Criterion VII

Institutional Values and Best Practices

RAJAGIRI COLLEGE OF MANAGEMENT AND APPLIED SCIENCES

RAJAGIRI VALLEY P.O, KAKKANAD, KERALA 682039

An ISO 9001 : 2015 Certified Institution

Affiliated to Mahatma Gandhi University, Kottayam and Approved by AICTE

7.1 **Institutional Values and Social Responsibilities**

7.1.2

Report on Water Conservation Initiatives

Submitted to NAAC

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7.1.2 Report on Water Conservation Initiatives

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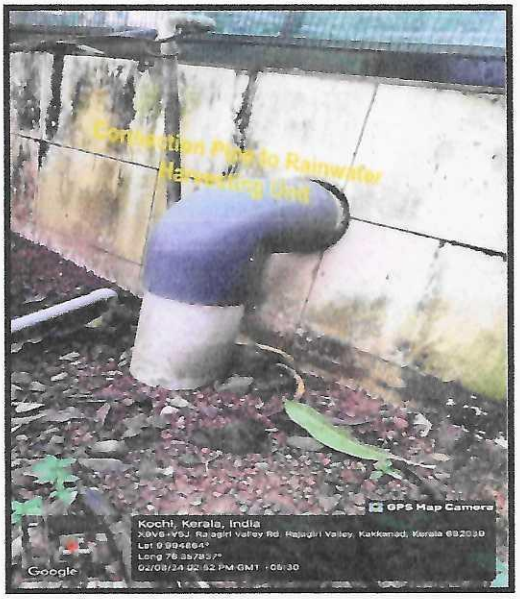
Report on Water Conservation Initiatives

Water is a precious resource and its efficient management is crucial. RCMAS has implemented several water conservation initiatives to promote sustainable water usage and ensure environmental responsibility. These initiatives include rainwater harvesting systems, expansion of green wealth, maintenance of the water canal, mazhakkuzhi and extensive awareness programmes on water conservation. By harnessing natural resources and innovative technologies, the College aims to reduce water wastage, replenish groundwater levels and educate its community about the importance of sustainable water management practices.

1. Rainwater Harvesting Unit

Rainwater harvesting systems established in 2018 are strategically placed to capture and store rainwater, reducing dependency on external water sources. Located beneath the aviary, this system collects rainwater runoff from the college building rooftops. This captured water is then channeled through filtration and treatment processes, transforming it into a valuable resource. The innovative aquaponics system combines aquaculture with hydroponics, providing an eco-friendly approach to cultivating plants and fish simultaneously.



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2. Water Canal/Bund with an Open Recharging Pit

The canal system/water bund bordering the campus has been established for efficient water conservation and distribution, ensuring that every drop is utilized effectively. It's interesting to consider the existence of a canal system on a college campus where it serves multiple purposes, enriching the campus environment in surprising ways. Firstly it functions as a supplementary water reservoir which could be particularly beneficial in drought-prone times in the form of a **water recharging pit.**

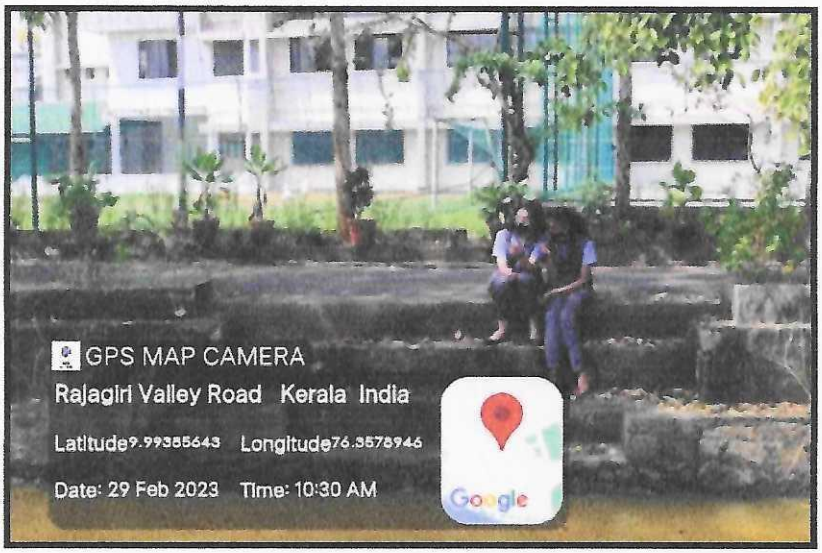
The water bund functions as a vital component of the campus water management system. The channel was reinforced with stone lining for enhanced stability. The water level within the bund fluctuates seasonally, reaching its peak capacity during the monsoon season. The captured rainwater serves a crucial purpose in mitigating water scarcity during drier periods. The accumulated water resource is channeled for irrigation of the college grounds, potentially supplementing other water needs as well.

