



MARIAN COLLEGE KUTTIKANAM
(AUTONOMOUS)

RAIN WATER HARVESTING INITIATIVES

Submitted to

THE NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)

FOURTH CYCLE OF ASSESSMENT

Marian College Kuttikkanam Autonomous is a Government Aided, Co-education College established in 1995 under the Catholic Diocese of Kanjirappally, Kerala with three Undergraduate programs and 180 students. Today, the College offers 14 programs with over 1800 students and 120 teachers. The College has six hostels and about 60% of the students reside in them. The institution is the realization of the vision of the Catholic Diocese of Kanjirappally to provide quality higher education to the students of the hilly, backward district of Idukki. Banking on the divine guidance of the Sacred Heart of Jesus and the benefaction of Mother Mary, Marian champions her commitment to the 'full flowering of life in abundance'. The College is located in the Peermade Grama Panchayat of the district of Idukki, at an altitude of 3500 feet above sea level. The campus spans over 28 acres, nestled in the green highlands of the Western Ghats where biodiversity is garbed in the mantle of a cool, misty and salubrious ambience suited for academic pursuits. Idukki is one of the most educationally and socially backward districts of Kerala with a substantial population of tribal, scheduled castes, migrants and minorities. As the area is situated at an altitude of 3500 feet above sea level, Kuttikkanam suffers acute scarcity of water especially during the summer season. Marian being a socially committed educational institution has established a close communion with the neighboring society with a strong sense of commitment to their social issues and conducts many outreach and extension activities aimed at the sustained development of the area. The College identified in the early years itself that conservation of water shall be treated as an area to be given prime focus and initiated activities towards its accomplishment.

1. We constructed two surface reservoirs to store the runoff water from the roof top and the 28



acre campus. The rooftop is estimated to be about 74000 square feet and the reservoirs can store an optimum of 2 crores (reservoir 1) and 71 lakhs (reservoir 2) of litres of water respectively. Reservoirs are built in place of storage tanks taking into account the sloppy terrains of the area and large volume of water can be stored in such reservoirs. The water stored in the first reservoir undergoes sedimentation and natural biological purification and the resultant water is collected into a larger reservoir and two pools built nearby. This is again subjected to purification through filters containing sand, carbon, iron and chlorine and collected in holding tanks. This water is again UV filtered before using it for drinking and food preparation. Thirty plus filter taps are provided on campus for drinking water.



Reservoir 1





Reservoir 2

2. Canals are constructed to flow and collect water from the ground and other premises to the reservoirs. About 50 lakh litres of water from the surface is saved by this measure. The runoff water from the campus and the rooftop is collected through ducts and through canals constructed on the surface. It is ensured that pipes and tanks are of superior quality and the circulatory system is constructed scientifically so that accidental contamination does not happen.

The storage of rain water in the two reservoirs has helped the augmentation of the ground water level of the area and as a result the scarcity of water for the local people during drought seasons has been reduced to a great extent.





