EXTENT OF IMPLEMENTATION OF SUSTAINABILITY PROGRAMS IN A UI-GREENMETRIC-RANKED CATHOLIC UNIVERSITY

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***Abstract*— This study assessed the sustainability programs of the University of Saint Louis Tuguegarao (USLT) using the six indicators of the UI GreenMetric framework: setting and infrastructure, energy and climate change, waste management, water management, transportation, and education and research. Employing a descriptive-survey design, the study gathered responses from Louisian stakeholders, including faculty, staff, and students, to determine the extent of implementation of sustainability initiatives. Results revealed an overall mean of 3.68, interpreted as "to a great extent." Among the indicators, education and research obtained the highest mean (3.80), followed by setting and infrastructure (3.73), while water management ranked lowest (3.57). The findings indicate that USLT's sustainability efforts are well established and supported by existing institutional policies. Notable initiatives include the "Bawal Plastic Program," energy-saving guidelines on air-conditioning use, the provision of waste segregation bins, the use of tumblers and refill stations, and the promotion of e-vehicles and university buses to limit private vehicles inside the campus. The integration of Sustainable Development Goals (SDGs) into curricula, research, and service-learning programs further strengthens the university's commitment to ecological stewardship. Policy notes highlight the need to institutionalize a comprehensive sustainability policy, establish a monitoring and evaluation system, and enhance stakeholder participation. Overall, the study concludes that USLT has laid a strong foundation for sustainability, and continuous policy reinforcement and collaborative efforts are essential to advance its goal of becoming a leading GreenMetric-ranked Catholic university in the Cagayan Valley region.**

Keywords— *sustainability programs, UI GreenMetric, Catholic university, environmental management, Sustainable Development Goals (SDGs), University of Saint Louis Tuguegarao, stakeholder assessment, green campus initiatives*

I. INTRODUCTION

Universities play a vital role in promoting sustainability through education, research, operations, and community engagement. As institutions of learning and transformation, they are in a strong position to influence behavior, generate knowledge, and model practices that respond to pressing global challenges such as climate change, resource depletion, and environmental degradation. In recent years, higher education institutions have been called to strengthen their contributions to sustainable development, recognizing that education is central to advancing the goals of the global sustainability agenda (Ashida, 2022; Berchin, et al., 2021; Ramaswamy, et al., 2021).

To evaluate and encourage such efforts, the UI GreenMetric World University Ranking, established by Universitas Indonesia in 2010, serves as an international framework for assessing universities' sustainability performance. It measures institutions across six major indicators: (1) Setting and Infrastructure, (2) Energy and Climate Change, (3) Waste Management, (4) Water Management, (5) Transportation, and (6) Education and Research. These indicators collectively assess how universities integrate sustainability in both their physical operations and academic functions (Universitas Indonesia, 2024). By aligning with the broader principles of sustainable development, the GreenMetric ranking promotes a culture of environmental awareness, social responsibility, and institutional accountability within higher education.

Within this framework, the University of Saint Louis Tuguegarao (USLT) achieved a significant milestone when it entered the UI GreenMetric World University Ranking in 2024, ranking 661st worldwide and 24th among participating Philippine universities (USLT, 2024). This recognition affirmed the university's growing commitment to environmental stewardship and sustainable practices, which are evident in its initiatives on energy conservation, waste segregation, water management, and sustainability-oriented instruction and research. As a Catholic institution, USLT's pursuit of sustainability is deeply rooted in its mission of holistic formation and care for creation. Guided by Catholic social teaching and inspired by Pope Francis' encyclical Laudato Si', the university views sustainability not merely as an environmental concern but as a moral and spiritual duty. The call to "care for our common home" provides a foundation that integrates faith, ethics, and ecological responsibility, enabling the university to contribute meaningfully to global sustainable development efforts (Eyng & Villas Boas, 2025).

While USLT has implemented various sustainability initiatives, it is equally important to understand how stakeholders perceive and assess these programs, as their assessments serve as the real measure of effectiveness. Evaluating stakeholder perspectives—especially those of students, faculty, administrators, and staff—provides valuable insight into how sustainability is practiced and experienced within the campus community (Basheer, et al., 2025). Such assessments not only gauge the extent of implementation but also reflect how deeply sustainability is embedded in institutional culture and daily practice.

This study therefore examines the sustainability programs of the University of Saint Louis Tuguegarao, focusing on the extent of implementation across the six UI GreenMetric indicators and the stakeholders' assessment of these programs. By exploring how a Catholic university integrates sustainability into its academic and operational systems, this research aims to contribute to a deeper understanding of how higher education institutions, guided by both faith and global responsibility, advance the broader goals of sustainable development.

II. METHODS

This study employed a descriptive-quantitative research design to determine the extent of implementation of sustainability programs in a UI GreenMetric-ranked Catholic university cross the six UI GreenMetric indicators: setting and infrastructure, energy and climate change, waste management, water management, transportation, and education and research.