Apart from its utilitarian function, the water bund fosters a harmonious aesthetic within the college environment. The tranquil water surface acts as a reflective plane, mirroring the green spaces that surround it. The watercourse rears a micro-ecosystem, providing a habitat for aquatic flora and fauna. The presence of the

bund creates a serene atmosphere, offering a dedicated space for students to unwind or engage in contemplative study surrounded by nature.

For them the canal is a source of leisure and entertainment with the scenic walks along the canal path and the flat-bottomed boat rides providing a tranquil escape from the pressures of academic life. Undeniably, the canal adds undeniable beauty to the campus landscape. The water itself creates a reflective surface, mirroring the surrounding architecture and vegetation. Additionally, the canal banks are landscaped with native plants and trees, attracting butterflies and creating a haven for biodiversity. The canal system also serves as a natural border, demarcating the college campus from the surrounding area providing a sense of enclosure and security, while also offering a visually interesting transition zone.

Water Canal



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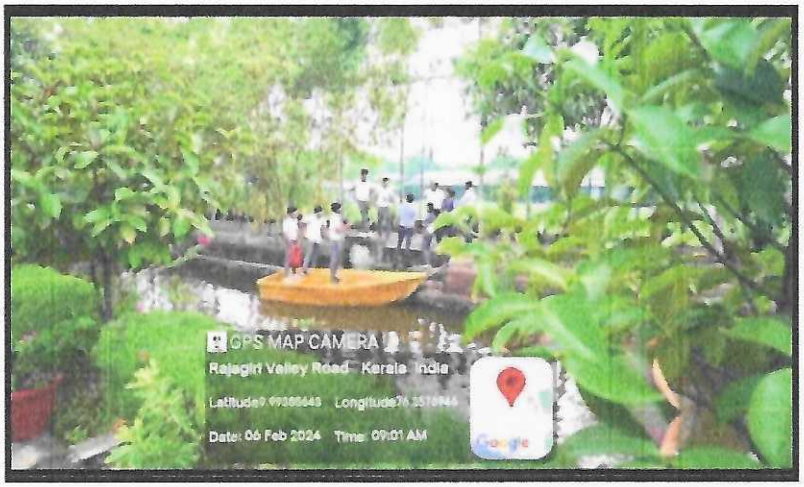
Students Enjoying Boating



3. Mazhakkuzhi/ Open Wells

The College takes yet another remarkable approach to water management through its network of over 80 "mazhakkuzhi," or traditional small wells for storing water. The Mazhakkuzhi functions as a decentralized rainwater harvesting system. By capturing rainwater during the monsoons, they help reduce the dependence on municipal water supplies, promoting water conservation. This benefits the college financially and ensures a sustainable water source throughout the year.

