### **RAMAKRISHNA MISSION SIKSHANAMANDIRA**



(A NCTE recognized Govt. Aided (WB) Autonomous Post-Graduate College under University of Calcutta) Belur Math, Howrah - 711 202, West Bengal

## 7.1.4: Institution has water management and conservation initiatives in the form of

- 1. Rain water harvesting
- 2. Reservoirs/tanks/ bore wells
- 3. Economical usage/ reduced wastage

# Documentary evidence in support of the claim



Swami Vidyamritananda Principal (Offg.) Ramakrishna Mission Sikshanamandira Belur Math, Howrah-711202, W.B.

Swami Vivekananda



#### Rain water harvesting:

#### **Rooftop rainwater harvesting:**

In an era marked by increasing concerns over water scarcity and environmental sustainability, the implementation of innovative water conservation measures has become imperative. There is a dedicated rooftop water harvesting system adopted by our esteemed academic institution. By leveraging the natural resource of rainwater, this system presents an effective solution to mitigate water scarcity while promoting eco-friendly practices. Through a meticulous design and efficient utilisation of rooftop surfaces, our institution's water harvesting system serves as a testament to our commitment to sustainability and responsible resource management.

The following are the steps of the rooftop water harvesting system adopted by the college:

- 1. Collection: The rooftop water harvesting system begins with the collection phase, where rainwater is captured from the institution's rooftops. This is achieved by strategically placing gutters, downspouts, and filters (mesh at the end of pipes) to ensure efficient and clean water collection.
- 2. Conveyance: Once collected, the rainwater is conveyed through a series of pipes and channels to direct it towards a storage facility. This network ensures that the water flows smoothly and is efficiently transported from the rooftops to the storage unit.
- 3. Storage: The harvested rainwater is then stored in a dedicated storage facility, i.e., an above-ground cistern. The cistern is designed to accommodate the anticipated water demand of the institution and provide a reliable reserve during periods of water scarcity.
- 4. Distribution: Finally, the stored rainwater is distributed for various uses within the academic institution. It is utilised for irrigation of landscaping, cleaning purposes, and it can be further used for flushing toilets or even as a supplementary source for non-potable water needs, reducing the reliance on institution's primary water supply and promoting sustainable water management practices.

Sometimes the collected rainwater from the rooftops is directly distributed to embanked garden and lawn areas with structured drainage systems for the water to slow down and percolate to ground aquifers and in case of excess, to drain and avoid waterlogging. Which also acts as a ground water harvesting mechanism.

#### Ground rainwater harvesting:

In a similar way, the college also has a ground water harvesting mechanism in place. The following are the steps of the same:

- 1. Sump Collection: The ground water harvesting system begins with the installation of sumps, which are excavated depressions in the ground designed to collect rainwater runoff. These sumps are strategically placed in areas with high water accumulation potential, such as catchment areas or low-lying regions.
- 2. Drainage System: A network of drainage channels and pipes is established to channelize the excess rainwater towards the sumps. These channels are designed to intercept surface runoff and divert it into the sumps, preventing waterlogging and ensuring efficient collection of rainwater for recharge purposes.
- 3. Recharge Mechanism: Once the rainwater is collected in the sumps, it percolates down



into the ground through the process of infiltration, recharging the underlying aquifers. To facilitate this recharge, the sumps have been filled with coarse materials like gravels or boulders to aid water infiltration.

4. Groundwater Level Enhancement: The collected rainwater gradually replenishes the groundwater table, enhancing the overall groundwater levels in the region. This sustainable groundwater harvesting system helps mitigate water scarcity, improves groundwater availability, and promotes the long-term sustainability of water resources in the area.

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Bill related to new rainwater pipe line upgradation and excavation works for sumps



#### Reservoirs/tanks/ bore wells:

The rainwater harvesting storage facility in our academic institution is a meticulously designed structure that serves as a crucial component of our sustainable water management system. Nestled discreetly within the campus, the storage facility is strategically located to maximise rainwater collection efficiency while seamlessly integrating with the surrounding landscape.

The storage facility is carefully engineered to accommodate a substantial volume of harvested rainwater. The reservoir is constructed using concrete to ensure longevity and resistance to corrosion, safeguarding the integrity of the stored water.

To facilitate easy access and maintenance, the storage facility is equipped with secure cover for convenient access. This enables routine inspections, cleaning, and maintenance operations to be carried out efficiently and safely.

The storage facility seamlessly integrates with the institution's water distribution network, allowing for easy access and distribution to various points of use within the campus. The stored rainwater is distributed for various uses within the academic institution. It is utilised for irrigation of landscaping, cleaning purposes, and it can be further used for flushing toilets or even as a supplementary source for non-potable water needs, reducing reliance on external sources and promoting sustainable water usage practices.

Overall, the rainwater harvesting storage facility stands as a testament to our institution's commitment to environmental stewardship, conservation, and responsible water management. It exemplifies our dedication to leveraging natural resources efficiently while providing a reliable and sustainable water source for the academic community.

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Voucher of Payment related to making walls of rainwater harvesting reservoir



## **RAMAKRISHNA MISSION SIKSHANAMANDIRA**

(A NCTE recognized Govt. Aided (WB) Autonomous Post-Graduate College under University of Calcutta) Belur Math, Howrah - 711 202, West Bengal

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We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.				orisedinatory	
For further information pleas		345 8282 (	Toll Free)		

Bills related to purchasing of TMT bars for the rain water harvesting reservoir

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#### Economical usage/ reduced wastage:

- 1. Periodic Monitoring: The college initiates a comprehensive and periodic monitoring of areas of high water consumption and potential sources of wastage such as leaks, broken taps e.t.c.. By monitoring the same the institution can pinpoint opportunities for improvement and track progress over time.
- 2. Efficiency Measures: Implementing water-efficient fixtures and appliances, such as dual flush toilets, Faucets aerators, helps reduce water consumption without compromising functionality.
- 3. Water Recycling and Reuse: The college uses rainwater harvesting systems. Collected and stored water is used for landscape irrigation or other appropriate uses, reducing reliance on freshwater sources.
- 4. Educational Campaigns and Awareness: The institution conducts educational campaigns to raise awareness among staff and students about the importance of water conservation. By promoting water-saving practices, providing tips for efficient water usage, and encouraging behavioural changes, the institution fosters a culture of responsible water consumption.
- 5. Partnerships and Collaboration: The institution seeks partnerships with local water authorities, environmental organisations, and other stakeholders to leverage awareness creation, resources, expertise, and funding opportunities. Collaborative efforts can support the institution's water conservation goals, share knowledge, and foster a collective approach to address water challenges in the region. For example, Sikshanamandira organises various awareness campaigns related to water conservation with Howrah Jela Joutho Paribesh Mancha.

Link:MoU with Howrah Jela Joutho Paribesh Mancha



World River Day celebration

"Education is the manifestation of the perfection already in man."

Swami Vivekananda



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Bills related to installation of water saving dual flush toilets and Bio toilets at the main entrance

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