Centurion University
Shaping Lives...
Empowering Communities...

Times Higher Education
Sustainability Impact Ratings





SUSTAINABLE DEVELOPMENT GOAL 12 RESPONSIBLE CONSUMPTION & PRODUCTION

SUSTAINABLE DEVELOPMENT GOALS

Section No.	Section Title	Page No.
1	Executive Summary	3
2	Summary – Our Impact on SDG 12: Responsible Consumption and Production	4
3	Impact at a Glance (2025)	5
4	Waste Tracking System (Indicator 12.3.1)	6
5	Waste Generation	9
6	Organic Waste Management	11
7	Non-Biodegradable Waste Utilization	14
8	Construction & Demolition (C&D), Biomedical and E-Waste	16
9	Products from Recycled Waste	18
10	Waste Prevention, Reuse and Circular Resource Management	19
11	Awareness & Community Participation	20
12	Linkage with SDG 7 and SDG 13	23
13	Monitoring and Performance Indicators	23
14	Conclusion	23
	Appendix A – Quantitative Indicators Summary (Centurion University SDG 12, 2025)	24

Figure No.	Figure Title	Page No.
Fig. 1	Impact at a glance, 2025	6
Fig. 2	Collection of waste from designated points on campus	8
Fig. 3	Loading of collected waste for transfer to processing units	9
Fig. 4	Waste generation by category, 2025	9
Fig. 5	Waste generation by source and category, 2025 (tonnes)	11
Fig. 6	Waste recovered by processing method, 2025	12
Fig. 7	Weighing of grass clippings from campus landscaping	13
Fig. 8	Weighing of cow dung collected from the dairy unit	13
Fig. 9	Weighing of orchard waste	13
Fig. 10	Weighing of spoiled mangoes used for bio-enzyme production	14
Fig. 11	Weighing of canteen food waste on a digital platform scale	14
Fig. 12	Weighing of wood waste from the woodworking laboratory	14
Fig. 13	Weighing of cardboard waste	15
Fig. 14	Weighing of paper and cardboard waste	15
Fig. 15	Collection of cardboard from different locations on campus	16
Fig. 16	Weighing of cloth waste in the apparel unit	16

Figure No.	Figure Title	Page No.
Fig. 17	Metal turnings generated in the CNC laboratory	16
Fig. 18	Construction and demolition waste used for in-campus land filling	17
Fig. 19	Products derived from waste by mass, 2025	19
Fig. 20	Certificate from the Municipal Council, Jatni, for collection of the University's solid waste	21
Fig. 21	Certificate from Paralakhemundi Municipality for collection of the University's solid waste	21
Fig. 22	MoU with Sri Ganesh Recycler, Bhubaneswar, for disposal of e-waste	22
Fig. 23	MoU with Mediaid Marketing Services for biomedical waste disposal	22
Fig. 24	Agreement with Saniclean Pvt. Ltd. for biomedical waste disposal	22

1. Executive Summary

Centurion University of Technology and Management (CUTM) leads by example in advancing **SDG 12: Responsible Consumption and Production**, embedding circular-economy principles, renewable energy and sustainable resource management across its campuses. Through its **"Waste-to-Wealth" ecosystem**, every waste stream generated on campus is segregated at source, weighed, recorded by source and category, and either turned into a usable resource or handed over to an authorised operator.

In 2025, the University generated **792.04 tonnes** of waste across thirteen tracked sources and **recovered 756.96 tonnes (95.57%)**, exceeding its 2025 target of 95% and improving on the 92.59% achieved in 2024. Biodegradable waste, which forms 91.48% of the total, was recovered at **99.92%**, and **all non-biodegradable waste other than construction and demolition (C&D) waste was recycled or reused (100%)**.

The Waste-to-Wealth units converted recovered waste into **389.72 tonnes of solid products**—vermicompost, compost, black soldier fly (BSF) larvae and frass, biogas slurry, biochar and handmade paper—together with **2,190 m³ of biogas** used as cooking fuel in campus canteens, **6,000 litres of bio-enzymes** and **288,000 paver blocks** made with recovered plastic. University canteens (285.62 t) and dairy and livestock units (274.84 t) generated **70.76%** of all waste; both streams were processed entirely on campus through composting, vermicomposting, biogas, piggery feed and BSF larvae, creating a **zero-landfill food system**.

Hazardous and special waste streams are managed under India's national rules: **5.90 t of biomedical waste** is treated through authorised operators, **0.34 t of e-waste** is handed to an authorised recycler, and **28.60 t of C&D waste** is used as on-campus fill. These streams remain in the denominator and are not counted as recovered, so the recovery rate is not overstated. Every figure in this report is traceable through weighing records and an evidence register.

Beyond waste, the University's **responsible-production facilities**—organic research farms, biocontrol laboratories, hydroponics, polyhouses, spawn, lac and apiculture units—demonstrate sustainable production in action while giving students hands-on experiential learning.

By linking renewable energy (**SDG 7**), sustainable water management (**SDG 6**) and climate action (**SDG 13**), CUTM's SDG 12 initiatives form a scalable blueprint for carbon-neutral campuses, consistent with the University's **Carbon Neutrality 2035 Roadmap**.

2. Summary – Our Impact on SDG 12: Responsible Consumption and Production

The impact framework below maps each CUTM initiative to its SDG 12 target, its 2025 result, the output delivered, its impact and the 2030 target.

Summary – Our Impact on SDG 12 – Responsible Consumption and Production						
Dimension	**Impact Area / Indicator**	**Initiatives**	**2025 Data**	**Output**	**Impact**	**2030 Target**
Innovation & Sustainable Practices	Achieve sustainable management and efficient use of natural resources – SDG 12.2	Circular Campus Model	Waste-to-Wealth units serving all 13 tracked sources; 389.72 t of products made from waste	Integration of waste, energy and nutrient recovery on campus	Replaces purchased fertiliser, cooking fuel and cleaning chemicals with campus-made products	Model for replication in other HEIs contributing to India's Mission LiFE
	Awareness for sustainable lifestyles & resource efficiency – SDG 12.5	Plastic Waste to Product Initiative	28.65 t plastic recovered; 1.30 t used in 288,000 paver blocks	Plastic paver-block production integrating waste reuse with skill training	Converts plastic waste into construction material for campus roads and walkways	—
Mobilization & Participation	Ensure people have relevant information and awareness for sustainable lifestyles – SDG 12.8	Waste Management Participation	Colour-coded segregation at all 13 sources; awareness programmes for students, staff and service providers	Student and staff engagement in segregation, composting and awareness drives	Encourages active engagement and ownership of waste practices	—
Policy & Procurement	Promote sustainable public procurement practices – SDG 12.7	Sustainable Procurement	Responsible purchasing, reusable containers and digital documentation	Integration of e-procurement and supplier sustainability assessment	Promotes responsible sourcing and prevents waste at source	—
Awareness & Community Engagement	Halve per capita food waste & promote circular waste recovery – SDG 12.3	Sustainable Waste Management Policy	Solid Waste Management Policy (2024) in force; 272.57 t canteen food waste recovered (100%)	Policy implemented with weighing, evidence register and audits	Institutionalises governance and accountability for waste management	—
	Reduce waste generation through prevention, reduction, recycling and reuse – SDG 12.5	Community Inclusion in Recycling	24.29 t plastic handed to the local municipal body for recycling	Community-level awareness on segregation and recycling	Extends sustainable practices to local communities	Expansion of rural waste-to-wealth programmes to 50 villages by 2030
Circular Resource Recovery & Industry Collaboration	Substantially reduce waste generation through prevention, reduction, recycling and reuse – SDG 12.5	Recycling and Resource Recovery	792.04 t of waste tracked; 756.96 t recovered (95.57% recovery rate)	Composting, vermicomposting, biogas, animal feed, recycling and reuse	Maximises resource recovery and minimises landfill burden	Zero-waste certification target for all campuses by 2030
	Achieve environmentally sound management of chemicals and all wastes – SDG 12.4	Industry Collaboration for Waste Reduction	5.90 t biomedical waste (Mediaid, Saniclean); 0.34 t e-waste (Sri Ganesh Recycler)	Authorised collection, treatment and recycling	Full regulatory compliance; no hazardous waste in the municipal stream	—

