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INSTITUTIONAL
RANKING
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GITAM
DEEMED TO BE UNIVERSITY

BENGALURU • HYDERABAD • VISAKHAPATNAM

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



SDG # 12 :: Progress Report : AY 2023 - 24

GITAM University – SDG #12-Responsible Consumption and Production- Progress report 2023-24

Introduction:

Sustainable Development Goal 12 (Responsible Consumption and Production) aims to ensure sustainable consumption and production patterns by improving resource efficiency, minimizing waste, and reducing environmental impacts throughout the life cycle of goods and services. It calls on governments, institutions, businesses, and individuals to adopt cleaner production processes, responsible procurement, circular economy approaches, and informed consumer choices so that economic growth is decoupled from environmental degradation and future generations can thrive.

GITAM, actively works on Sustainable Development Goal 12 (Responsible Consumption & Production) by managing waste (biomedical, e-waste, plastic) with specialized third parties ([MIRIDI](#), [Greenwaste](#), [IPCA](#)), focusing on water conservation via rainwater harvesting and borewells, and promoting sustainable campus practices.

Research:

- ☞ Research Publications in Scopus Index: GITAM has a relative activity index of 1.56 in its Scopus indexed publications relating to SDG12 during the reference period of 2021-2023.

☞ Research Projects

1. Dr. Mallesham Baithy is working on a project viz., Designing Novel Efficient Catalytic Strategies for the Transformation of Lignocellulose into Lignin-Derived Chemicals. This project

explores the transformation of lignocellulose, a major component of plant biomass, into useful lignin-derived chemicals. The focus is on creating more efficient catalytic processes for this transformation. The results of the project supports the efficient conversion of biomass into chemicals supports circular economy principles by reducing waste and utilizing renewable resources. By exploring bio-based chemicals, this research could contribute to the development of biofuels and green chemicals, supporting sustainable energy production. Utilizing biomass as a feedstock helps reduce dependence on fossil fuels, thus contributing to reducing greenhouse gas emissions.

2. Dr. Nagaraju Kerru is working on Synthesis and Antimicrobial Studies of Quinoline and β -lactam Hybrids. This research involves the synthesis of hybrid compounds combining quinoline and β -lactam, which are known for their antimicrobial properties. By developing new antimicrobial agents, this research aims to combat antibiotic resistance and improve public health outcomes. The development of eco-friendly antimicrobial agents can reduce the need for synthetic, harmful chemicals in medical treatments. This research has the potential to foster innovation in the pharmaceutical industry, contributing to the development of sustainable health solutions.
3. Dr. Atanu Jana is working on a project viz., exTTF-Porphyrin Arrays: New Skeletons for Constructing Fully Organic Semiconducting Supramolecular Systems with Fullerenes and Carbon Nanotubes (CNTs). This project focuses on developing fully organic semiconducting systems using porphyrin arrays,

with potential applications in electronics and nanotechnology. The research explores the integration of fullerenes and carbon nanotubes (CNTs) with these systems. This research aligns with innovation in organic electronics, which could lead to advancements in sustainable technologies such as solar cells, LEDs, and organic transistors. The development of organic semiconductors could lead to more affordable and efficient solar energy solutions, contributing to clean and renewable energy alternatives. The focus on organic materials and sustainable electronic components supports the transition toward more eco-friendly and resource-efficient manufacturing.

4. Dr. M. Potharaju is working on a project viz., Normal and Medium Strength Concrete With 100 Percent Recycled Coarse Aggregate for Financial Assistance. This project investigates the use of 100 percent recycled coarse aggregates in producing normal and medium-strength concrete. It aims to reduce the environmental impact of concrete production by promoting the use of recycled materials. By using recycled aggregates, this research contributes to sustainable infrastructure development, which is essential for building resilient cities. The use of recycled materials in construction supports the circular economy, reducing the demand for virgin resources and minimizing waste. Sustainable concrete production can help reduce the carbon footprint of the construction industry, which is a significant contributor to global emissions.

Key initiatives:

Specific Third-Party Waste Management at GITAM:

- **Biomedical Waste:** Handled by **MIRIDI Eco-Industries Pvt. Ltd.**, who are authorized by GVMC for collection, treatment, and disposal.