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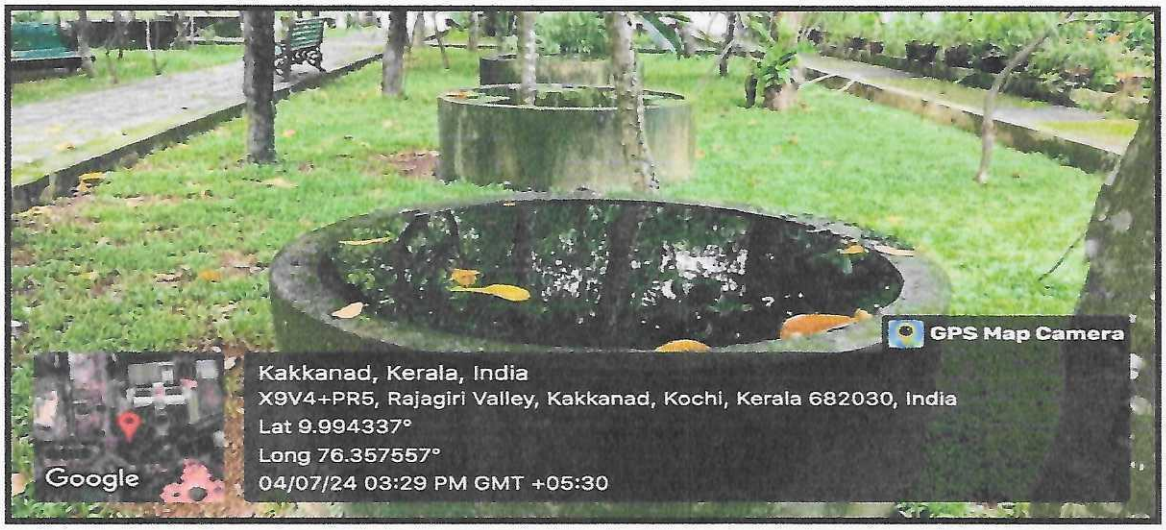

The mazhakkuzhi is more than passive storage units; they teem with life. The presence of fish helps control mosquito populations, promoting a healthier environment. Additionally, lilies and other aquatic plants adorn the wells. These plants not only add a touch of natural beauty but also contribute to maintaining water quality through filtration and oxygenation. By incorporating this time-tested water management system, Rajagiri College demonstrates respect for its heritage and inspires a deeper connection with nature within its student body. They are often drawn to the tranquility of the wells, offering a space for reflection or social interaction after the class hours.

4. Sensor Taps

Utilizing advanced sensor technology, these taps offer significant benefits in terms of water conservation as the primary advantage of sensor taps is their ability to automatically turn off the water flow when hands are removed. This eliminates the common problem of leaving the tap running unintentionally.

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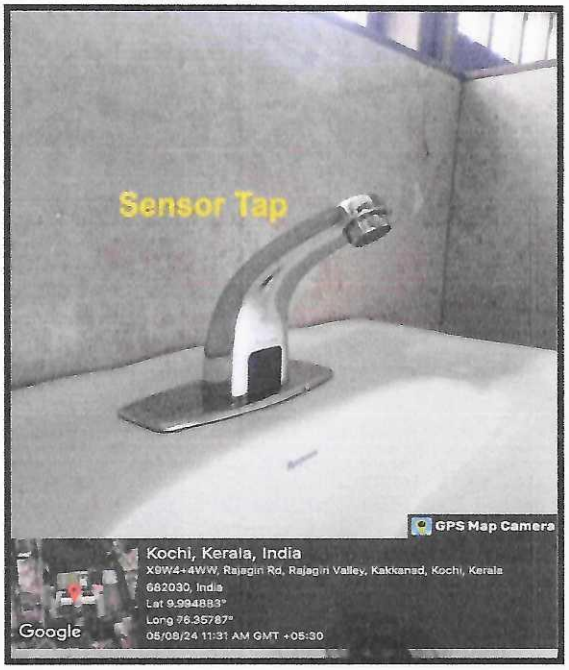
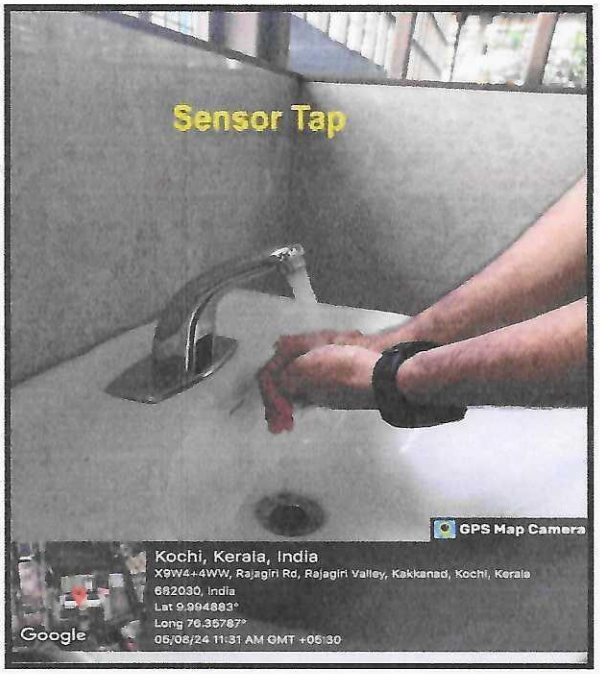
Sensor tap in the canteen