Technology & Sustainable Infrastructure	Substantially reduce waste generation through reuse and recycling – SDG 12.5	Biogas and Composting Units	54.75 t cow dung → 2,190 m³ biogas; 536.53 t to composting and vermicomposting	Conversion of organic waste to bioenergy and organic manure	Replaces LPG and chemical fertiliser; reduces methane from open decomposition	—
	Encourage adoption of sustainable practices and sustainability reporting – SDG 12.6	Digital Waste Monitoring System	13-source waste tracking system with evidence register and annual reconciliation	Weighing at collection points and processing units	Real-time data and audit-ready accountability	—

3. Impact at a Glance (2025)

Every headline indicator improved on 2024, and the overall recovery rate passed the 95% target set in the 2024 report.

Indicator	2024	2025 Achievement	Change	Linked SDG
Total waste generated	591.74 t	792.04 t	+33.85%	12.5
Total waste recovered (reused / recycled)	547.90 t	756.96 t	+38.16%	12.5
Overall waste-recovery rate	92.59%	95.57%	+2.98 pts	12.5
Biodegradable-waste recovery rate	88%	99.92%	+11.92 pts	12.3
Non-biodegradable recovery rate	90%	100% (excl. C&D)	+10.00 pts	12.5
Paver blocks produced	210,000	288,000	+37.14%	12.5
Biogas generated	750 m³	2,190 m³	+192%	7.2
Solid products from waste	—	389.72 t	—	12.5

The 2025 inventory covers thirteen source categories and reports C&D waste separately, so part of the rise in waste generated reflects wider coverage rather than higher consumption.

Waste-to-Wealth: how the 2025 numbers fit together

- Every waste stream is **segregated at source, weighed, and recorded by source and category** before it is processed.
- **Organic waste** (92% of the total) is converted on campus into compost, vermicompost, bio-enzymes, biochar, biogas, black soldier fly larvae and animal feed.
- **Plastics, metal, glass, paper, cloth and e-waste** are reused on campus, made into paver blocks and handmade paper, or handed to authorised recyclers.
- **Biomedical waste** (5.90 t) is treated through authorised operators and **C&D waste** (28.60 t) is used as on-campus fill; neither is counted as recovered.



Fig. 1 Impact at a glance, 2025

4. Waste Tracking System (Indicator 12.3.1)

CUTM weighs and records every waste stream at source, so each reported tonne traces back to a dated operational record. This section describes the procedure submitted as evidence for indicator 12.3.1 of the THE Impact Rankings 2027.

4.1 Tracking and measurement procedure

1. **Segregation at source** into colour-coded bins: green for biodegradable, blue for non-biodegradable and red for biomedical waste.
2. **Weighing** of collected waste on digital platform scales at collection points and processing units; each quantity is recorded by source and waste category.
3. **Compilation and analysis** of recorded quantities at regular intervals to identify high-generation areas and seasonal variation in composition.
4. **Audits** to check compliance with the University's segregation and waste-management protocols.

5. **Output monitoring** of the biogas plant, bio-enzyme and biochar units and the paver-block unit.

4.2 Evidence register and traceability

The University maintains an **evidence register**: a single index listing, for each waste stream and reported total, the documents that support it. A reviewer can start from any figure in this report and follow the register to the dated source records. The register indexes:

- **Waste-generation registers** by campus, source and waste category;
- **Weighing records**: scale readings and daily or periodic collection sheets;
- **Processing records** for composting, vermicomposting, biogas, biochar, handmade paper and other recovery routes;
- **Authorised-recycler records**: receipts, collection acknowledgements and transfer documents;
- **E-waste records** required under the E-Waste (Management) Rules, 2022;
- **Biomedical-waste records**: manifests, handover receipts and treatment documentation;
- **Product-output records** for compost, vermicompost, biochar, bio-enzymes, biogas and paver blocks;
- **Reconciliation records** comparing waste generated, routed to recovery, product output and waste sent for treatment.

Each record identifies the reporting period, source or facility, measurement unit and responsible office. Waste moving from a collection point to a processing unit is counted once, at the point of generation, to avoid double-counting. Estimated quantities record their estimation method, and annual totals are reconciled against the underlying records before submission.

4.3 Scope and waste classification

The inventory covers all principal waste streams generated by the University's academic, research, administrative, residential, catering, landscaping, dairy, agricultural, workshop, healthcare, student-activity, library and construction activities during calendar year 2025. Food and kitchen waste from canteens and hostels, cow dung from the dairy units, and garden and agricultural-farm waste are recorded as separate categories. All plastic waste is recorded, whether it is reused on campus, processed in the campus paver-block unit or handed over to the local municipal body for recycling. Metal and glass waste is likewise recorded both where it is reused on campus and where it is sent for recycling.

Category	What it includes	How it is managed
Biodegradable	Food and kitchen waste, cow dung, garden waste, agricultural residues, wood, paper, cloth and other compostable material	Recovered on campus through the Waste-to-Wealth units

Category	What it includes	How it is managed
Non-biodegradable	Plastics, metals, glass and electronic waste	Reused on campus, used in the paver-block unit or sent to authorised recyclers
Construction & demolition (C&D)	Debris from construction, renovation and demolition	Used as fill for on-campus land levelling; not counted as recovered
Biomedical	Sanitary waste and biomedical waste from laboratories and health units	Treated through authorised operators; not counted as recovered

4.4 Calculation method

The overall waste-recovery rate is the quantity recovered through reuse or recycling divided by the total quantity generated, multiplied by 100:

Waste-recovery rate (%) = (Waste recovered ÷ Waste generated) × 100

2025: (756.96 t ÷ 792.04 t) × 100 = 95.57%

Biodegradable: (723.96 t ÷ 724.54 t) × 100 = 99.92%. Non-biodegradable, excluding C&D: (33.00 t ÷ 33.00 t) × 100 = 100%. Biomedical waste (5.90 t) and C&D waste (28.60 t) are kept in the denominator but excluded from the recovered total, so the rate is not overstated.