- **Electronic Waste (E-Waste):** Collected by **Greenwaste Environmental Solutions Pvt. Ltd.** or **Urban Rebox (ITC Franchise)** in exchange for stationary items.



RE SUSTAINABILITY RELDAN REFINING PRIVATE LTD
Consent order no:13/TSPCB/CFO/MDC/RO-RR-11/HQ/2023

CERTIFICATE
of E-Waste Recycling

Form 6 no: IS 0255

This is to certify that the E-Waste received from M/s. Gandhi Institute of Technology and Management, Rushi Konda, Visakhapatnam 530045, in May 2025, has been dismantled and recycled safely in an eco-friendly way as per the E-waste (Management and Handling) Rules, 2022. Our organization is certified with ISO 9001, ISO 14001, ISO 45001, ISO 50001, R2v3, ESG registered, and LEED PLATINUM certified, promoting sustainable environmental practices.

We extend our sincere gratitude to you for your environmentally responsible approach to electronic waste recycling.

Total Recycled Quantity: 11553 Kgs
Date: 18-06-2025

For Re Sustainability Reldan Refining Private Limited
Authorised Signatory



RE SUSTAINABILITY RELDAN REFINING PRIVATE LTD
Consent order no:13/TSPCB/CFO/MDC/RO-RR-11/HQ/2023

CERTIFICATE
of E-Waste Recycling

Form 6 no: TS 272

This is to certify that the E-Waste received from M/s. Gandhi Institute of Technology and Management, Rudraram, Hyderabad 502329, in Aug 2025, has been dismantled and recycled safely in an eco-friendly way as per the E-waste (Management and Handling) Rules, 2022. Our organization is certified with ISO 9001, ISO 14001, ISO 45001, ISO 50001, R2v3, ESG registered, and LEED PLATINUM certified, promoting sustainable environmental practices.

We extend our sincere gratitude to you for your environmentally responsible approach to electronic waste recycling.

Total Recycled Quantity: 4334 Kgs
Date: 29-08-2025

For Re Sustainability Reldan Refining Private Limited
Authorised Signatory

- **Plastic Waste:** Managed through projects like the **DROP project**, with partners like **IPCA & KN Social Contribution**.

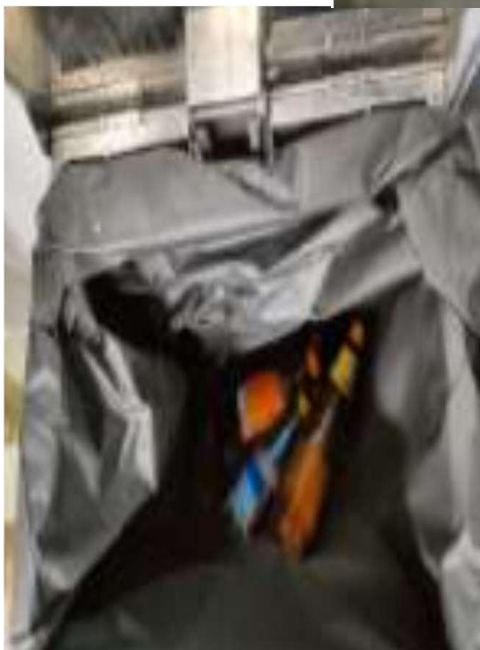


- **Organic Waste (Food Waste):** Some sent to third-party **pig farms** under contract for feeding pigs, while others are composted internally for the nursery.

Internal & Other Management Practices:

- **Segregation:** Separate bins for dry and wet waste are used.

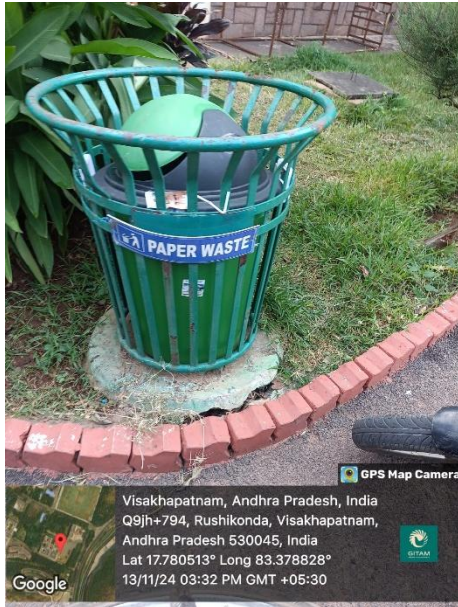




- **Composting:** Garden waste is used for vermicomposting for the university nursery, with innovative compost pelletization projects empowering local farmers.