5. Water tanks and Alarm system

The college utilizes a network of elevated tanks to store treated water from municipal supplies and collected rainwater. These tanks provide a buffer, ensuring a consistent water supply throughout the campus To prevent water waste, the college utilizes a critical technology - water tank alarm systems. Installed within the tanks, these systems employ sensors to meticulously monitor water levels. When the water reaches a predefined maximum point, the alarm triggers an alert for maintenance personnel. The immediate notification prevents water from overflowing and going to waste.

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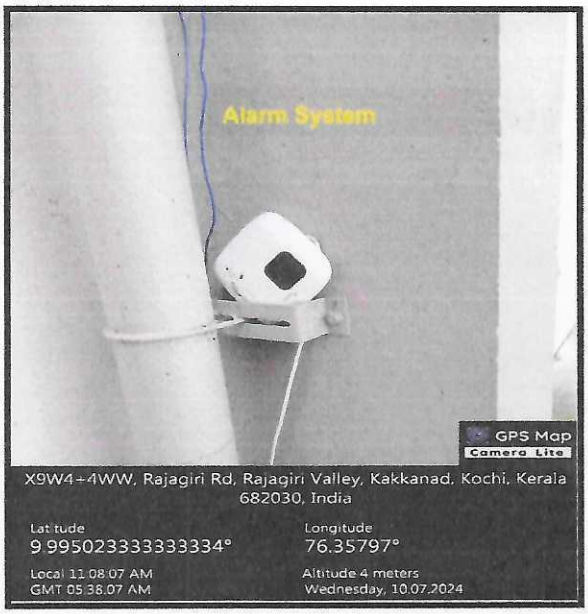
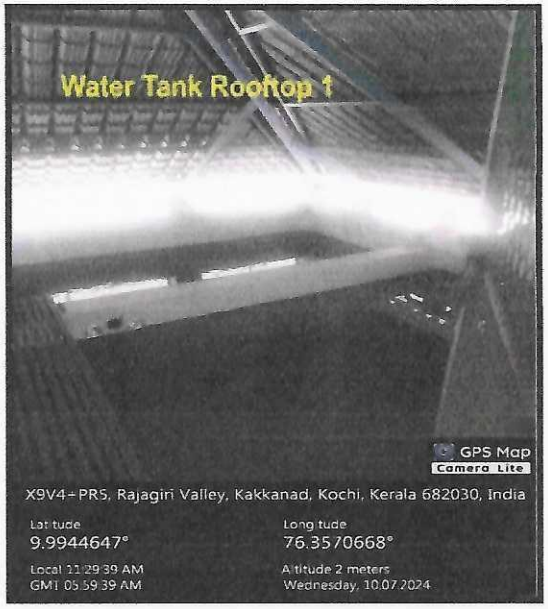
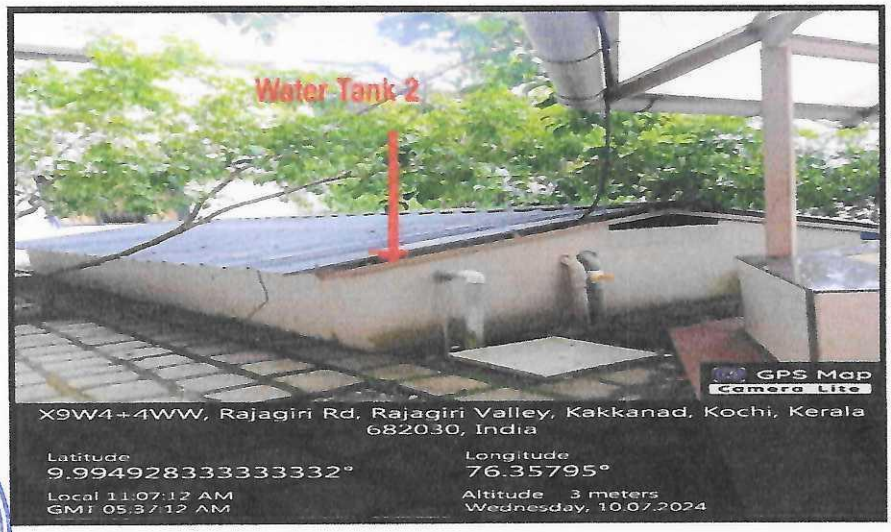
Water Tank and Alarm System to Prevent Water Wastage