Fig. 2 Collection of waste from designated points on campus



Fig. 3 Loading of collected waste for transfer to processing units

5. Waste Generation

CUTM generated **792.04 tonnes** of waste in 2025. Biodegradable waste accounted for **91.48% (724.54 t)**, reflecting the canteen, hostel, dairy and agricultural operations of the University. Non-biodegradable waste accounted for 4.17% (33.00 t), C&D waste for 3.61% (28.60 t) and biomedical waste for 0.74% (5.90 t).

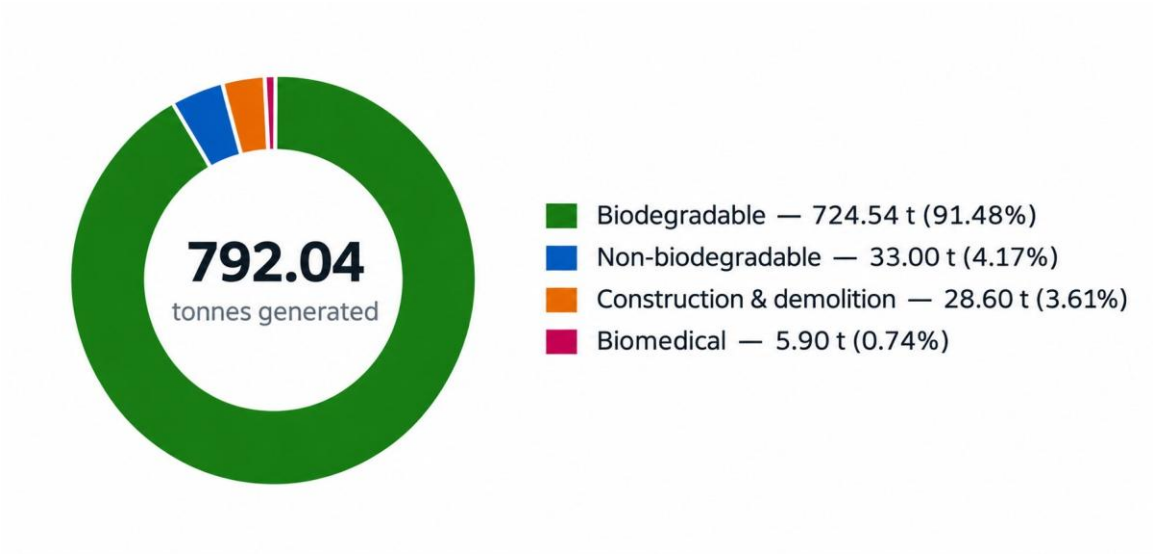


Fig. 4 Waste generation by category, 2025

5.1 Waste generation by source

No.	Source	Biodegr. (t)	Non-biodegr. (t)	C&D (t)	Biomedical (t)	Total (t)	Share
1	University canteens and food courts	272.57	13.05	0.00	0.00	285.62	36.06%
2	Dairy and livestock units	274.69	0.15	0.00	0.00	274.84	34.70%
3	Hostels and residential facilities	78.98	2.10	0.00	4.90	85.98	10.86%
4	Gardens and landscaping	41.00	0.00	0.00	0.00	41.00	5.18%
5	Agricultural farms and field units	40.00	0.05	0.00	0.00	40.05	5.06%
6	Construction and demolition activities	0.00	0.00	28.60	0.00	28.60	3.61%
7	Student activity centres and events	7.90	10.11	0.00	0.00	18.01	2.27%
8	Workshops and production units	5.00	3.90	0.00	0.00	8.90	1.12%
9	Laboratories and research centres	2.50	0.92	0.00	0.75	4.17	0.53%
10	Academic blocks and classrooms	0.90	1.30	0.00	0.00	2.20	0.28%
11	Administrative offices	0.70	1.35	0.00	0.00	2.05	0.26%
12	Library and documentation centres	0.30	0.03	0.00	0.00	0.33	0.04%
13	Healthcare and medical units	0.00	0.05	0.00	0.25	0.30	0.04%
	Total	**724.54**	**33.00**	**28.60**	**5.90**	**792.04**	**100.00%**

Key insight: University canteens and food courts were the largest source, generating 285.62 t (36.06%), followed by dairy and livestock units with 274.84 t (34.70%). Together these two sources produced **70.76%** of the University's waste, and their biodegradable streams are fully managed on campus through composting, vermicomposting, biogas generation and animal feed.

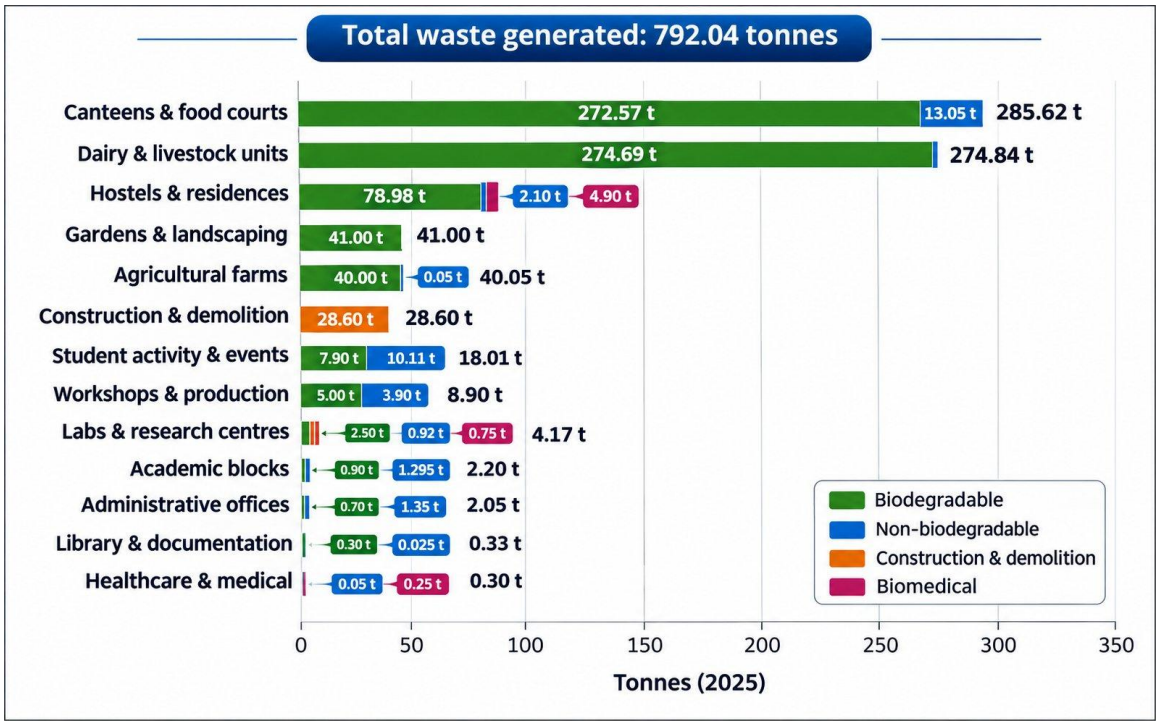


Fig. 5 Waste generation by source and category, 2025 (tonnes)

5.2 Waste recovery by category

A total of **756.96 tonnes** of waste was recovered in 2025, giving an overall recovery rate of **95.57%**. The Waste-to-Wealth facilities operate as an integrated system that converts each waste stream into a usable product or directs it to an authorised recycler.