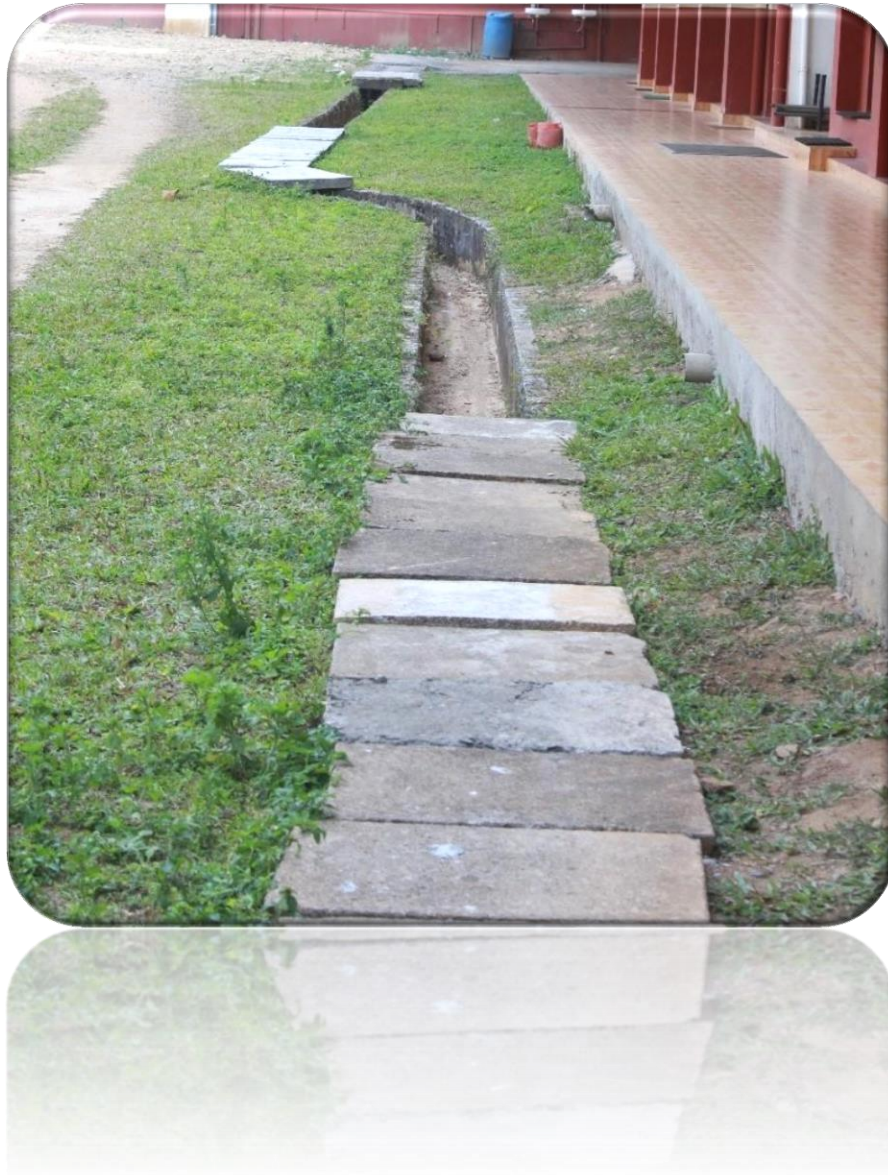
Canals carrying runoff water from the campus to the reservoirs





Pipes are installed to collect and carry rain water from the buildings to the reserv





Canals carrying runoff water from the campus to the reservoirs



3. Number of orientation classes during 2019-2020: 5

Orientation classes are held for students and the neighboring community on the significance of water conservation by the School of Social Work, Extension department, NSS unit and NCC of the College. March 22 is celebrated as World Water Conservation Day every year. The reservoirs and tanks are cleaned of sludge and other impurities with the participation of students, staff, management and the local people which also helps to create an awareness on water management in them. The planting of trees, vegetables and medicinal herbs on the shores of the reservoirs is also done by the participation of students and public. Marian has adopted efficient and holistic approach towards water management and the protection of hydrosphere recognizing water as an essential and vital asset that nourishes all living things. It is our mission that we take an environment friendly and holistic approach towards our water preservation policies and projects.



Students participating in the orientation classes





Water from the Sewage treatment plant is utilized for vegetable farming and gardening

4. The water available on campus is tested in recognised laboratories at regular intervals to ensure purity. It is ensured that proper PH value is also maintained. The Health Department, Government of Kerala also conducts occasional inspection of the water resources. The storage tanks, reservoirs and filters are cleaned at regular intervals. NSS and NCC units, staff of the College and local people volunteer for the cleaning of water bodies and the hydrosphere around.