The participants of the study were university stakeholders composed of administrators, faculty members, non-teaching personnel, and students of the University of Saint Louis Tuguegarao. A total of 181 respondents participated in the study, consisting of representatives from each of the aforementioned stakeholder groups. The respondents were identified using stratified random sampling to ensure adequate representation from each group.

The main instrument used in the study was a researcher-made survey questionnaire developed based on the standards and metrics of the UI GreenMetric World University Ranking to assess the extent of implementation of the university's sustainability programs. The instrument consisted of two parts: the first gathered demographic information such as the respondents' role in the university and years of service, while the second focused on their assessment of the sustainability programs. The questionnaire items were anchored on the six UI GreenMetric indicators—Setting and Infrastructure, Energy and Climate Change, Waste Management, Water Management, Transportation, and Education and Research. Each item was rated using a five-point Likert scale, where 5 means to a very great extent, 4 means to a great extent, 3 means to a moderate extent, 2 means to a lesser extent, and 1 means not implemented.

The data gathered from the respondents were analyzed using descriptive statistics, specifically the weighted mean, to determine the extent of implementation of sustainability programs based on the six UI GreenMetric indicators. The mean scores were interpreted using the following ranges and qualitative descriptions:

4.50–5.00	To a Very Great Extent
3.50–4.49	To a Great Extent
2.50–3.49	To a Moderate Extent
1.50–2.50	To a Lesser Extent
1.00–1.49	Not Implemented

Ethical standards were observed throughout the conduct of the research. The study was reviewed and approved by the University Ethics Review Committee prior to data gathering. All participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without consequence. Informed consent was obtained from all respondents before participation. Confidentiality and anonymity were strictly maintained by ensuring that no personally identifiable information was collected or disclosed. The data were handled responsibly, and the results were presented objectively and honestly, with full respect for the rights and dignity of all participants.

III. RESULTS AND DISCUSSION

Table 1. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Setting and Infrastructure

Items	**Mean**	**Qualitative Description**
Adequacy of green spaces relative to total campus area.	3.75	To a Great Extent
Effectiveness of programs for campus greening (tree planting, landscaping).	3.87	To a Great Extent
Existence and maintenance of smart/green buildings.	3.60	To a Great Extent
Utilization of land for biodiversity and conservation (gardens, forest patches).	3.75	To a Great Extent
Effectiveness of building standards in promoting energy and resource efficiency.	3.68	To a Great Extent
Mean	3.73	To a Great Extent

Table 1 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along Setting and Infrastructure. The indicator obtained an overall mean of 3.73, interpreted as to a great extent. This result indicates that the university has implemented its programs on setting and infrastructure considerably well, reflecting an institutional commitment to creating a sustainable and environmentally responsible campus

(Oliveira & Proença, 2025). The effectiveness of programs for campus greening, which includes tree planting, landscaping, and maintenance of vegetation, registered the highest mean of 3.87, described as to a great extent. This suggests that stakeholders observe visible efforts in maintaining greenery and promoting ecological balance within the campus. Similarly, the adequacy of green spaces and the utilization of land for biodiversity and conservation, both rated at 3.75, indicate that the university provides sufficient open areas and has programs that promote biodiversity through gardens and other conservation initiatives (Barnett-Itzhaki et al., 2025).

The existence and maintenance of smart or green buildings obtained a mean of 3.60, showing that sustainability measures in building design and maintenance are already in place but may still be improved through wider application of energy-efficient systems and sustainable construction practices (Kalicka, 2021). The effectiveness of building standards in promoting energy and resource efficiency also received a mean of 3.68, suggesting that USLT complies with relevant environmental and statutory laws and policies, including building codes and standards aligned with national and local environmental regulations (Barnett-Itzhaki et al., 2025; Oliveira & Proença, 2025).

These findings show that USLT's initiatives under the Setting and Infrastructure dimension are generally well-implemented. The university's greening programs, adherence to environmental policies, and emerging initiatives toward smart and green buildings indicate a proactive approach to sustainability. These efforts are consistent with the UI GreenMetric framework, which emphasizes sustainable campus management as a core dimension of institutional sustainability. Overall, the results affirm that USLT's sustainability programs in setting and infrastructure are implemented to a great extent, aligning with international benchmarks and contributing to the broader goals of climate resilience and ecological stewardship in higher education.

Table 2. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Energy and Climate Change

Items	Mean	Qualitative Description
Effectiveness of electricity use policies (switch-off campaigns, audits).	3.78	To a Great Extent
Use of energy-efficient equipment (LEDs, inverter AC, smart systems).	3.78	To a Great Extent
Percentage of renewable energy used in campus electricity supply.	3.63	To a Great Extent
Initiatives for reducing carbon footprint (climate action programs, carbon offsets).	3.73	To a Great Extent
Campus greenhouse gas inventory and reduction strategies.	3.53	To a Great Extent
Effectiveness of climate change adaptation and mitigation policies.	3.70	To a Great Extent
Mean	3.69	To a Great Extent

Table 2 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along Energy and Climate Change yielding an overall mean of 3.69, interpreted as "to a great extent." This finding suggests that the university has effectively implemented energy conservation initiatives and climate-related programs consistent with the sustainability indicators set by the UI GreenMetric and reflecting alignment with global higher education sustainability frameworks such as SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action) (Times Higher Education, 2025; Husic, 2024). Stakeholders recognize that energy management and climate action are integral parts of the university's operational and educational systems.

