Sustainable Water Extraction on Campus at SRM University - AP

SRM University–AP records every source of water it takes onto the campus. Meter readings are taken at each source every day and compiled into monthly records, which are summarised for the year. In calendar year 2025 the campus received 517,311 kilolitres (KL) of water, an average of 1,417 KL a day. Of this, 332,650 KL (64.3 per cent) was drawn from three sources, the CRDA supply, the Kondavity Vagu stream and river pumps feeding the CRDA sump, and 184,661 KL (35.7 per cent) was brought in by tanker. The university also treats its wastewater and reuses it, so that part of its demand is met without any fresh extraction. The key facts are:

- **Every source is recorded:** CRDA supply 59,181 KL, Kondavity Vagu 95,934 KL, river pumps 177,535 KL and tanker water 184,661 KL in 2025.
- **Daily metering:** opening and closing meter readings are logged each day for the CRDA supply and the Kondavity Vagu, and the tanker deliveries are logged daily, all compiled month by month.
- **Reuse reduces extraction:** 143,535 KL of treated wastewater was reused on campus in 2025, equal to about 28 per cent of the water received.
- **Water-saving measures:** low-flow taps, dual-flush toilets, drip irrigation and drought-tolerant planting reduce the demand placed on every source.
- **Rainwater harvesting:** 11 rainwater harvesting systems with a combined capacity of 22 m^3 collect roof and run-off water at the building level and recharge groundwater.

1. Sources of Campus Water

The campus draws on several sources, and the quantity taken from each is recorded separately so that the dependence on any one source can be seen and managed.

Source	How it is supplied	2025 volume (KL)	Share of total
CRDA supply	Raw water supplied through CRDA from the Krishna River into the campus storage	59,181	11.4%
Kondavity Vagu	Water drawn from the Kondavity Vagu stream, metered at the intake	95,934	18.5%
River pumps to the CRDA sump	Two pumps that transfer river water to the CRDA sump (5 HP, and 15 HP from August)	177,535	34.3%
Tanker water	Water received by tanker at Phase 1 and Phase 2	184,661	35.7%
Total received		**517,311**	**100%**

2. How Extraction Is Measured

- **Daily meter readings:** the opening and closing reading of the CRDA and Kondavity Vagu meters is recorded every day, and the daily intake is worked out from the difference.
- **River pumps:** the two river pumps transfer water directly to the CRDA sump without a meter. Their daily quantity is estimated from the running hours of the pumps, which are logged every day. This source was used from March to November.
- **Tanker water:** the quantity received by tanker is recorded each day, for Phase 1 and Phase 2 separately up to October and as a single total in November and December.
- **Monthly summary:** the daily records are compiled into a monthly sheet and an annual summary of total water received, average daily receipt and tanker share.

3. Water Received in 2025

Month	CRDA (KL)	Kondavity Vagu (KL)	River pumps (KL)	Tankers (KL)	Total (KL)	Per day (KL)
Jan-25	7,492	23,718	0	4,079	35,289	1,138
Feb-25	6,618	20,223	0	8,144	34,985	1,249
Mar-25	8,764	15,114	7,697	9,378	40,953	1,321
Apr-25	3,266	11,127	24,513	10,506	49,412	1,647
May-25	1,713	15,865	15,391	5,328	38,297	1,235
Jun-25	1,672	9,760	15,333	0	26,765	892
Jul-25	9,781	127	18,045	1,383	29,336	946
Aug-25	11,809	0	20,706	10,882	43,397	1,400
Sep-25	5,530	0	30,450	15,110	51,090	1,703
Oct-25	1,648	0	34,200	18,942	54,790	1,767
Nov-25	888	0	11,200	30,902	42,990	1,433
Dec-25	0	0	0	70,007	70,007	2,258
Total	**59,181**	**95,934**	**177,535**	**184,661**	**517,311**	**1,417**

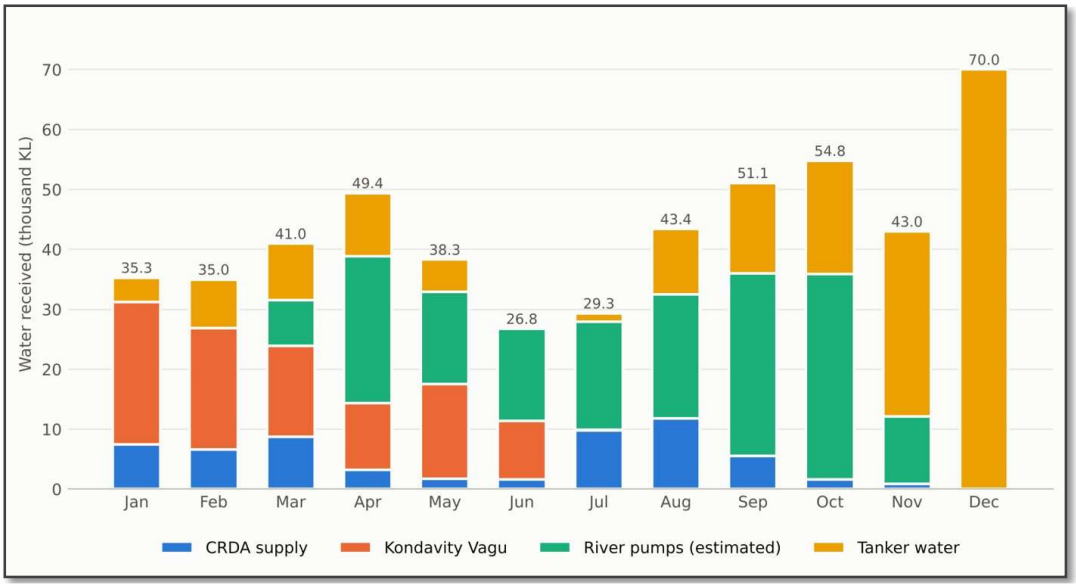


Figure 1. Water received each month in 2025 by source (thousand KL)

The monthly record shows how the sources were used through the year. The Kondavity Vagu was the main source in January and February (23,718 KL and 20,223 KL). Its use fell through the year to 127 KL in July and it was not drawn after that, and the campus relied more on the CRDA supply and the river pumps. The river pumps were first used in March (7,697 KL), supplied the largest share of source water in April and from June to October, and peaked at 34,200 KL in October. The CRDA supply was highest in August (11,809 KL).

