REPORT ON RAINWATER HARVESTING

1. Introduction

PSG Institute of Technology and Applied Research (PSG iTech), Coimbatore, has implemented rainwater harvesting structures across its campus to capture surface runoff and recharge the groundwater. These recharge structures filter rainwater and allow it to percolate into the soil and the underlying aquifer. This initiative reflects the PSG iTech commitment to water conservation, groundwater sustainability and environmentally responsible campus development.

2. Rainwater Harvesting Methods

Two types of recharge structures have been adopted on the campus: the shallow well method (open well / filter pit) and the deep well method (closed well).

2.1 Shallow Well Method (Open Well / Filter Pit)

The shallow well is a gravity-driven percolation pit that filters surface runoff before recharging the upper soil strata. The pit has a minimum depth of 3 m and is filled with graded filter media arranged in three layers, as given below:

Layer	Material
Top Layer	Small aggregate stones (25 mm)
Middle Layer	Medium aggregate stones (40 mm)
Bottom Layer	Large stones for percolation (150 mm)

2.2 Deep Well Method (Closed Well)

The deep well channels a high volume of water deep past the clay layers, providing target recharge up to 300 m. The structure consists of a pit of 4 m width and 3 m depth filled with filter media and soling stones, with a perforated casing pipe (fitted with filter mesh) that carries the water down to the target aquifer.

Parameter	Specification
Pit width	4 m
Pit depth	3 m
Recharge depth (target aquifer)	Up to 300 m
Casing pipe	Perforated, with filter mesh
Bottom fill	Soling stones

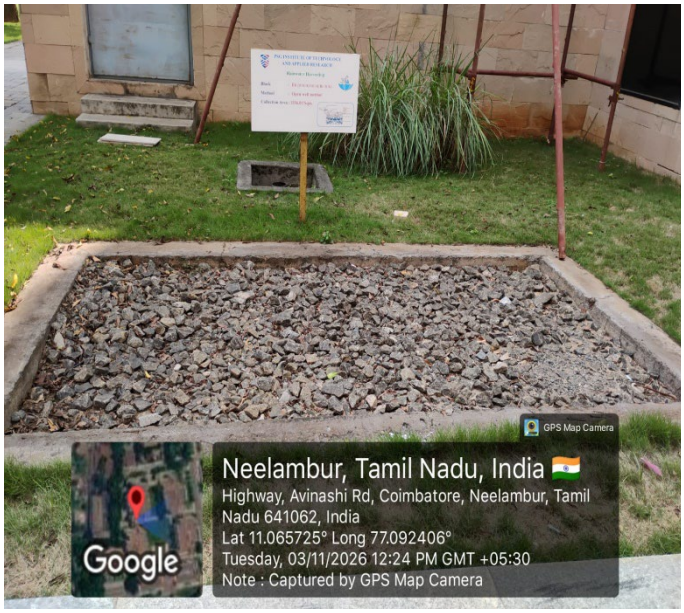
3. Campus Infrastructure Summary

The rainwater harvesting structures installed at PSG iTech are summarised below:

Type of Structure	Number	Location / Details
Shallow wells (Open well / filter pit)	5	Serving E2, E3, E4, E5 and E6 blocks; catchment area of 778.00 sq. m for each well
Deep wells (Closed well)	2	Near the Temple and in front of the Boys Hostel

The five open wells together serve a catchment area of 3,890 sq. m (5 × 778.00 sq. m). The deep wells are installed near the Temple and in front of the Boys Hostel for safe and high-quality deep recharge.

4. Photographs of Rainwater Harvesting Structures



Open Well near E6 block



Closed Well near Temple Premises

5. Contribution to Sustainable Development Goals

The PSG iTech rainwater harvesting initiative supports the following United Nations Sustainable Development Goals (SDGs):

SDG 6 – Clean Water and Sanitation: Promotes sustainable management of water resources through groundwater recharge.

SDG 11 – Sustainable Cities and Communities: Supports environmentally sustainable institutional infrastructure.

SDG 12 – Responsible Consumption and Production: Encourages efficient use and conservation of water resources.

SDG 13 – Climate Action: Builds resilience to water scarcity and variable rainfall.

6. Conclusion

PSG iTech has installed five Shallow wells (Open well / filter pit) serving the E2, E3, E4, E5 and E6 blocks, and two Deep wells (Closed well) near the Temple and in front of the Boys Hostel. Together, these structures capture campus runoff and recharge groundwater, from the upper soil strata to depths of up to 300 m. The initiative demonstrates the commitment to water conservation and groundwater sustainability, and reinforces PSG iTech commitment to the development of a greener campus.