Waste category	Generated (t)	Recovered (t)	Recovery rate
Biodegradable	724.54	723.96	99.92%
Non-biodegradable (excluding C&D)	33.00	33.00	100.00%
Construction and demolition (C&D)	28.60	0.00	0.00%
Biomedical	5.90	0.00	0.00%
Total	**792.04**	**756.96**	**95.57%**

6. Organic Waste Management

Organic waste from hostels, canteens, dairy units, farms and gardens is processed on campus through composting, vermicomposting, biogas, black soldier fly (BSF) larvae, bio-enzymes, biochar and animal feed. In 2025 CUTM recovered **723.96 t of its 724.54 t of biodegradable waste (99.92%)**; only 0.58 t was not routed to a recovery process.

Waste type	Recovery method (input tonnes)	Recovered (t)	Share of total recovered
Cow dung	Vermicompost 140.00 · compost 79.94 · biogas 54.75	274.69	36.29%
Kitchen food waste (wet + dry)	Compost 148.79 · piggery feed 81.78 · BSF larvae 40.00 · bio-enzyme 2.00	272.57	36.01%
Green waste	Vermicompost 125.00 · compost 39.00 · biochar 4.50	168.50	22.26%
Wood waste	Compost 3.80 · biochar 2.10 · student projects 0.30 · artistic items 0.10	6.30	0.83%
Paper and cardboard	Handmade paper and stationery products	1.60	0.21%
Cloth waste	Rag pulp for handmade paper	0.30	0.04%
Subtotal: biodegradable		**723.96**	**95.64%**

Key Outcomes (2025):

- **54.75 t of cow dung → 2,190 m³ of biogas** (about 6 m³ a day) used as cooking fuel in campus canteens, plus 7.30 t of slurry returned to the fields as manure.
- **272.57 t of canteen food waste with zero to landfill**: 81.78 t fed to pigs and 40.00 t to BSF larvae, producing 5.25 t of protein-rich larvae for fish and poultry and 10.63 t of frass.
- **Spoiled fruit and vegetables → 6,000 litres of bio-enzymes**, used as a natural cleaning agent and crop bio-stimulant.
- **Composting and vermicomposting together handled 536.53 t (70.9%)** of all waste recovered in 2025.
- Compost, vermicompost and biochar are applied to CUTM's agricultural fields, orchards and gardens, improving soil health and reducing synthetic fertiliser use.

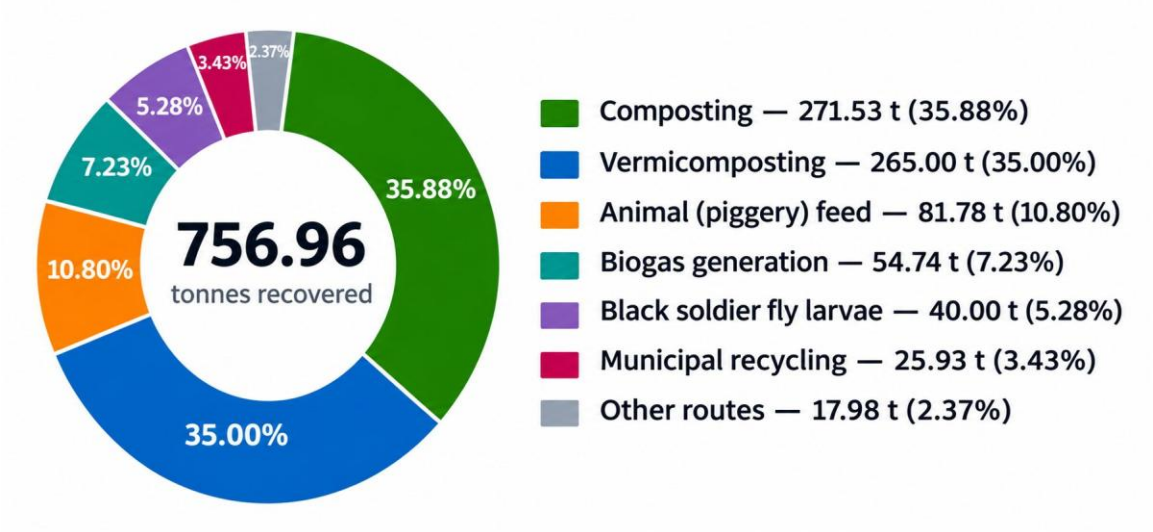


Fig. 6 Waste recovered by processing method, 2025



Fig. 7 Weighing of grass clippings from campus landscaping



Fig. 8 Weighing of cow dung collected from the dairy unit



Fig. 9 Weighing of orchard waste



Fig. 10 Weighing of spoiled mangoes used for bio-enzyme production



Fig. 11 Weighing of canteen food waste on a digital platform scale



Fig. 12 Weighing of wood waste from the woodworking laboratory

7. Non-Biodegradable Waste Utilization

All **33.00 t of non-biodegradable waste** (excluding C&D) was recycled or reused in 2025, a **100% recovery rate**. Plastics go to the campus paver-block unit, to on-campus reuse or to municipal recycling; metal, glass and e-waste are reused or handed to authorised recyclers.

Waste type	Reused / recycled process	2025 output (t)	Share of total recovered
Plastic	Municipal recycling 24.29 · reuse as planters and storage containers 3.06 · paver-block unit 1.30 (288,000 blocks)	28.65	3.78%
Metal	Reused on campus 2.50 · sent for recycling 1.00	3.50	0.46%
Glass	Reused in artistic creations and site filling 0.21 · authorised recyclers 0.30	0.51	0.07%
E-waste	Authorised e-waste recycler (Sri Ganesh Recycler, Bhubaneswar)	0.34	0.04%
Subtotal: non-biodegradable		**33.00**	**4.36%**

Key Outcomes (2025):

- **288,000 paver blocks** made with recovered plastic, cement, sand and aggregates and used to pave campus roads and walkways (210,000 in 2024).
- **3.06 t of plastic reused directly** on campus as planters and storage containers.
- **2.50 t of metal reused** on campus and 1.00 t sent for recycling.
- **Waste paper, cardboard and cloth (1.90 t)** processed in the handmade-paper unit into 1.44 t of handmade paper, stationery and craft items.



