

The Relevance of Green University Concept on Students' Enrollment Decision for Higher Education: The Role of Circular and Green Polymer Science

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Abstract

Students today increasingly evaluate the commitment of higher education institutions to sustainability and environmental stewardship when making enrollment decisions. As prospective students research colleges and universities, they meticulously assess each institution's environmental policies, initiatives, and programs. This focus on sustainability reflects a broader trend of rising environmental awareness among young people, who often prioritize their values in their educational choices. The present study uniquely examines how the concept of a "green university" influences student enrollment decisions. It seeks to gauge students' awareness of and concerns about sustainability, while also highlighting for institutional management the significance of incorporating environmental considerations to attract prospective students. Several attributes align with the green university concept and significantly impact students' choices. These include the presence of an eco-friendly campus, the implementation of sustainable practices, the integration of green content into curricula, and opportunities for student involvement in green university initiatives. Moreover, the study underscores the growing importance of fields such as Circular and Green Polymer Science within the educational framework. These areas are vital components of sustainable practices, emphasizing the development of materials and processes that minimize waste and environmental impact. By incorporating these elements into their programs and campus operations, institutions not only enhance their appeal to environmentally conscious students but also contribute to the broader goal of sustainability in education.

Keywords: Sustainable development, green campus, SDG, sustainability, green composite, circular and green polymer

INTRODUCTION

Universities, as institutions of higher education, have a great influence on society and play a crucial role in ensuring sustainability. Therefore, the promotion and execution of the 2030 Agenda for Sustainable Development Goals (SDG) set by the United Nations rely primarily on higher education institutions. Empowering the next generation of young adults to behave and think like sustainability leaders may be the most effective ecologically responsible measure that universities can take.

Universities throughout the world are being forced to not only reform their curriculum but also to design their campus and practice to promote sustainable development as a result of growing environmental concerns and rising demand for green jobs [1].

There are various factors which influence the decision-making of students in their college/university selection [2]. According to research, young people are the age group that cares the most about the environment. Attending a green

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college could be a smart decision for college students interested in careers in sustainability for personal, intellectual, and professional reasons. It entails going green while obtaining admission to pertinent courses, programmes, and preparation for in-demand environment careers. The survey by the Princeton Review 2020 [3] discovered that an institution's commitment to the environment affects 66% of students and their parent's enrollment decisions. Parents play crucial role in their kids' college choice [4]. Nowadays, more and more college candidates consider how committed an institution is to sustainability and the environment before making an enrolment decision. Students explore colleges and universities for environmental policies, initiatives, and programs.

This study is a remarkable effort to investigate the impact of green universities on student's decisions to enroll in higher education. This study will aid in understanding student's sustainability awareness and concerns. It emphasized the idea of sustainable development and increased student's environmental consciousness. The presented research bespeaks the role of educational institutions in shaping the next generation of young adults to think and practice sustainability. Additionally, the study concentrates on promoting an ecologically conscious transition in the form of a green university. This study draws the attention of the institutional management to this important aspect to consider in luring the student's attention for enrolment. The study recommends educational institutions to design sustainable policies and practices, establish creative pedagogical and outreach initiatives, and mobilize to support the inclusion of sustainability across all curricula. Circular and Green Polymer Science, encompassing biodegradable and bio-based polymers, as well as innovations in polymer recycling and energy recovery, plays a pivotal role in this regard. Institutions offering programs and initiatives in this field signal a proactive approach to addressing pressing environmental challenges, resonating strongly with environmentally-conscious students. Nowadays, green universities are increasingly popular and have a greater influence on sustainability performance. The epithet "green university" is often used to refer to any endeavors carried out in line with the ideals of "sustainable development." Additionally, it stands for a significant commitment made by higher education to the advancement of society. Governments and students are pressuring several institutions to run their campuses more sustainably [5]. The main goal of creating a "green university" is to lessen the negative impact on the environment that comes from university operations since they consume a lot of power, oil, gas, water, chemicals, and other resources. Huge campuses and a large student body at universities require more resources than a basic town, institution, or even certain businesses. Additionally, a university's operations result in a significant quantity of waste, wastewater, chemicals, and hazardous pollutants, which have an adverse effect on the environment on the campus and in the surrounding area. Therefore, minimizing the effects of environmental issues on the campus and community is the primary objective for the early establishment of the green university [6].

Due to their size and population, universities nowadays have a tremendous influence on the economy, society, and environment [7]. Numerous studies have emphasized the strategic importance of the higher education sector in fostering regional economic growth [8]. Universities must make a difference in sustainability both internally (as an institution) and outside (as a regional player) [9]. Universities serve as "shapers of the values of society" by educating present and future decision-makers. Furthermore, in this scenario, the higher education sector must support the deep sustainability of the society in two ways: first, by curtailing the negative effects of its operations on the economy, society, and environment; second, by incorporating and endorsing sustainable practices in curricula and research programmes [10]. Many authors proposed numerous models on green university with the aim to manage all the campus functions sustainably [11-13]. All models are built on the principle of ensuring economic, environmental, and social benefits. Instances of these benefits include more effective resource and energy use, cost savings from decreased insurance costs and reduced environmental penalties, reduction of greenhouse gas emissions, wastewater discharge and solid waste reduction, exclusion of toxic materials, raised environmental awareness, and enhanced green image.

Many institutions are gaining a better understanding of environmental concerns and making investments in greener buildings, sustainable practices, and products including both faculty and

students. The eco-aware students are taught environmental stewardship by the green colleges and universities, who also encourage them to practice sustainability like utilizing clean energy, recycling trash, making local purchases, and trying to reduce pollution. Wageningen University & Research in the Netherlands currently holds the top spot in the UI Green Metric World University Rankings 2022, which were published by Universitas Indonesia (UI) on December 12, 2022. The Manipal Academy of Higher Education (MAHE), located in Manipal, Karnataka, is ranked No. 1 in India and 121st overall for being the most sustainable university [14].