Water filtration systems





Water purification units

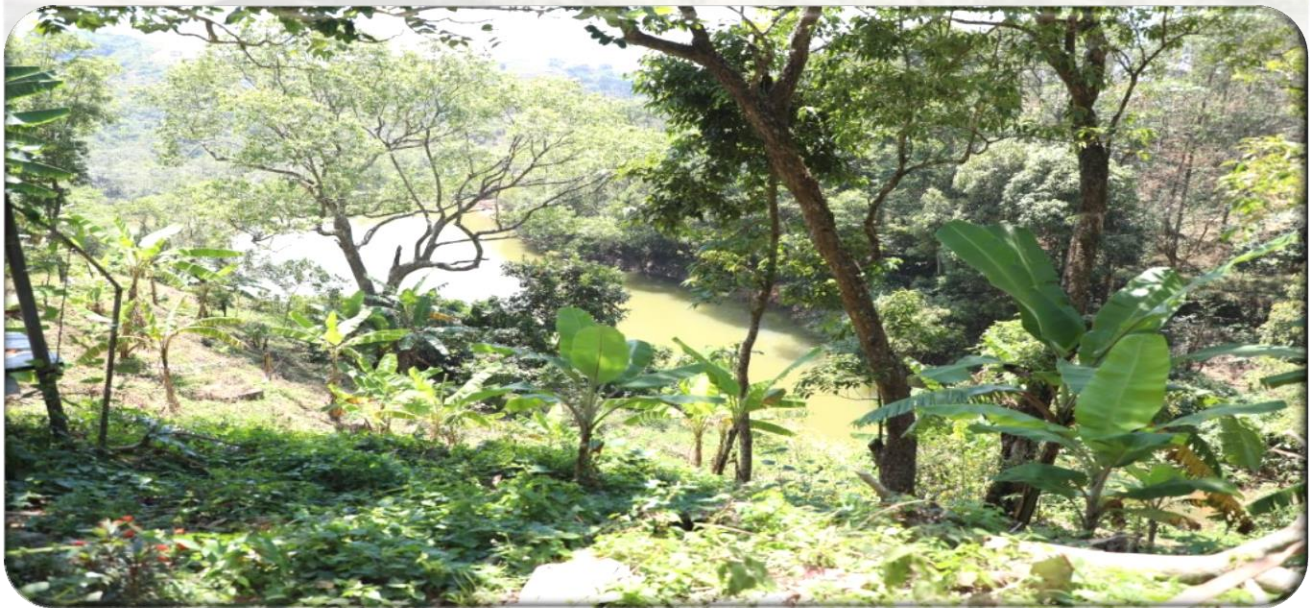




Marian ensures safe and readily available drinking water

5. Marian has a lush green campus with a salubrious ambience. We have planted plenty of trees like pine, jack fruit, mango tree, bamboo, avocado, guava and other fruit bearing plants all over the campus and on the banks of the reservoirs. We have planted 250 plants during academic year 2019-2020. The surroundings of the buildings are covered with grass lawns which also reduce water loss due to evaporation. We also have a variety of flowering plants, a herbal garden and vegetable garden. All of them are planted with the participation of students and staff of the College. We have employed three staff for watering and upkeep of the plants.







Marian combines education and environment friendly practices effectively.



Green environmental practices are incorporated into the curricular as well as institutional planning processes with the aim of developing awareness among the students and creating a clean and green campus



Water from STP is used for gardening and vegetable cultivation



6. Marian has effective and well-constructed sewage and water treatment plant and systems.

Waste water is treated in a sewage treatment plant built with latest technology. The treated water is used for toilet flushing and garden watering. The plant is capable of treating 50000 litres of waste water per day.



Sewage Treatment Plant with a capacity of 50,000 litres/ day





Sewage Treatment Plant



7. Student participation is ensured in the cleaning and upkeep of the reservoir, pools and the filtering units. Fish farming is done in the two reservoirs and a fairly good catch is available every year. The roof top of the buildings are set up with solar panel, the energy from which is utilized for functioning the filter mechanisms, thus saving much electrical energy and money. The animals and birds that herd in and around the campus are well cared for. Vessels containing clean water are placed in different parts of the campus for their use. We give extra focus to keep the campus green, healthy and planting of trees and its upkeep is an accepted practice here.





Student participation is ensured in the cleaning and upkeep of the reservoir, pools and the filtering units





Student participation is ensured in the cleaning and upkeep of the reservoir, pools and the filtering units





Student participation is ensured in the cleaning and upkeep of the water resources