- **Sustainability Focus:** GITAM actively works on waste reduction, reuse, and recycling, hosting conferences and implementing policies.



- Both side Printing Machines



Consciously reuse the same papers considered as rough paper:



👉 **14th International Conference on Sustainable Waste Management - Circular Economy and IPLA Global Forum 2024**

With a wide mission “Catch Them Young: Circular Economy in Campus”, a unique part of the conference named as “School Children’s Congress on Waste Management & Circular Economy” was included in the Conference, which received a wide response from various schools and young children took participation very enthusiastically in the event.









**14th International Conference on
Sustainable Waste Management
- Circular Economy and
IPLA Global Forum 2024**

International Society of Waste Management Air and Water

**14th IconSWM-CE
& IPLA GF 2024**

Hybrid Mode

November 28th
to December 1st
2024

School Congress

November 27th
2024

 **GITAM (Deemed to be) University**
Visakhapatnam, Andhra Pradesh, India - 530045

Ensuring Responsible Consumption:

GITAM University prioritise purchase of food products from local suppliers. GITAM has a philosophy of 'Farm to Kitchen'. The ingredients for the preparation of food generally have very less shelf life and for making healthy items, they need to be fresh and within a limited time they need to reach the kitchen. They prefer to purchase them from sustainable sources.

GITAM ensures that all its suppliers follow and adhere to the sustainable practices and standard procedures. All our vendors/suppliers have licenses and certifications from the Andhra Pradesh government's Food Safety and Standards Authority of India. They adhere to all sustainable guidelines.

Most of them are local residents / local people. Along with that it also maintains the standard procedures for its operations and all its food preparations kitchen are certified with regular inspections.

GITAM also has its own in – house Organic farm where the fruits and vegetables cultivated are used in their food preparations and served as fresh to the students and faculty.

Ensuring sustainable policies throughout the Supply Chain of Services:

While most of the services are offered by GITAM with utmost care and with serious responsibility, the same is expected from the outsourced service agents as well. Accordingly, all the third-party outsourced vendors have been clearly requested not to go against the policies and statutes of the GITAM System. To ensure the same, exclusive clauses are added in the service agreement itself, and hence the outsourced service vendors are bound by the regulations of GITAM.

Sustainable water management:

GITAM University pursues sustainable water management with features approaching zero liquid discharge (ZLD) across its campuses, though no explicit "net zero discharge" policy is declared.

Water Conservation Measures

Every campus building includes rainwater harvesting pits, contour trenches, and ponds for groundwater recharge, supplemented by a 500 KLD Sewage Treatment Plant (STP) using UASBR technology that treats wastewater for reuse in gardening and landscaping. Treated effluent meets standards (<10 mg/l TSS), with dual plumbing and aerators reducing freshwater use by up to 40% in high-flow areas like hostels and canteens.

GITAM has Total Campus Area : 1033283 Sq.M Total Campus Ground Floor Area : 123993 Sq.M Ratio of Open Space To Total Area : $100 * (1033283 - 123993) / 1033283 = 88\%$ Having large open area, GITAM practices rain water harvesting to maintain the ground water levels.

The University adopted significant measures to harvest rainwater and to enhance the groundwater table. Every building has a rain water harvesting pit.

Contour bunds have been constructed on the campus, within the premises. These are holding part of the storm runoffs and substantially contribute towards maintaining the groundwater table.

A string of soak pits across the campus is facilitating the percolation of surface water.

Every bore well is attached with bore well recharge pit. Some of the parks are kept at low topography, bound by roads at a higher level, enabling macropercolation during the rainy season. These fairly wet zones are bird-friendly, also acting as habitats for minor animals, lending a helping hand in maintaining the flora & fauna; one can spot an abundance of Gruidae (cranes), Passeridae (sparrows) as well as Sciuridae (squirrels).





☞ **Water Recycling and reuse:** GITAN has well established water distribution system and It has sewage treatment plants to recycle the waste water and reuse it for the gardening purpose.