The effectiveness of electricity use policies, including switch-off campaigns and periodic energy audits, and the use of energy-efficient equipment both obtained the highest mean of 3.78, described as to a great extent. These results show that the university enforces concrete measures to ensure responsible energy consumption. USLT implements institutional guidelines on the use of air-conditioning units in classrooms and offices, such as regulating operational hours, setting optimal temperature levels, and promoting the use of natural ventilation whenever possible. These efforts mirror best practices in campus operations, such as switch-off campaigns, energy audits, and the deployment of LED lighting and inverter technologies, which are widely recognized for reducing energy demand and operational costs (Oliveira & Proença, 2025). These policies are complemented by campus-wide switch-off reminders and regular maintenance inspections to reduce unnecessary electricity use. The adoption of energy-efficient technologies—such as LED lighting, inverter-type air conditioning units, and motion-sensor systems—further demonstrates the university's commitment to minimizing energy waste and promoting sustainable operations. The percentage of renewable energy used in campus electricity supply, which received a mean of 3.63, indicates that renewable energy sources are beginning to be utilized but have not yet been fully integrated into the university's energy infrastructure. This reflects progress, it also underscores the need for expanded adoption of solar, wind, or other renewables, as emphasized in global rankings of climate-forward universities (Times Higher Education, 2025). Nevertheless, the university continues to explore the use of solar panels and other renewable

technologies as part of its long-term energy transition plan. The initiatives for reducing carbon footprint, rated 3.73, reflect both institutional and student-led climate action. Various student organizations and offices organize environmental campaigns, tree-planting drives, Earth Hour observances, and information sessions on climate change adaptation and mitigation. These activities not only support carbon reduction but also foster environmental awareness and active participation among the Louisian community (Husic, 2024).

Meanwhile, the campus greenhouse gas inventory and reduction strategies, with a mean of 3.53, and the effectiveness of climate change adaptation and mitigation policies, rated 3.70, suggest that the university has laid the groundwork for systematic climate action and suggests an area for improvement. USLT complies with national environmental regulations and policies, such as the Energy Efficiency and Conservation Act (RA 11285) and local government environmental ordinances, ensuring that institutional practices align with sustainable energy standards. The university also participates in capacity-building programs and environmental observances that strengthen its climate resilience and institutional readiness. Comprehensive greenhouse inventories are foundational for tracking emissions and setting reduction targets, yet many institutions struggle with data collection and reporting frameworks (Oliveira & Proença, 2025). Strengthening this can also improve sustainability reporting of the university.

Overall, the results indicate that USLT's initiatives under the Energy and Climate Change dimension are well-implemented and consistently recognized by stakeholders. Through energy-efficient operations, clear institutional policies, and active climate programs, the university demonstrates its dedication to environmental stewardship. These efforts align with the UI GreenMetric's emphasis on reducing carbon emissions and promoting responsible energy use. More importantly, they embody USLT's Catholic mission to care for creation and uphold ecological integrity as a vital expression of faith in action.

Table 3. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Waste Management

Items	Mean	Qualitative Description
Implementation of waste segregation bins and practices.	3.61	To a Great Extent
Effectiveness of recycling programs (paper, plastic, e-waste, etc.).	3.60	To a Great Extent
Existence of organic waste treatment (composting, biogas).	3.63	To a Great Extent
Initiatives to reduce single-use plastics and promote reusables.	3.78	To a Great Extent
Implementation of paperless systems (digital admin, e-learning).	3.61	To a Great Extent
Hazardous and laboratory waste disposal practices.	3.90	To a Great Extent
Mean	3.69	To a Great Extent

Table 3 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along the dimension of Waste Management. The overall mean of 3.69, qualitatively interpreted as "to a great extent", signifies that stakeholders perceive the university's initiatives on waste reduction, segregation, recycling, and proper disposal as effectively implemented and consistent with sustainability standards set by UI GreenMetric. The results show that waste segregation and the implementation of recycling practices are institutionalized across the university. This indicates that the university has implemented its waste-related sustainability initiatives with considerable effectiveness, consistent with global standards for campus environmental stewardship (Oliveira & Proença, 2025; UNEP, 2023). With means of 3.61 and 3.60, respectively, these indicators reflect the effectiveness of the university's ongoing initiatives, including the provision of labeled trash bins for biodegradable and non-biodegradable waste in all buildings, classrooms, and outdoor areas. This system allows for easy compliance among students and personnel, encouraging proper waste sorting at the source (Oliveira & Proença, 2025). Periodic inspections are conducted by the Physical Facilities and General Services Offices to ensure that segregation practices are consistently observed.