The college understands the importance of proactive maintenance. Regular inspections and servicing of water tanks and pipes allow for the identification and repair of leaks before they become significant. Additionally, staff training plays a vital role. Equipping staff with knowledge on water conservation practices and leak detection methods empowers them to become active participants in safeguarding this precious resource. Reduced water waste also translates to a lower environmental impact and minimized water costs for the college.



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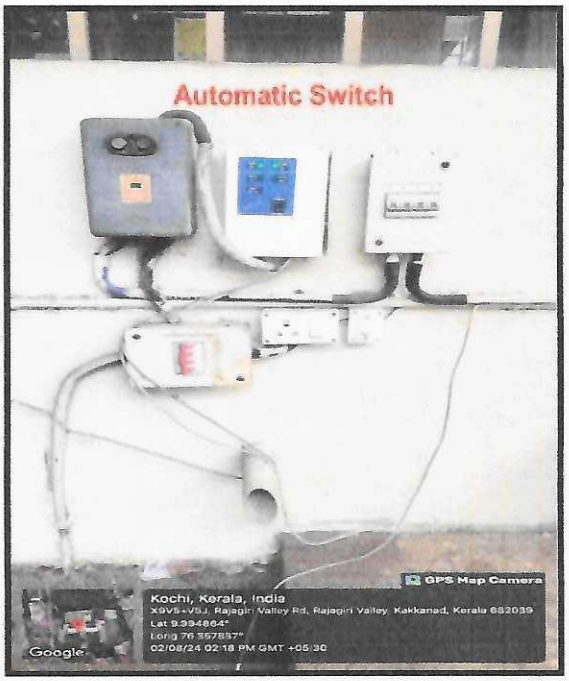
6. Automatic Switch for Water Pumps

To address the issue of water wastage due to overflow, the College has implemented an automatic switch system for its water pumps. These switches ensure that the pump is activated when the water level drops below a predetermined point and automatically shuts off when the tank is full, preventing overflow. The implementation drastically reduces water wastage and contributes to overall environmental sustainability. The optimized operation of water pumps leads to reduced energy consumption.Another significant advantage is substantial cost reduction.



7. Roof Water Conservation

RCMAS practices roof water conservation, which involves collecting and storing rainwater that falls on rooftops that act as the catchment area for collecting rainwater. Precipitation collected from rooftops is channeled into the rainwater storage unit through a well-designed network of pipes. This captured rainwater is subsequently utilized for non-potable purposes, contributing to water conservation and environmental sustainability.

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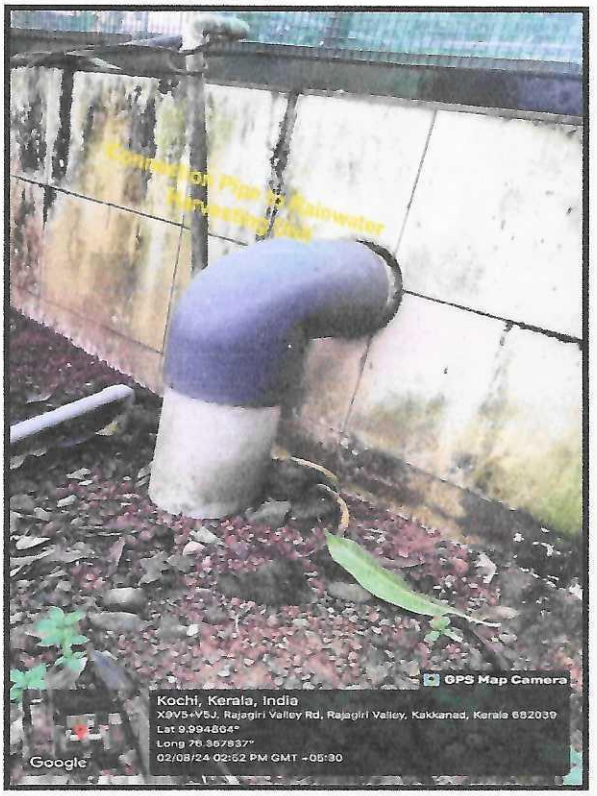

