



RESPONSIBLE WATER CONSUMPTION – A REPORT (2023-24)

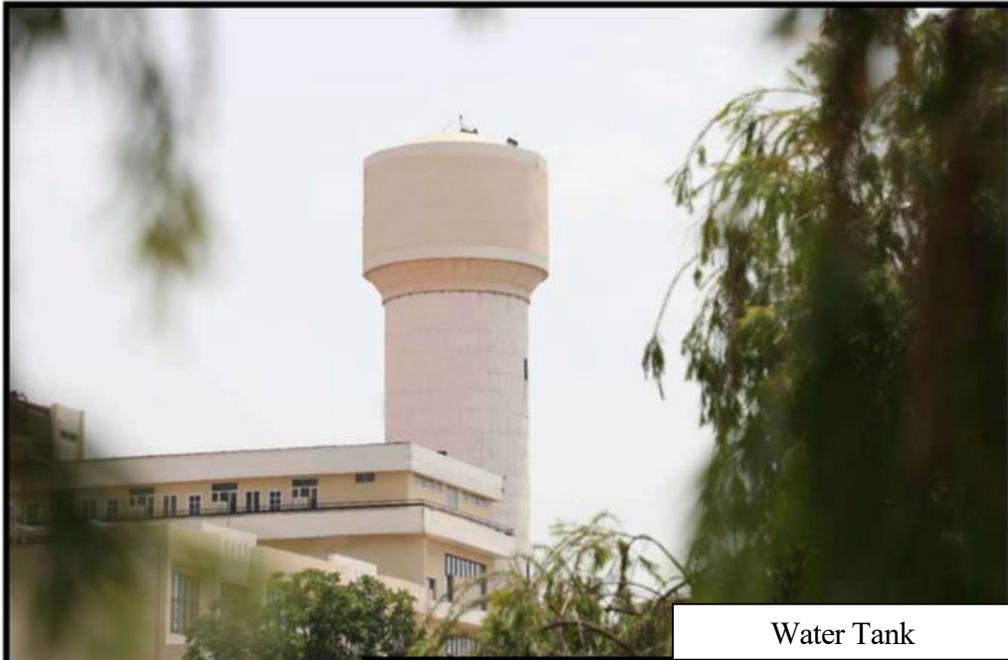


PUNJAB CAMPUS
2023 - 24

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Introduction -

At Chitkara University, Punjab, efforts are made to ensure that water is consumed responsibly and with prudence. The water is stored in the overhead water tank as well as underground water tanks. The supply to the various buildings are well planned and automated motors help in reducing wastage due to overflow. Meters placed consciously at various venues, help monitor the consumption pattern and take necessary corrective actions.



Water Tank



Underground Water Tank

Various steps are adopted by the University to facilitate responsible consumption of water. These can be further divided into three ways –

- A. Water conscious operations,
- B. Awareness on conscious usage of water
- C. Water conscious plantation

A) WATER CONSCIOUS OPERATIONS

a) RECYCLING WATER – TREATMENT PLANTS

The university has two Sewage Treatment plants based on the MBBR technology to treat the wastewater. The Treatment Plant is based on FAB Technology with following treatment scheme.

- Stage 1: Primary Treatment Bar Screen Chamber, Sewage Collection tank, Oil & Grease Trap
- Stage 2: Secondary or biological treatment FAB Reactor, Coagulation tank, Clarifier
- Stage 3: Tertiary treatment Chlorine Contact tank, Pressure Sand Filter, Activated Carbon Filter, Hypo Dosing System, Treated Water Tank
- Stage 4: Sludge Treatment Sludge Drying Bed



b) DOUBLEPLUMBING –

The treated water is used for horticulture as well as for double plumbing in various buildings. This helps reduce the usage of freshwater and this treated water further gets treated in the STPs as it is used.