Fig. 13 Weighing of cardboard waste



Fig. 14 Weighing of paper and cardboard waste



Fig. 15 Collection of cardboard from different locations on campus

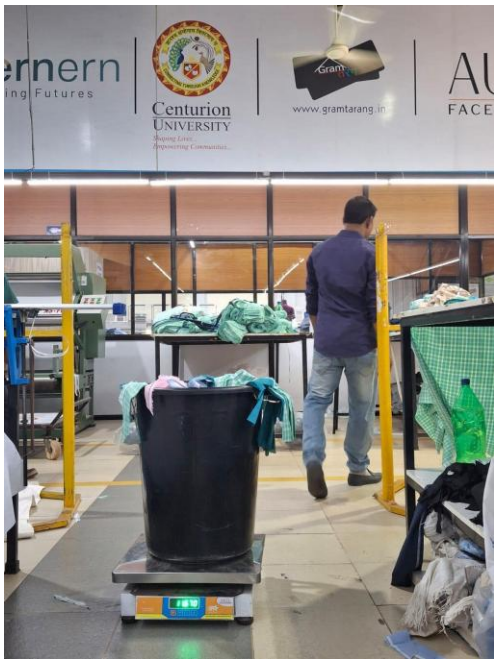


Fig. 16 Weighing of cloth waste in the apparel unit



Fig. 17 Metal turnings generated in the CNC laboratory

8. Construction & Demolition (C&D), Biomedical and E-Waste

- **28.60 t of C&D waste** used as fill for land levelling within the campus — zero external disposal. It is reported but not counted as recovered.

- **5.90 t of biomedical waste** treated under the Bio-Medical Waste Management Rules, 2016: sanitary waste from hostels and residences is incinerated, and other biomedical waste is handed to Mediaid Marketing Services (IRC Village, Nayapalli, Bhubaneswar) and Saniclean Pvt. Ltd. (Bhubaneswar).
- **0.34 t of e-waste** handed to the authorised recycler Sri Ganesh Recycler, Bhubaneswar, under the E-Waste (Management) Rules, 2022.



Fig. 18 Construction and demolition waste used for in-campus land filling

8.1 Waste disposal protocols and regulatory compliance

Waste stream	Treatment or disposal method	Applicable regulation
Biodegradable	Composting, vermicomposting, biogas generation and BSF units	Solid Waste Management Rules, 2016 (as amended)
Plastic	Municipal recycling, on-campus reuse and campus paver-block unit	Plastic Waste Management Rules, 2016 (as amended up to 2024)
Metal and glass	Reuse on campus or authorised recyclers	Solid Waste Management Rules, 2016 (as amended)
Biomedical (5.90 t)	Incineration of sanitary waste; authorised operators Mediaid Marketing Services and Saniclean Pvt. Ltd.	Bio-Medical Waste Management Rules, 2016 (as amended up to 2019)
E-waste (0.34 t)	Authorised e-waste recycler, Sri Ganesh Recycler	E-Waste (Management) Rules, 2022
C&D (28.60 t)	Fill for land levelling within the campus	Construction and Demolition Waste Management Rules, 2016

8.2 Fate of every tonne generated (mass balance)

Destination	Quantity (t)	Share of total generated
Recovered through reuse, recycling and on-campus processing	756.96	95.57%
C&D waste used as on-campus land-levelling fill (not counted as recovered)	28.60	3.61%
Biomedical waste sent for treatment (incineration or authorised operators)	5.90	0.74%
Residual biodegradable waste not routed to a recovery process	0.58	0.07%
Total generated	**792.04**	**100.00%**

9. Products from Recycled Waste

The Waste-to-Wealth programme produced **389.72 t of solid products** in 2025, plus biogas, bio-enzymes and paver blocks. These products replace commercially purchased inputs on campus, reducing both costs and the environmental impact of their supply.

Product	Annual quantity	Use
Vermicompost	168.50 t	Organic manure for campus farms and gardens
Compost from food waste	148.79 t	Organic manure for campus horticulture
Compost from cow dung and litter	46.58 t	Organic manure replacing chemical fertilisers
Black soldier fly larvae and frass	5.25 t larvae; 10.63 t frass	Protein feed for fish and poultry; frass used as organic manure
Biogas slurry	7.30 t	Organic manure for agricultural fields
Handmade paper and products	1.44 t	Stationery and craft items
Biochar	1.23 t	Soil amendment and carbon sequestration
Biogas	2,190 m³	Cooking fuel for campus canteens
Bio-enzymes	6,000 litres	Natural cleaning agent and crop bio-stimulant
Paver blocks (plastic waste with cement, sand and aggregates)	288,000 blocks	Paving of campus roads and walkways

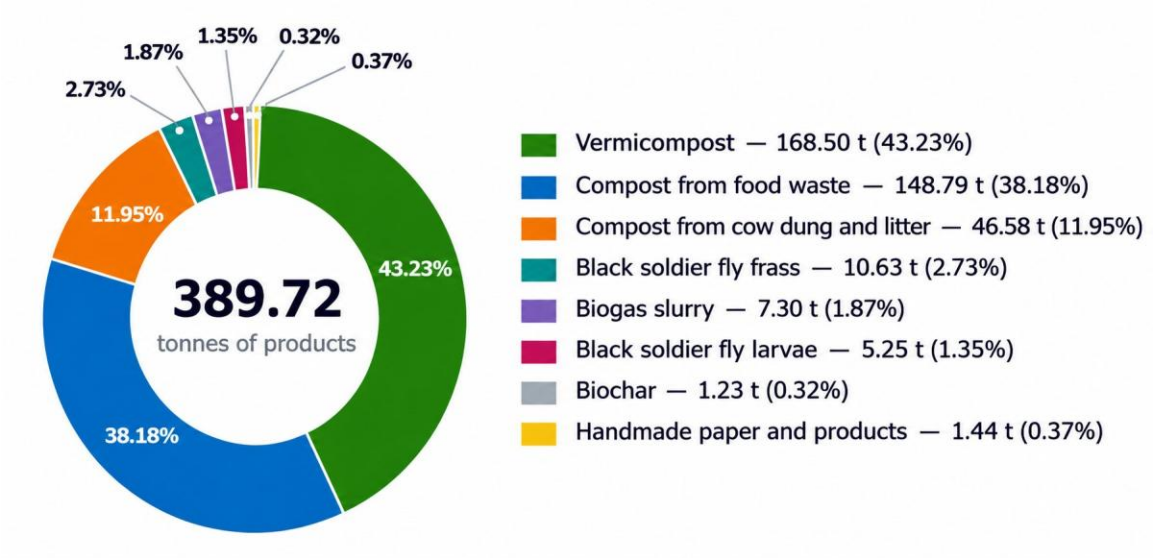


Fig. 19 Products derived from waste by mass, 2025

10. Waste Prevention, Reuse and Circular Resource Management

CUTM's approach combines segregation, resource recovery, recycling and productive reuse of materials. Alongside tracking waste recovered, the University works to prevent waste at source and reduce the quantity that needs treatment or disposal.