The university's "Bawal Plastic Program" further reinforces its waste management thrust. This policy strictly prohibits the use of single-use plastics within the campus premises, promoting instead the use of eco-bags, reusable bottles, and containers. Campaigns such as "Bring Your Own Tumbler" and "No to Plastic Cutlery" are regularly promoted through student organizations and environmental awareness weeks. This initiative aligns with the UI GreenMetric indicators on waste reduction and the university's vision to model responsible consumption practices among its stakeholders. The existence of organic waste treatment, rated 3.63, indicates that biodegradable wastes—particularly those from canteens and garden areas—are properly managed through composting practices. Organic waste management not only reduces landfill burden but also produces valuable by-products like compost and energy, supporting sustainable agriculture and campus greening (Kalicka, 2021). Compost materials are utilized for the university's campus greening and landscaping projects, thereby promoting circular use of organic waste. These practices contribute to maintaining the university's green spaces and support the sustainability dimension on biodiversity enhancement and ecosystem management.

Meanwhile, hazardous and laboratory waste disposal practices obtained the highest mean rating of 3.90, signifying that the university complies with environmental and statutory regulations governing hazardous waste management (UNEP,

2023). The Science Laboratory, for instance, maintains protocols for chemical waste segregation, labeling, and safe storage prior to disposal through accredited DENR waste handlers. Safety measures are regularly reviewed to ensure compliance with institutional policies and national environmental standards. Likewise, the implementation of paperless systems, with a mean of 3.61, demonstrates the university's transition toward digital administration and instruction. Offices have adopted online transactions and documentation systems, while teachers and students utilize learning management platforms to reduce paper consumption. These practices not only lessen physical waste but also streamline operational efficiency and contribute to resource sustainability.

Overall, the findings affirm that USLT's waste management initiatives are implemented to a great extent, supported by clear institutional policies, physical facilities, and active stakeholder participation. Programs such as the "Bawal Plastic Program," provision of segregated trash bins, composting initiatives, and paperless systems exemplify the university's integrated approach to ecological responsibility. These efforts reflect not only compliance with the UI GreenMetric waste indicators but also demonstrate USLT's continued commitment to advancing sustainability and contributing to the realization of the Sustainable Development Goals through effective campus environmental governance.

Table 4. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Water Management

Items	Mean	Qualitative Description
Availability and effectiveness of water conservation systems (rainwater harvesting, greywater recycling).	3.58	To a Great Extent
Installation of water-saving devices (dual-flush toilets, sensor taps).	3.48	To a Moderate Extent
Programs promoting water quality and safety.	3.59	To a Great Extent
Effectiveness of water conservation campaigns for the university community.	3.62	To a Great Extent
Mean	3.57	To a Great Extent

Table 4 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along the dimension of Water Management. The results yielded an overall mean of 3.57, qualitatively described as "to a great extent", indicating that the university's initiatives for the conservation, quality management, and efficient use of water resources are effectively implemented. This result demonstrates that USLT's water management efforts align well with the UI GreenMetric indicators focusing on sustainable water use and conservation systems and are consistent with SDG 6 (Clean Water and Sanitation) and global campus sustainability benchmarks (Oliveira & Proença, 2025; UNEP, 2023). The indicator "Availability and effectiveness of water conservation systems (rainwater harvesting, greywater recycling)", which obtained a mean of 3.58, highlights the university's proactive approach to sustainable water utilization. The rainwater harvesting systems installed in specific campus areas allow the collection of rainwater that is later used for landscape maintenance, cleaning, and gardening, thereby reducing the consumption of potable water for non-essential uses (Oliveira & Proença, 2025). Regular maintenance of plumbing systems and immediate repair of leaks are also undertaken to prevent water loss, reflecting the institution's compliance with the GreenMetric standard on efficient water resource management.

The installation of water-saving devices such as dual-flush toilets and sensor taps received a mean of 3.48, interpreted as "to a moderate extent". While the university has begun integrating water-efficient fixtures in newly constructed and renovated buildings, the findings suggest that further upgrading is still needed across older facilities. The administration has already initiated plans for retrofitting existing restrooms and wash areas with aerated faucets, sensor-based taps, and low-flow toilets to enhance water efficiency. These efforts reflect USLT's continuous commitment to improving sustainable infrastructure in accordance with environmental design standards. Moreover, upgrading fixtures and expanding smart water technologies could improve efficiency and align USLT with best practices in green building design (Kalicka, 2021). The item "Programs promoting water quality and safety" obtained a mean of 3.59, which signifies the institution's strong compliance with health and sanitation protocols (UNEP, 2023). Regular water quality testing is conducted to ensure that drinking water in fountains and refilling stations meets safety standards set by the Department of Health (DOH). The university maintains clear procedures for cleaning and monitoring water storage systems, while the Physical Facilities and Safety Committees oversee the implementation of water quality assurance programs to safeguard the health of the academic community.