c) RAINWATER HARVESTING



Sustainable Water Management



Rainwater recharging through open pavers

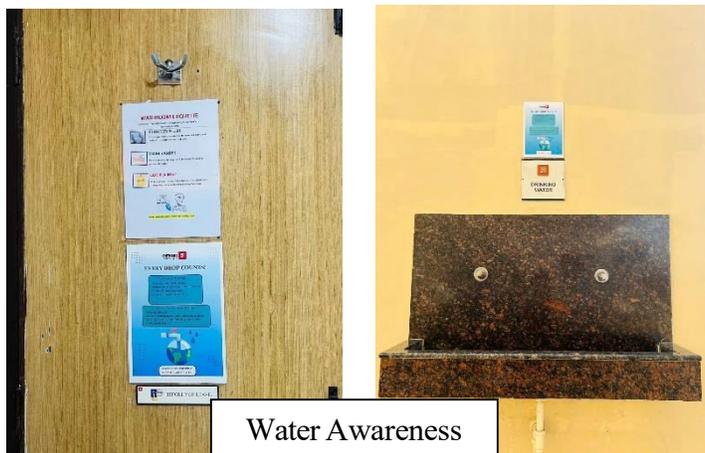
Chitkara University, Punjab takes Rainwater conservation as its basic Social Responsibility. While the university has 16 RWH pits, open grass pavers are also installed in the university to enable the rainwater to seep through the soil. Chitkara University separate Recharging pits for the Separate Roof top catchment areas of the building (Hostels, auditorium, Academic blocks) to recharge more run off. As of now, 25 more recharging pits are proposed.

d) OTHER WATER EFFICIENT PLUMBING FIXTURES –

Other methods adopted to reduce wastage of water are usage of aerators for all taps, low flow showers in washrooms, automated motors for filling of water tanks, censor-based taps for some washrooms, etc.

B. AWARENESS ON CONSCIOUS WATER CONSUMPTION

Students and staff are made aware of the need to consume water and not waste water. While there are strict regulations to not use water for washing of vehicles and for prudent usage of water for cleaning of venues, utmost importance is given to concerns of water leakages. Further, posters to draw attention of users are displayed at strategic locations like rear of washroom doors, at drinking water stations to remind users to not waste water, to raise alarms in case of water leakages and switch off taps when not in use.



Water Awareness

C. WATER CONSCIOUS PLANTATION

Greenery is always pleasing to the eye and contributes to the mental, physical and emotional well-being of people. It contributes positively towards air purification, urban heat reduction, biodiversity preservation and to some extent towards energy saving as it helps keep venues cooler. But plantations need water and water is a scarce resource. Hence it is initiate water conscious plantation where greenery is maintained, with conscious and prudent usage of water.

Techniques Adopted on Campus - Some of the water conscious plantation techniques adopted at Chitkara University, Punjab are mentioned below –

- Usage of Treated Water
- Usage of Water Sprinklers
- Usage of Drip Irrigation
- Planting Drought Tolerant Plants
- Karnal Technology

a) USAGE OF TREATED WATER



Wastewater Treatment

More than 80% of the water used on campus is treated in the various STPs of the campus. Water used for horticulture is mostly treated water, thus reducing the usage of freshwater for plantation.

b) USAGE OF WATER SPRINKLERS

Water sprinklers play a crucial role in maintaining the lush, green landscapes across Chitkara University.

Strategically installed throughout the campus, these sprinklers ensure that lawns, gardens, and recreational areas receive consistent and adequate hydration. This automated irrigation system is designed to distribute water evenly, reducing the need for manual watering and ensuring that all areas of the campus remain

vibrant and healthy. Number of sprinklers on campus, increased from **18** last year to **20**.



c) DRIP IRRIGATION



Drip irrigation is a process where instead of irrigating the entire plant from above, pipes are used to drip water slowly onto the roots of the plants. This conserves

between 20-50% of the water while reducing other negatives like run off, surface vaporation and the potential for overwatering. For most vertical gardens of the campus, drip irrigation is used.

d) DROUGHT TOLERANT PLANTS

Drought tolerant plants and trees species constitute around **21.90%** of total tree species. Types of plants, shrubs and trees in the campus have increased to 102.





Drought Tolerant Plants

e) **KARNAL TECHNOLOGY**

With Karnal Technology, trees are planted on ridges that are one meter broad and fifty centimeters high, and treated wastewater is disposed of in furrows. The age, kind of plants, soil texture, climate, and effluent quality all affect how much waste needs to be disposed of. The whole effluent flow is controlled such that no standing water remains in the trenches after 12 to 18 hours of consumption. This method allows for the daily disposal of 0.3 to 1.0 ML of wastewater per acre.