10.1 Waste prevention and reduction

Prevention measures include food-waste monitoring in canteens and hostels, digital documentation in place of paper, reusable containers, responsible purchasing and awareness programmes for students, faculty, staff and service providers. Quantified reductions are reported only where a baseline and a reliable measurement method exist.

10.2 Reuse and material recovery

Waste-to-Wealth activities include composting, vermicomposting, biochar and bio-enzyme production, biogas generation, use of selected organic materials as animal feed, handmade-paper production, direct reuse of materials and the use of plastic waste in the campus paver-block unit.

10.3 Circular-resource accounting framework

For transparent accounting, the University records separately the waste entering each process and the finished product it yields; waste input, recovered material, product output and residual waste are never treated as interchangeable quantities.

Indicator	Definition	2025 value
1. Waste prevented	Waste not generated because of a documented prevention measure, calculated against a baseline	Measures described in Section 10.1; quantity not yet baselined

Indicator	Definition	2025 value
2. Waste reused	Generated waste put back into use on campus without reprocessing	6.17 t (plastic 3.06, metal 2.50, wood 0.40, glass 0.21)
3. Waste recycled or recovered	Waste processed into usable products or transferred through a documented recovery route	756.96 t (includes the 6.17 t reused)
4. Waste sent for treatment	Waste requiring treatment, with the route recorded	5.90 t biomedical waste
5. Waste not recovered	Waste used as fill or not routed to recovery	28.60 t C&D used as on-campus fill; 0.58 t residual biodegradable
6. Products from waste	Finished outputs, reported in appropriate units	389.72 t solid products; 2,190 m³ biogas; 6,000 L bio-enzymes; 288,000 paver blocks

Indicators 3, 4 and 5 together account for all 792.04 t generated.

10.4 Continuous improvement

The annual waste inventory is used to identify high-generation sources, monitor recovery performance, evaluate prevention measures and set priorities for the following year. Annual comparisons use consistent definitions and reporting boundaries, and any change in measurement coverage or classification is documented. This moves the University from waste management alone towards a measurable circular-resource model, supported by transparent accounting, operational evidence and continuous improvement.

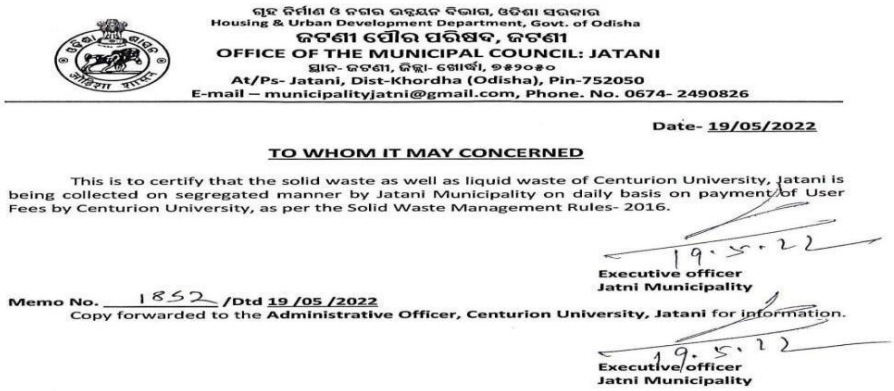
11. Awareness & Community Participation

CUTM's waste system depends on people segregating correctly at source and on partners who take the streams the campus cannot process.

- Awareness programmes for students, faculty, staff and service providers on segregation, food-waste reduction and reuse.
- Integration of waste-management modules in environmental courses (SDG 4.7 alignment).
- Hands-on learning: wood waste from the woodworking laboratory went into student projects (0.30 t) and artistic items (0.10 t), and waste glass into artistic creations.
- Agreements with municipal bodies, an authorised e-waste recycler and authorised biomedical-waste operators for the collection, recycling and treatment of waste streams.

Partner	Waste stream	2025 quantity
Municipal Council, Jatni and Paralakhemundi Municipality	Solid waste collection; plastic waste for recycling	24.29 t plastic recycled
Sri Ganesh Recycler, Bhubaneswar	E-waste	0.34 t

Partner	Waste stream	2025 quantity
Mediaid Marketing Services, Nayapalli, Bhubaneswar	Biomedical waste	5.90 t biomedical waste (both operators)
Saniclean Pvt. Ltd., Bhubaneswar	Biomedical waste	



ଗୃହ ନିର୍ମାଣ ଓ ନଗର ଉନ୍ନୟନ ବିଭାଗ, ଓଡିଶା ସରକାର
Housing & Urban Development Department, Govt. of Odisha
ଜଟଣୀ ପୌରି ପରିଷଦ, ଜଟଣୀ
OFFICE OF THE MUNICIPAL COUNCIL: JATANI
ସ୍ଥାନ- ଜଟଣୀ, ଜିଲ୍ଲା- ଖୋର୍ଦ୍ଧା, ୭୫୨୦୫୦
At/Ps- Jatani, Dist-Khordha (Odisha), Pin-752050
E-mail – municipalityjatni@gmail.com, Phone. No. 0674- 2490826

Date- 19/05/2022

TO WHOM IT MAY CONCERNED

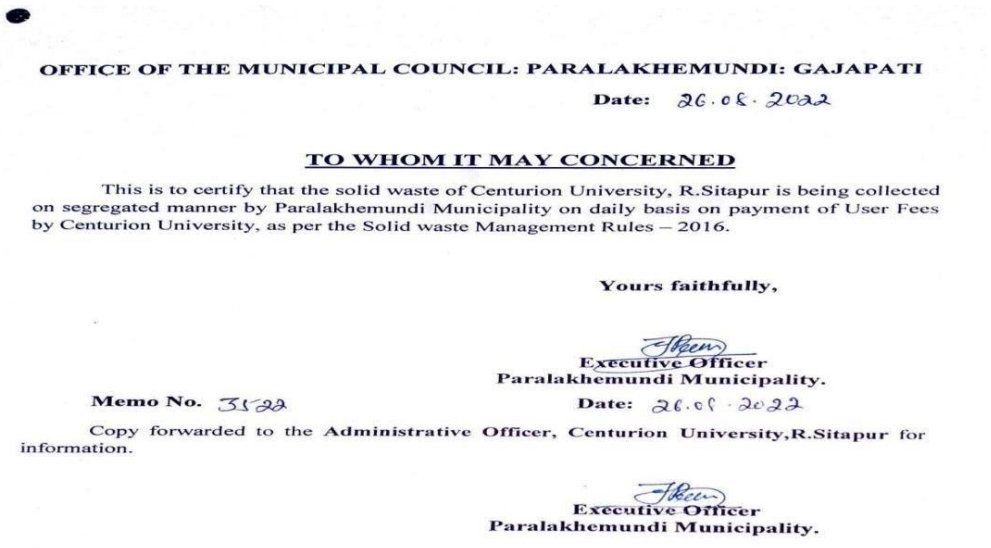
This is to certify that the solid waste as well as liquid waste of Centurion University, Jatani is being collected on segregated manner by Jatani Municipality on daily basis on payment of User Fees by Centurion University, as per the Solid Waste Management Rules- 2016.