Similarly, the effectiveness of water conservation campaigns, with a mean of 3.62, indicates that the university's awareness and behavioral change initiatives are successfully influencing stakeholders Husic, 2024). Information drives and slogans such as "Save Water, Save Life" and "Think Before You Tap" are displayed in strategic areas to remind the community of the value of conservation. The use of personal tumblers has also been strongly encouraged as part of the university's integrated sustainability practices. This initiative complements the "Bawal Plastic Program" and minimizes dependence on disposable cups and bottled water. Water refilling stations around the campus allow students and employees to refill their tumblers, reinforcing a culture of environmental consciousness and responsible water use.

Overall, the findings reveal that USLT's water management programs are implemented to a great extent, as reflected in the combination of infrastructure, policy, and advocacy initiatives. The university's actions—ranging from rainwater harvesting and water testing to awareness drives and the promotion of reusable tumblers—demonstrate a holistic and practical approach to sustainable water governance. These initiatives support the university's ranking in the UI GreenMetric and affirm its continued contribution to global sustainability goals by ensuring efficient, safe, and responsible management of water resources within the campus community.

Table 5. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Transportation

Items	**Mean**	**Qualitative Description**
Availability of pedestrian and cycling facilities (bike lanes, racks, shaded walkways).	3.80	To a Great Extent
Provision of shuttle services to reduce private vehicle use.	3.62	To a Great Extent
Initiatives to promote carpooling, ride-sharing, or eco-friendly commuting.	3.59	To a Great Extent
Use of low-emission or electric vehicles in campus transport.	3.50	To a Great Extent
Effectiveness of policies to reduce campus traffic congestion.	3.52	To a Great Extent
Mean	3.61	To a Great Extent

Table 5 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along the dimension of Transportation. The overall mean of 3.61, qualitatively described as to a great extent, indicates that the university's transportation initiatives are effectively implemented and align with the UI GreenMetric indicators on sustainable mobility, carbon emission reduction, and energy efficiency. These findings affirm USLT's continued commitment to promoting environmentally responsible and inclusive transport systems within its campus. Moreover, this indicates that the university has made substantial efforts to promote sustainable mobility and reduce the environmental impact of campus transport systems, in line with SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action) (Oliveira & Proença, 2025; UNEP, 2023). The item "Availability of pedestrian and cycling facilities (bike lanes, racks, shaded walkways)", which obtained the highest mean of 3.80, signifies the university's strong effort to maintain a pedestrian-friendly and cyclist-supportive environment. The presence of shaded walkways and accessible footpaths encourages walking as a primary mode of movement across campus buildings which reduces reliance on motorized transport and promote health and well-being among campus stakeholders (Husic, 2024). Designated bicycle racks are installed near key facilities to support those who prefer to bike to school or work. The university also promotes the use of e-vehicles and bicycles as alternatives to fuel-based transport, aligning with its sustainability and wellness goals.

The "Provision of shuttle services to reduce private vehicle use", which received a mean of 3.62, reflects the institution's responsive approach to organized and sustainable campus transport. This is consistent with global best practices in sustainable transport planning emphasizing on shared mobility na d reduced carbon emissions from vehicles (Kalicka, 2021). The university has recently purchased additional buses and a county vehicle to expand its free shuttle services for students, faculty, and staff. This initiative reduces the number of private vehicles entering the campus and provides a convenient, safe, and energy-efficient means of transportation. The shuttle system also complements the university's environmental advocacy by decreasing the collective carbon footprint of daily campus commutes. Similarly, initiatives to promote carpooling, ride-sharing, and eco-friendly commuting, with a mean of 3.59, demonstrate the university's support for responsible transportation practices. Faculty members and staff are encouraged to share rides during institutional events or official travel, helping minimize fuel consumption and traffic volume. Campaigns led by student organizations also advocate for eco-commuting, emphasizing the value of shared responsibility in reducing environmental impact.

The indicator "Use of low-emission or electric vehicles in campus transport," with a mean of 3.50, indicates that the university is gradually transitioning toward more energy-efficient mobility options. The administration is actively exploring the integration of electric service vehicles and e-bikes for internal transport operations, consistent with its long-term vision of a low-emission, sustainable campus. The item "Effectiveness of policies to reduce campus traffic congestion", rated 3.52, highlights the success of the university's traffic management initiatives. USLT has implemented policies limiting the number of private vehicles allowed inside the campus, designating parking spaces only for essential service vehicles and authorized personnel. Specific areas are declared "No Vehicle Zones", particularly near classrooms, walkways, and student centers, to ensure safety and encourage walking. The university's traffic management plan, enforced by trained security personnel, maintains order and promotes a calm, eco-friendly environment that supports both safety and sustainability. While the presence of electric or hybrid vehicles is a positive step, broader adoption and integration into campus fleets could enhance impact. Similarly, traffic reduction policies must be supported by enforcement mechanisms and stakeholder engagement to be effective (Oliveira & Proença, 2025).

