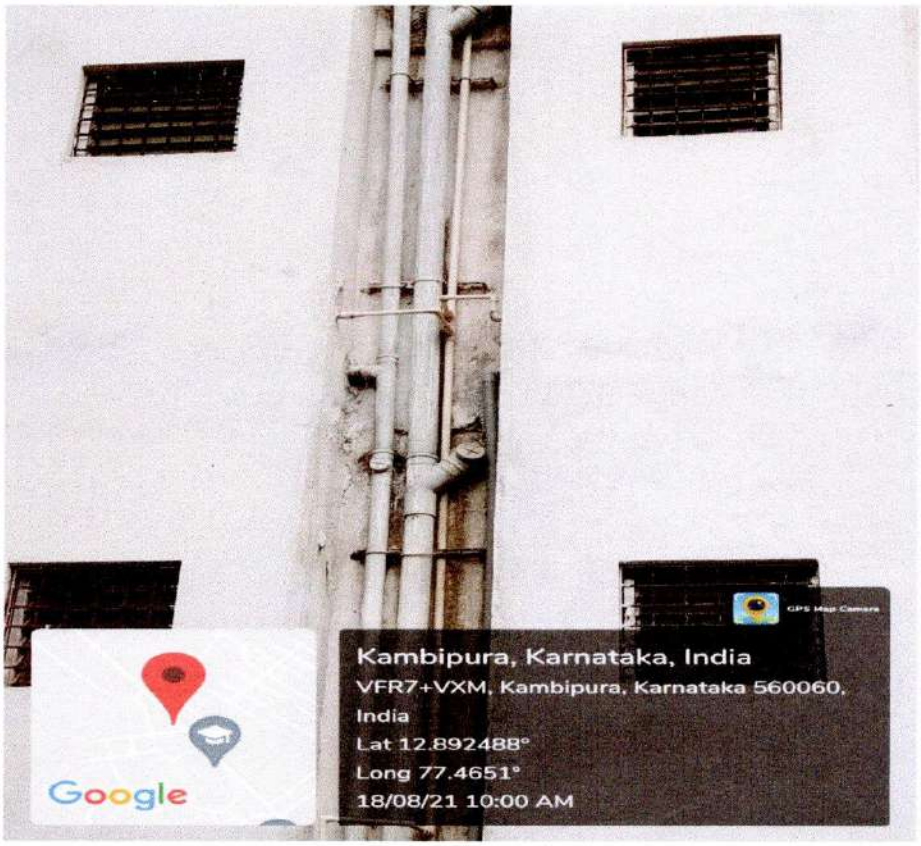


Photo: RO plants in Campus Building

Photo: Over Head Tank in the campus building

Photo: Underground water Storage Tank in the Campus

Water Bodies Distribution Line in the campus building



Principal
A.C.S. College of Engineering
Kambipura, Mysore Road, Kengeri Hobli,
Bangalore - 560 074

A.C.S. College of Engineering
Bangalore-74