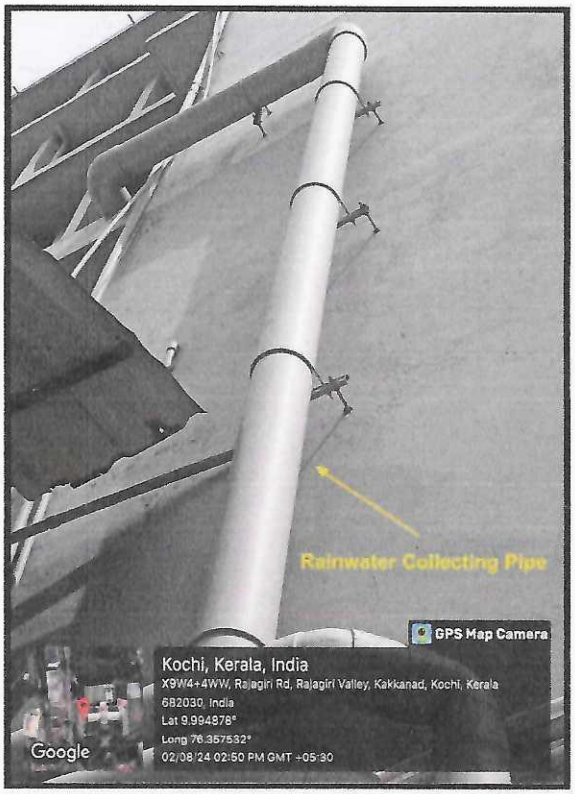

8. Sprinkler System and Drip Irrigation for Watering Plants

The Sprinkler system consists of a network of underground pipes with strategically placed sprinkler heads throughout the college grounds. Unlike fire sprinklers, these heads are designed for low-pressure water distribution, mimicking gentle rainfall to water plants and landscaped areas. The activation is manual, controlled through a central system. It ensures efficient and even watering of the greenery, reducing water waste compared to manual watering methods like hoses. Drip irrigation minimizes water loss through evaporation and runoff, making it an environmentally friendly and cost-effective irrigation technique. This promotes a healthier landscape and reduced water consumption for the college. By continuing to prioritize such initiatives, the College not only ensures efficient water use but also promotes a culture of environmental responsibility within its community

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Sprinkler

9. Lawns with Garden Bench Construction Suitable for the Ecosystem

Lawns are effectively managed to contribute to water conservation on campus and offer several advantages beyond their aesthetic appeal. They contribute to a healthy campus environment by improving air quality, reducing noise pollution and providing a cooling effect. Park benches with spaces between the slats or panels not only provide aesthetic appeal but also serve a crucial ecological function. By allowing rainwater to pass through, they prevent waterlogging and the creation of breeding grounds for mosquitoes and other pests. Such a design element contributes significantly to maintaining a healthy campus environment

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10. Rajeevanam as a Natural Reservoir

The college has been able to make significant strides in water conservation. **Rajeevanam**, the green wealth of Rajagiri College, serves as a natural water reservoir, embodying environmental sustainability and innovative resource management. This initiative with meticulously planned water bodies and lush greenery, functions as an efficient natural catchment area, significantly enhancing groundwater recharge. The design and layout of Rajeevanam harness natural slopes and contours to collect and channel rainwater into these natural reservoirs, ensuring minimal runoff and maximum retention. The practice mitigates the risk of water scarcity and supports the diverse flora and fauna thriving within this green haven. The trees and plants play a critical role during dry seasons, providing a reliable source of water maintaining the ecological balance of the region.