In addition, the university promotes a culture of active living and environmental awareness through Fun Runs and similar fitness-oriented activities that encourage the community to

embrace walking and running as sustainable forms of mobility. These initiatives strengthen environmental consciousness while fostering health and camaraderie among students and employees.

Overall, the findings indicate that USLT's transportation programs are implemented to a great extent, demonstrating a holistic approach to sustainable mobility. Through initiatives such as the acquisition of shuttle buses and a county vehicle, promotion of e-vehicles and bicycles, limitation of private vehicles on campus, and provision of pedestrian-friendly spaces, the university exemplifies its commitment to sustainable transport management. These efforts not only satisfy the UI GreenMetric indicators but also advance USLT's contribution to the broader Sustainable Development Goals, particularly in promoting climate action, responsible energy use, and community well-being.

Table 6. Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT along Education and Research

Items	Mean	Qualitative Description
Integration of sustainability and SDGs into the curriculum.	3.95	To a Great Extent
Number and impact of sustainability-focused research projects.	3.95	To a Great Extent
Community extension projects promoting sustainability.	4.02	To a Great Extent
Programs that build student and staff capacity on environmental issues.	3.98	To a Great Extent
Partnerships and collaborations for SDG-related initiatives (local, national, international)	3.99	To a Great Extent
University publications, conferences, or seminars on sustainability.	3.96	To a Great Extent
Mean	3.80	To a Great Extent

Table 6 presents the assessment of the Louisian stakeholders on the sustainability programs of the University of Saint Louis Tuguegarao (USLT) along Education and Research. The overall mean of 3.80, qualitatively described as to a great extent, indicates that the university has made substantial progress in embedding sustainability and the principles of the Sustainable Development Goals (SDGs) into its academic and research functions. The findings show that sustainability is not treated as a separate institutional concern but rather as an integral dimension of instruction, research, and community extension — the trifocal functions of higher education. Moroever, this finding reflects a strong institutional commitment to embedding sustainability principles and the Sustainable Development Goals (SDGs) into the university's core academic and scholarly functions, consistent with SDG 4 (Quality Education) and SDG 17 (Partnerships for the Goals) (Rajabifard et al., 202; SDSN, 2024).

The item "Integration of sustainability and SDGs into the curriculum," which obtained a mean of 3.95, reveals that sustainability concepts are already institutionalized across disciplines. Embedding sustainability in curricula fosters critical thinking and systems literacy, while research projects contribute to evidence-based solutions for pressing environmental and social challenges (SDSN, 2024). Faculty members are encouraged to incorporate SDG-related discussions and environmental topics in their syllabi, promoting student understanding of global issues such as climate change, responsible consumption, and social equity. Moreover, the university implements service-learning programs as part of certain academic subjects, where students apply classroom knowledge to real-world community problems. These service-learning initiatives allow students to engage in environmental awareness campaigns, waste management activities, and livelihood programs in partner communities—concretizing sustainability principles through experiential learning. The SDG Corner, established at the University Research and Innovation Office (URIO), further supports this integration. It serves as an information and advocacy hub that showcases how USLT's research, extension, and institutional policies contribute to sustainable development. The SDG Corner promotes visibility and awareness among students and faculty, providing educational materials, research outputs, and success stories aligned with the global goals. The indicator "Number and impact of sustainability-focused research projects," which also received a mean of 3.95, indicates that sustainability research has become a central part of the university's scholarly agenda. The USLT Research Agenda explicitly includes sustainability and SDG-oriented themes, encouraging faculty and student researchers to undertake studies that address environmental, economic, and social challenges. These projects not only generate new knowledge but also result in practical interventions for communities, such as sustainable livelihood programs and climate adaptation initiatives. The highest-rated indicator, "Community extension projects promoting sustainability," with a mean of 4.02, underscores the strong connection between USLT's research and its outreach efforts. The university implements extension programs that operationalize the outcomes of sustainability research—ranging from solid waste management training to community-based reforestation and eco-literacy projects (Husic, 2024). These activities reinforce the university's mission of transformative education and community engagement rooted in Christian values and social responsibility. Moreover, these initiatives often serve as platforms for participatory learning and co-creation with communities.

The indicator "Programs that build student and staff capacity on environmental issues," with a mean of 3.98, highlights the university's effort to nurture an institutional culture of