19.5.22
Executive officer
Jatni Municipality

Memo No. 1852 /Dtd 19 /05 /2022
Copy forwarded to the Administrative Officer, Centurion University, Jatani for information.

19.5.22
Executive officer
Jatni Municipality

Fig. 20 Certificate from the Municipal Council, Jatni, for collection of the University's solid waste



OFFICE OF THE MUNICIPAL COUNCIL: PARALAKHEMUNDI: GAJAPATI

Date: 26.08.2022

TO WHOM IT MAY CONCERNED

This is to certify that the solid waste of Centurion University, R.Sitapur is being collected on segregated manner by Paralakhemundi Municipality on daily basis on payment of User Fees by Centurion University, as per the Solid waste Management Rules – 2016.

Yours faithfully,

Executive Officer
Paralakhemundi Municipality.

Memo No. 3522 Date: 26.08.2022

Copy forwarded to the Administrative Officer, Centurion University,R.Sitapur for information.

Executive Officer
Paralakhemundi Municipality.

Fig. 21 Certificate from Paralakhemundi Municipality for collection of the University's solid waste



MOU FOR E-WASTE MANAGEMENT

This MOU for Waste Management is entered into on 29-04-2019 by and amongst,

SHREE GANESH RECYCLING PVT. LIMITED having its Registered office at 131, Punjabi Colony, Satyanagar, Bhubaneswar-751007, (herein after referred as "SGR" which expression shall unless contrary to the context or meaning thereof, mean and include its successors and permitted assigns) represented by Shri Narasingha Panigrahi, Director, SGR.

AND

Centurion University of Technology and Management (CUTM) having its Registered Office/ Principal Office at Rajaseetapuram, Odisha 761211, Bhubaneswar (herein after referred to as the "CUTM", which expression shall unless repugnant to the context or meaning thereof, mean and include its successors and permitted assigns) represented by Shri. Sangram Keshari Swain, Professor In Charge – CSR, CUTM duly authorized vide President of the University.

WHEREAS,

- SGR is operating a service for the collection, transportation, channelization of waste through appropriate recyclers and providing consulting services for E-Waste management.
- CUTM & SGR have agreed to partner for waste management and channelization of E-Waste in accordance with the terms of this MOU.

NOW THIS AGREEMENT witnesses as follows;

DEFINITIONS AND INTERPRETATION

1. E-Waste – Will refer to the following kinds:
   a. Waste Electrical and Electronics items covered in the Schedule 1 of the E-Waste management rules 2016 notified by the Ministry of Environment forest and climate change, Government of india.

SCOPE OF THE AGREEMENT

Responsibility of SGR

- To help in establishing the processes for channelization of all E-Waste.
- To support with awareness programs on E-waste management.

Responsibility of CUTM:

- To Form a Waste Management committee.
- To Organize in house activities related to waste management.
- To identify and segregate all kinds of E-Waste generated in all the campuses across CUTM.
- To coordinate with SGR for channelizing E-Waste in compliance with the national laws and regulations.

TERM AND TERMINATION

1. This Agreement shall be in force for a period of 10 years from the date of signing of this Agreement. Upon completion of the term, the Agreement may be renewed at the option of both the Parties in writing on mutually agreed terms and conditions.
2. The Agreement may be terminated by either party by giving 3 months of prior written notice to the other Party.

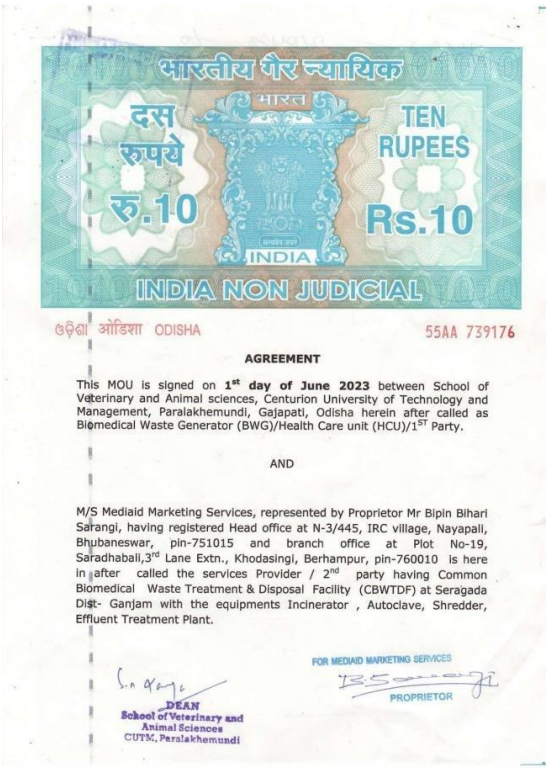
IN WITNESS WHEREOF,

This MOU has been signed by the duly authorized representatives of each Party hereto.

For

SHREE GANESH RECYCLING PVT. LIMITED	**CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT**
Name: Narasingha Panigrahi (Director)	Name: Sangram Keshari Swain
Designation: Director	Designation: Professor In Charge - CSR
Date: 07-05-2018	Date: 07-05-2018

Fig. 22 MoU with Sri Ganesh Recycler, Bhubaneswar, for disposal of e-waste



ओड़िशा ओडिशा ODISHA 55AA 739176

AGREEMENT

This MOU is signed on **1st day of June 2023** between School of Veterinary and Animal sciences, Centurion University of Technology and Management, Paralakhemundi, Gajapati, Odisha herein after called as Biomedical Waste Generator (BWG)/Health Care unit (HCU)/1ST Party.

AND

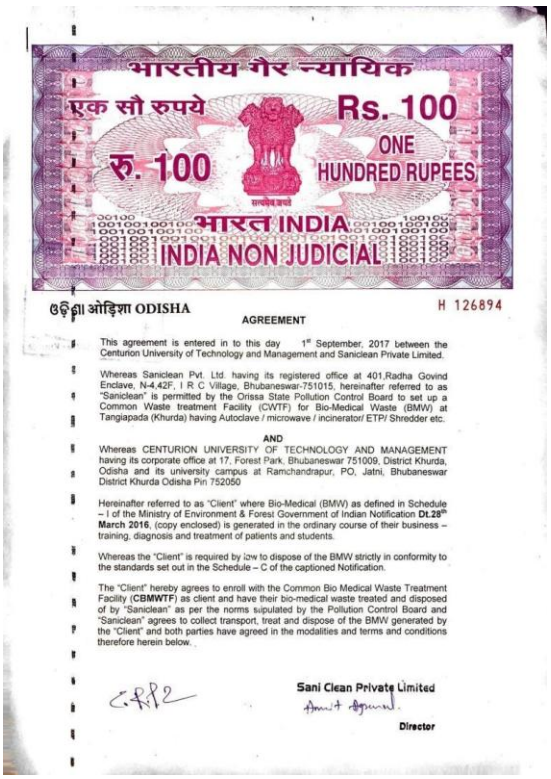
M/S Mediaid Marketing Services, represented by Proprietor Mr Bipin Bihari Sarangi, having registered Head office at N-3/445, IRC village, Nayapali, Bhubaneswar, pin-751015 and branch office at Plot No-19, Saradhabali,3rd Lane Extn., Khodasingi, Berhampur, pin-760010 is here in after called the services Provider / 2nd party having Common Biomedical Waste Treatment & Disposal Facility (CBWTDF) at Seragada Dist- Ganjam with the equipments Incinerator , Autoclave, Shredder, Effluent Treatment Plant.