Total receipts were lowest in June (26,765 KL) and July (29,336 KL), the semester-end break when students are away, and highest in October (54,790 KL) and December (70,007 KL). In November and December, the campus was supplied mainly by tanker water, 30,902 KL and 70,007 KL respectively.

4. Reducing the Demand on Water Sources

The university reduces the amount it needs to extract in several ways, so that every kilolitre saved or reused is a kilolitre that does not have to be drawn from a river, stream or tanker.

- **Reuse of treated wastewater:** the four sewage treatment plants treat domestic wastewater, and 143,535 KL of treated water was reused in 2025 for toilet flushing (75 per cent), cooling (20 per cent) and gardening (5 per cent).
- **Water-saving fixtures:** all 4,059 taps on campus are low-flow, and 457 of the 486 washrooms (94 per cent) have dual-flush toilets with a 4-litre half flush and an 8-litre full flush.
- **Efficient landscaping:** 67.8 per cent of the 34,577 plants and trees recorded are drought tolerant or moderately so, beds are watered by drip irrigation, lawns are limited and tree basins are mulched.
- **Rainwater harvesting:** rain falling on roofs and paved areas is collected and returned to the ground, as described in the next section.
- **Hydro-pneumatic distribution:** the campus has no overhead tanks, which removes overflow and leakage losses.
- **Awareness:** signage at drinking water points asks users to refill their bottles, close the tap fully and take only what they need.

5. Rainwater Harvesting

Alongside the sources it draws on, the campus puts rain that falls on it back into the ground. Rainwater is treated as a resource in building design: roofs are arranged to collect rainwater, which passes through a piping system to harvesting pits close to each building, where it recharges groundwater. Keeping rain in the local water cycle in this way helps to replenish the groundwater around the campus and supports the sources the university relies on.

Feature	Details
Rainwater harvesting systems	11 systems with a combined capacity of 22 m^3
Roof water	Collected through a piping system and taken to harvesting pits close to each building
Building run-off	Passes through pits located at each building
Purpose	Recharges groundwater and increases the groundwater level
Common areas and roads	Run-off is collected and routed to a nearby water body
Paved areas	Some paved areas are laid with grass joints that let rain soak into the ground

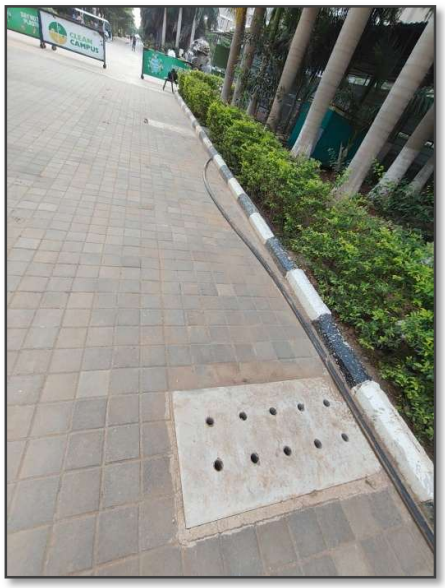


Figure 2. Campus walkway with a pit cover beside a planted bed

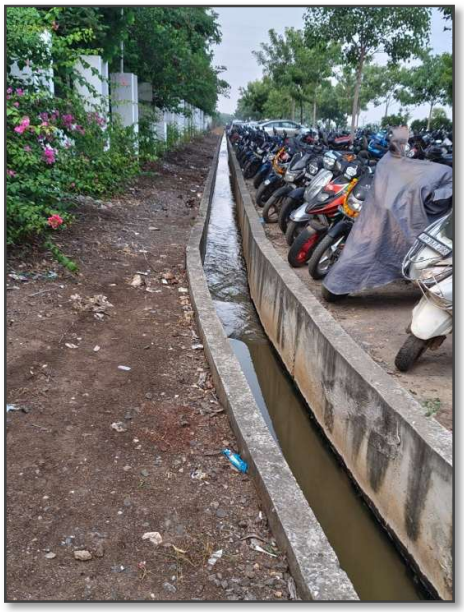


Figure 3. Concrete channel that carries surface run-off beside the parking area



Figure 4. Rainwater collecting pit in the grass-paved area of the campus

6. Monitoring and Responsible Management

Because every source is recorded every day, the university can see how its dependence on each source changes through the year and plan its supply accordingly. The monthly records show the effect of the academic calendar on demand, with receipts at their lowest in June and July and rising when students return. The same records give the baseline against which the effect of the reuse and water-saving measures can be measured in the years ahead, and they allow the quantities taken from the river and stream sources to be kept under review as the availability of water changes through the year.

7. Conclusion

SRM University–AP measures and records the water it takes onto the campus from each source, month by month, and works to reduce the demand placed on those sources through reuse, efficient fixtures and efficient irrigation, and returns rainwater to the ground through 11 rainwater harvesting systems. In 2025 the campus received 517,311 KL of water, and 143,535 KL of treated wastewater was reused on campus. The daily and monthly records give the university a clear record of its extraction and a basis for managing it responsibly.