sustainability. This suggests that USLT is cultivating a culture of sustainability through multi-level engagement—locally, nationally, and internationally. Strategic partnerships enhance resource sharing, innovation, and policy alignment, while capacity-building programs equip stakeholders with the competencies needed for environmental leadership (Rajabifard et al., 2021). Through the URIO and the Office of Student Affairs and Services, USLT regularly conducts seminars, workshops, and student-led environmental campaigns. These initiatives develop the capacity of both students and employees to act as advocates of sustainability and responsible stewardship of creation. Similarly, the indicator "Partnerships and collaborations for SDG-related initiatives (local, national, international)," rated 3.99, reflects the university's active linkages with government agencies, local government units, and international organizations. Collaborations with institutions such as the DENR, DOST, and CHED, as well as partner universities, facilitate the conduct of sustainability-driven projects, policy dialogues, and interdisciplinary research. These partnerships reinforce the principle of collective action toward achieving the SDGs. The indicator "University publications, conferences, or seminars on sustainability," which obtained a mean of 3.96, demonstrates that the university provides sustained platforms for knowledge generation and dissemination and position USLT as a leader in sustainability education and research (Oliveira & Proenca, 2025). Through its annual research congresses, institutional journals, and sustainability conferences, USLT continues to promote scholarly discourse on issues related to environmental protection, innovation, and sustainable development. Faculty and students are encouraged to present and publish works that contribute to local and national development goals.

Overall, the results affirm that USLT's sustainability programs in the areas of education and research are implemented to a great extent. The presence of the SDG Corner, the inclusion of SDG concepts in curricula and syllabi, the conduct of service-learning programs, and the alignment of the Research Agenda with the SDGs collectively demonstrate the university's strong and institutionalized commitment to sustainability education. Through the integration of instruction, research, and extension, USLT continues to position itself as a catalyst of sustainable transformation and a Catholic institution actively contributing to the global Sustainable Development Goals.

Table 7. Summary Table on the Assessment of the Louisian Stakeholders on the Sustainability Programs of USLT

Sustainability Programs	Mean	Qualitative Description
Setting and Infrastructure	3.73	To a Great Extent
Energy and Climate Change	3.69	To a Great Extent
Waste Management	3.69	To a Great Extent
Water Management	3.57	To a Great Extent
Transportation	3.61	To a Great Extent
Education and Research	3.80	To a Great Extent
Overall Mean	3.68	To a Great Extent

Table 7 presents the summary of the Louisian stakeholders' assessment of the sustainability programs of the University of Saint Louis Tuguegarao (USLT) across the six indicators of the UI GreenMetric World University Ranking—namely, Setting and Infrastructure, Energy and Climate Change, Waste Management, Water Management, Transportation, and Education and Research. The results show that all dimensions were rated "to a great extent", with an overall mean of 3.68, indicating that the university's sustainability initiatives are effectively implemented and institutionalized across its academic and operational systems. This reflects alignment of these university initiatives with globale frameworks set by UI GreenMetric, SDGs and best practices in higher education sustainability (Oliveira & Proença, 2025; SDSN, 2024). Among the six indicators, Education and Research obtained the highest mean rating of 3.80, suggesting that USLT's greatest strength lies in its ability to integrate sustainability and the Sustainable Development Goals (SDGs) into its core functions of instruction, research, and community extension. This finding is consistent with global trends recognizing universities as key drivers of sustainability literacy, innovation, and societal transformation (Rajabifard et al., 2021). The inclusion of SDG concepts in syllabi, the conduct of service-learning programs, and the alignment of the Research Agenda with sustainability goals have ensured that sustainability education permeates both academic and community life. Furthermore, the presence of the SDG Corner at the University Research and Innovation Office (URIO) has institutionalized advocacy and awareness-building, enabling Louisians to appreciate the university's contributions to sustainable development.

The area of Setting and Infrastructure followed with a mean of 3.73, reflecting the university's success in maintaining a green and well-planned physical environment. The availability of green spaces, adherence to building standards, and compliance with environmental and statutory laws affirm USLT's commitment to sustainable campus management. Programs such as the Greening Initiatives, landscaping efforts, and the adoption of smart and green building principles contribute significantly to the institution's eco-friendly operations. The dimensions of Energy and Climate Change and Waste Management both received a mean of 3.69, showing a consistent implementation of programs aimed at reducing environmental impact and promoting resource efficiency. Policies regulating electricity consumption, the use of energy-efficient devices, and climate change adaptation activities demonstrate proactive institutional action. Likewise, waste reduction initiatives, including the "Bawal Plastic Program," the provision of segregated trash bins, and the implementation of paperless systems, have enhanced the university's waste management practices. These programs reflect USLT's alignment with both national environmental standards and the sustainability priorities set by the UI GreenMetric framework.

The university's Transportation initiatives, rated 3.61, reveal substantial progress in promoting sustainable mobility. The purchase of additional buses and county vehicles for students

and employees, the promotion of bicycles and e-vehicles, and the enforcement of policies limiting vehicle entry into the campus underscore the university's efforts to reduce its carbon footprint and foster an environmentally responsible commuting culture. The establishment of safe pedestrian walkways and the organization of campus-wide activities that encourage physical movement, such as fun runs, further support the university's advocacy for health and environmental well-being. The area of Water Management, with a mean of 3.57, obtained the lowest yet still favorable rating, indicating that while the university has implemented effective water conservation practices—such as the use of rainwater collection systems, installation of water-saving devices, and promotion of reusable tumblers—further enhancement may be pursued in terms of wider adoption and technology integration. The university's continuous promotion of water conservation awareness among students and staff complements these infrastructural initiatives.