FOR MEDIAID MARKETING SERVICES

PROPRIETOR

DEAN
School of Veterinary and Animal Sciences
CUTM, Paralakhemundi

Fig. 23 MoU with Mediaid Marketing Services for biomedical waste disposal



ओड़िशा ओडिशा ODISHA H 126894

AGREEMENT

This agreement is entered in to this day 1st September, 2017 between the Centurion University of Technology and Management and Saniclean Private Limited.

Whereas Saniclean Pvt. Ltd. having its registered office at 401,Radha Govind Enclave, N-4,42F, I R C Village, Bhubaneswar-751015, hereinafter referred to as "Saniclean" is permitted by the Orissa State Pollution Control Board to set up a Common Waste treatment Facility (CWTF) for Bio-Medical Waste (BMW) at Tangiapada (Khurda) having Autoclave / microwave / incinerator/ ETP/ Shredder etc.

AND

Whereas CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT having its corporate office at 17, Forest Park, Bhubaneswar 751009, District Khurda, Odisha and its university campus at Ramchandrapur, PO, Jatni, Bhubaneswar District Khurda Odisha Pin 752050

Hereinafter referred to as "Client" where Bio-Medical (BMW) as defined in Schedule – I of the Ministry of Environment & Forest Government of Indian Notification **Dt.28th March 2016**, (copy enclosed) is generated in the ordinary course of their business – training, diagnosis and treatment of patients and students.

Whereas the "Client" is required by law to dispose of the BMW strictly in conformity to the standards set out in the Schedule – C of the captioned Notification.

The "Client" hereby agrees to enroll with the Common Bio Medical Waste Treatment Facility (**CBMWTF**) as client and have their bio-medical waste treated and disposed of by "Saniclean" as per the norms stipulated by the Pollution Control Board and "Saniclean" agrees to collect transport, treat and dispose of the BMW generated by the "Client" and both parties have agreed in the modalities and terms and conditions therefore herein below.

Sani Clean Private Limited

Director

Fig. 24 Agreement with Saniclean Pvt. Ltd. for biomedical waste disposal

12. Linkage with SDG 7 and SDG 13

Waste recovery at CUTM also produces renewable energy and avoids emissions, linking SDG 12 with SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

Impact Area	Linked SDG	Quantified Outcome (2025)
Biogas from cow dung	7.2, 13.2	54.75 t cow dung → 2,190 m³ biogas replacing LPG in canteens
Plastic paver blocks	12.5, 13.2	1.30 t plastic in 288,000 blocks, reducing cement and quarried paving material
Composting, vermicomposting and biochar	12.3, 13.2	363.87 t compost and vermicompost; 1.23 t biochar for soil carbon
Food waste to feed and larvae	12.3, 2.4	81.78 t to piggery feed; 40.00 t to BSF larvae (5.25 t larvae)
Circular waste system	7, 12, 13	95.57% of all waste recovered campus-wide

13. Monitoring and Performance Indicators

CUTM met its principal 2025 target, a waste-recovery rate of at least 95%, and improved every tracked waste indicator over 2024.

Indicator	Unit	Target 2025	Achieved 2025	Status
Waste recycling / recovery rate	%	≥ 95%	95.57%	Achieved
Biodegradable waste recovery	%	—	99.92% (88% in 2024)	Improved
Non-biodegradable waste recovery (excl. C&D)	%	—	100% (90% in 2024)	Improved
Paver blocks from recovered plastic	blocks	—	288,000 (+37.14% vs 2024)	Improved
Biogas generation	m³	—	2,190 m³ (+192% vs 2024)	Improved

14. Conclusion

CUTM measured the waste generated across all thirteen of its operational sources in 2025 and recovered **95.57% of the 792.04 tonnes** generated. Biodegradable waste, which forms 91.48% of the total, was almost entirely (99.92%) recovered on campus as compost, vermicompost, biogas, bio-enzymes, biochar, insect protein and animal feed. All non-biodegradable waste other than C&D waste was recycled or reused, including recovered plastic in 288,000 paver blocks.

Every reported quantity is supported by weighing records and an evidence register, and biomedical, e-waste and C&D streams are managed under the applicable national rules. By linking operational efficiency (SDG 12) with renewable-energy use (SDG 7) and carbon reduction (SDG 13), the University has established a replicable framework for sustainable campus operations in higher education.

Appendix A – Quantitative Indicators Summary (Centurion University SDG 12, 2025)

Category	Indicator	2025 Value / Outcome	Linked SDG(s)	Remarks / Impact
Waste Management (Overall)	Total waste generated	792.04 t	12.5	Baseline for all material flows; 13 sources
	Waste recovered (reused / recycled)	756.96 t (95.57%)	12.5	Target ≥ 95% achieved
	Waste not recovered	35.08 t (4.43%)	12.4	C&D fill 28.60 t; biomedical 5.90 t; residual 0.58 t
Organic Waste Processing	Biodegradable waste recovered	723.96 t (99.92%)	12.3, 13.2	Reduces methane from open decomposition
	Kitchen food waste recovered	272.57 t (100%)	12.3	Zero-landfill food system
	Composting and vermicomposting input	536.53 t	12.2, 13.2	70.9% of all waste recovered
	Biogas feedstock (cow dung)	54.75 t	7.2, 13.2	Converted to renewable energy
	Biogas generated	2,190 m³	7.2	Cooking fuel replacing LPG
	Bio-enzymes produced	6,000 L	12.4	Replaces chemical cleaners
	BSF larvae / frass	5.25 t / 10.63 t	12.3	Protein feed and organic manure
Non-Biodegradable Waste	Recovered (excl. C&D)	33.00 t (100%)	12.5	All recycled or reused
	Plastic recovered	28.65 t	12.5	1.30 t in 288,000 paver blocks
	Metal recovered	3.50 t	12.5	2.50 t reused on campus
	E-waste to authorised recycler	0.34 t	12.4	E-Waste (Management) Rules, 2022
C&D and Biomedical	C&D waste reused as on-campus fill	28.60 t	11.6, 12.5	Zero external disposal
	Biomedical waste treated	5.90 t	12.4	Authorised operators
Products	Solid products from waste	389.72 t	12.5	Plus biogas, bio-enzymes and paver blocks