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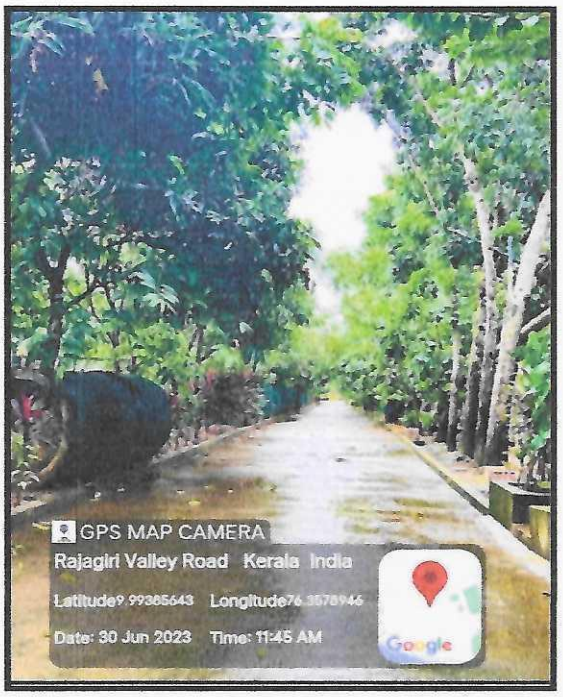
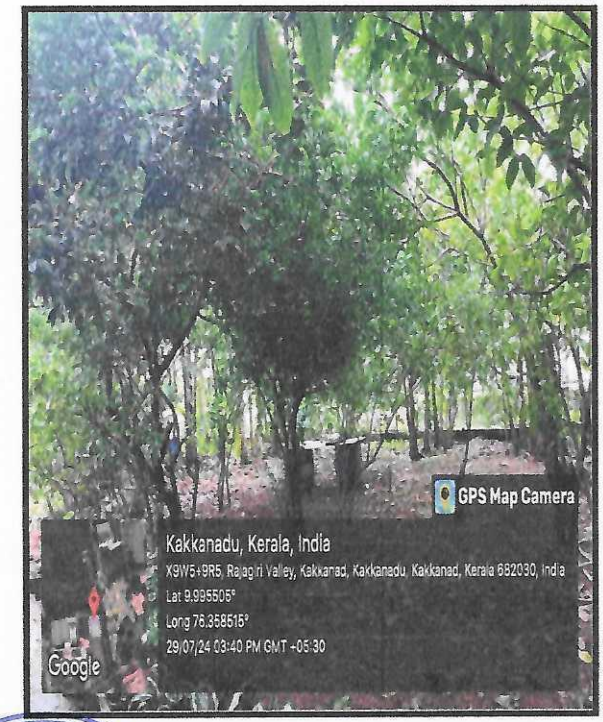
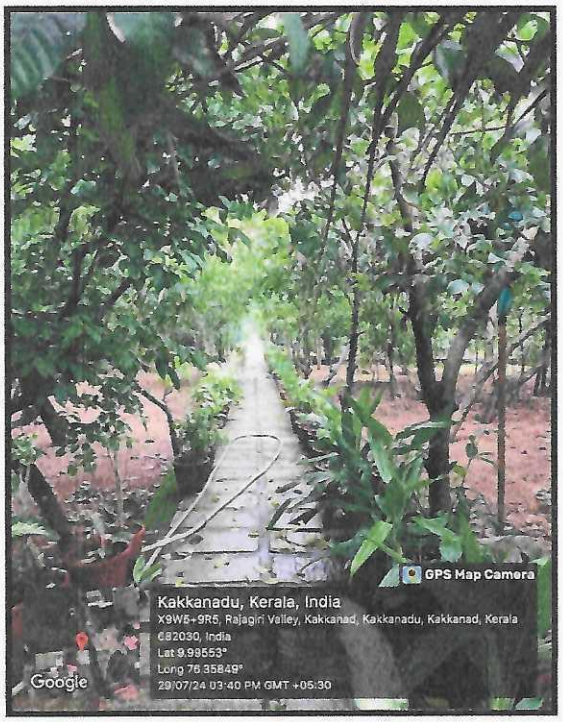
Rajeevanam (Campus Greenery)







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Implementing a combination of technological advancements, behavioral changes and efficient water management practices, The HEI significantly reduces water consumption and protects this precious resource for future generations. It is essential to adopt a holistic approach that encompasses both individual actions and large-scale initiatives to achieve long-term water security.

PRINCIPAL
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