Overall, the findings demonstrate that USLT's sustainability programs are implemented to a great extent, with all indicators consistently above the midpoint of the scale. The university's inclusion in the 2024 UI GreenMetric World University Ranking—placing 661st globally and 24th in the Philippines—validates its achievements and ongoing commitment to environmental stewardship, institutional sustainability, and social responsibility.

IV. CONCLUSION AND RECOMMENDATIONS

As a Catholic university, USLT's sustainability initiatives are deeply rooted in the value of "Care for Creation"—a core principle of Catholic social teaching. The integration of sustainability in its infrastructure, operations, research, and pedagogy signifies not only compliance with global environmental standards but also the embodiment of the university's mission to transform lives through Christian education, research, and service. The collective efforts of students, faculty, administrators, and non-teaching staff reflect a shared commitment to making the Louisian campus a model of ecological integrity and transformative sustainability education in the Cagayan Valley region.

V. POLICY NOTES

The findings of the study show that the sustainability programs of the University of Saint Louis Tuguegarao (USLT) are implemented to a great extent across the six areas of the UI GreenMetric indicators. With an overall mean of 3.68, the results affirm that USLT's initiatives are well-established, supported by existing institutional policies, and generally observed by the university community. However, the study also highlights areas where programs and policies may be further strengthened to deepen the culture of sustainability in the university.

1. Strengthening Institutional Support and Policy Integration

To sustain the gains achieved since USLT's entry into the UI GreenMetric ranking in 2024, the university may consider reinforcing its sustainability framework through a more defined policy direction. The creation of a university-level sustainability policy may help align programs and projects across offices and academic units. This policy can outline shared commitments, reporting mechanisms, and monitoring systems to ensure that all sectors are contributing to sustainability goals. Institutionalizing a Sustainability Committee that coordinates, tracks, and evaluates progress can also help maintain focus and accountability.

2. Improving Green Infrastructure and Environmental Compliance

Findings along Setting and Infrastructure suggest that the university has made good progress in campus greening and building maintenance. To build on this, the university may update its guidelines to include Green Building Standards that promote energy efficiency, use of sustainable materials, and biodiversity-friendly landscaping. Consistent compliance with environmental and statutory regulations, such as waste management and building codes, should continue to be observed. Future infrastructure projects may also be guided by a principle of "build green, build smart" to ensure long-term environmental efficiency.

3. Reinforcing Energy and Climate Change Programs

The university's climate-related programs are functioning well, but these may be further strengthened through a unified energy conservation policy. Clear guidelines on the use of air-conditioning units, switching off lights and devices, and conducting regular energy audits can help reduce consumption. The university may also explore the installation of solar panels in key buildings to gradually increase its use of renewable energy. Climate-related activities—such as student-led environmental awareness campaigns and institutional climate action programs—should continue to be supported as part of the university's climate adaptation efforts.

4. Sustaining Waste and Water Management Initiatives

Waste management remains one of USLT's notable strengths. The university's "Bawal Plastic Program," the provision of segregated bins, and the continued shift to paperless operations are concrete examples of responsible campus practices. These may now be formalized into a Sustainable Waste Policy that defines responsibilities for implementation and monitoring. On water management, results suggest that conservation practices are in place but can still be improved. Expanding rainwater harvesting systems, increasing the installation of water-saving devices, and promoting the use of tumblers and refill stations can make the university's water initiatives more visible and effective. Regular communication campaigns reminding the Louisian community of water conservation practices may also be conducted.

5. Promoting Sustainable Mobility

The results along transportation show strong implementation, but this area continues to offer opportunities for improvement. The university may consider formulating a Sustainable Transportation Policy that outlines the use of university buses and county vehicles, the promotion of bicycles and e-vehicles, and the restriction of private vehicles within certain campus zones. These measures help manage traffic congestion, improve air quality, and encourage more eco-friendly commuting habits. Regular events that promote active mobility, such as fun runs and walkathons, can also reinforce a culture of health and sustainability.

6. Advancing Sustainability Education and Research

Education and Research emerged as the university's strongest area. The integration of SDG concepts in syllabi, the inclusion of service-learning programs in subjects, and the presence of the SDG Corner at the University Research and Innovation Office (URIO) demonstrate clear institutional commitment. To build on this, the university may consider crafting a Sustainability in Education Framework that defines how sustainability principles are embedded in instruction, research, and extension. The USLT Research Agenda may continue to prioritize studies on sustainability, climate action, and community development to ensure that the university remains relevant in addressing global and local challenges.

7. Monitoring and Continuous Improvement

Finally, to sustain progress, it is important for USLT to institutionalize a regular monitoring and evaluation system for sustainability. An annual sustainability report—using the UI GreenMetric indicators as reference—can help track achievements and identify areas for improvement. Benchmarking with other UI GreenMetric-ranked Catholic universities in the Philippines can also serve as a way to share practices and strengthen collaboration.

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