Green colleges and universities are dedicated to sustainability and the environment providing in-depth environmental education and rethinking their investment strategies. Universities work to show their commitment to protecting the environment in practice by creating sustainable campuses in addition to including green educational resources. To help themselves and others live in a healthy environment, teaching staff, students, and university partners are expected to actively participate in this academic community activity.

MATERIAL AND METHODS

The present study employs purposive sampling to summarise other studies in order to contribute to the current research stream on green universities. In order to get insight into the current Green practices which universities have embraced, this study gathered information from earlier sustainability studies in universities and examined sustainability documents adopted in academic institutions. The conceptual framework was developed using the descriptions of secondary sources, which provide a broad context.

RESULTS AND DISCUSSIONS

Through the extensive literature review, some attributes of the educational institution were identified supporting the green university concept which environment committed students contemplate during their enrollment decision for higher studies. A model encapsulating attributes have been created shown in Figure 1. The proposed model envisioned toward achieving sustainability.

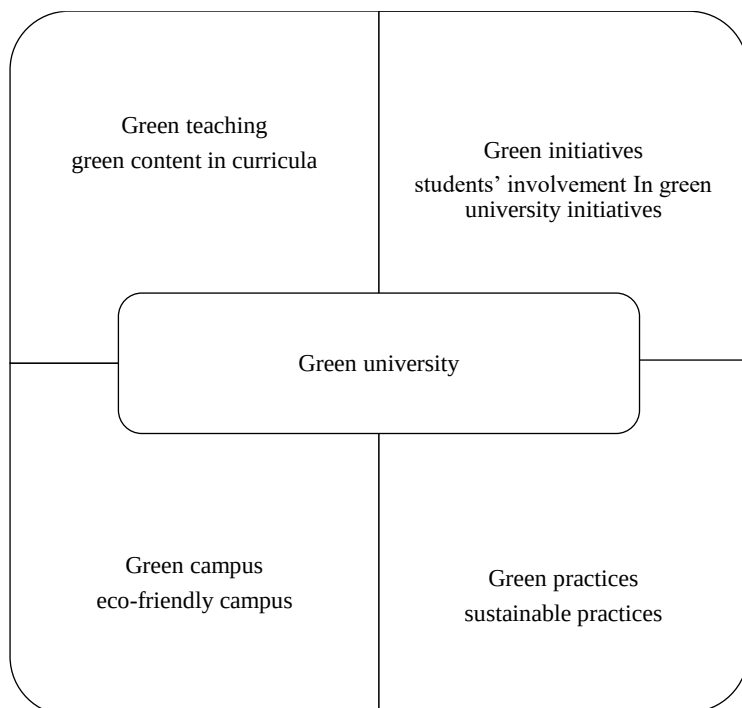


Figure 1. The model of a green university.

Source: Author's own creation

Eco-friendly campus

The campus environment plays a significant role in campus life as it is seen as a tangible representation of a college's value. The green campus is a fresh breath of air in the transition to a sustainable college. Green Campus has emerged as a tool for flourishing sustainable campuses [15]. In educational institutions all throughout the world, green campuses assist the development of ecologically friendly, sustainable living practices. It may lead to an enhancement in both the teaching and learning processes. Moreover, Green universities manifest 3R (reduce, reuse, recycle). Government initiatives are included into the pursuit of sustainable development goals by green universities and colleges.

By investing in sustainable architectural design, green universities put environmental ideals to work on campus. Using solar-powered structures like placing solar panels and cells on the university's roofs, storing surplus power underground, trayless dining halls, the installation of recycling stations around campus, the provision of water refill stations throughout campus and dorms to help eliminate single-use plastic bottles, recharging stations for electric cars, applying the circular and green polymer science and use of locally produced food may all significantly make the eco-friendly environment for the students. Maintaining greenery on the campus augments the sustainable ecosystem of the university. Green campus management combines the management of the environment with that of the campus community.

As students increasingly prioritize sustainability and environmental responsibility, they seek institutions that not only espouse these values but also actively integrate Circular and Green Polymer Science encompasses a range of disciplines focused on sustainable polymer materials and processes. This includes the development of biodegradable and bio-based polymers, the design of eco-friendly polymer systems, and innovative approaches to mechanical and chemical recycling, as well as energy recovery from polymer and biopolymer-based systems. These areas of study and research align closely with the broader goals of sustainability and environmental stewardship that many students prioritize in their higher education pursuits.

Sustainable Practices

Practicing sustainability is the only way to encourage and support global sustainability [16]. Education leaders can adopt other sustainable practices to raise environmental literacy among students and educators. Secondly, this would trigger the stakeholders in institutions' understanding of sustainability [17]. Such practices in the university campuses include: recycling old furniture and purchasing used ones, disposal of food waste by shipping it to a neighboring farm, where it is used to make organic fertilizers and also biogas fuel, providing heat and energy for the farm and the local community. Some colleges and institutions have begun composting and food waste initiatives. In certain universities, the selling of bottled water on college campuses is outright prohibited. The goal is to reduce packaging waste and transportation-related carbon emissions. Planting trees and maintaining gardens at the campus is rewarding not only to the stakeholders of the university but to the whole of humanity. There are several environmental advantages to recycling electronics, including old or damaged mobile phones, PCs, and monitors—to a nearby recycling facility and depositing them in an e-waste bin. By holding a weekly farmers' market in collaboration with the local farmers on campus, local purchasing can be promoted. Creating communal gardens on-site so that students may grow their own organic food and utilize green composites. To encourage more environmentally friendly modes of transportation, students can bring in their own bikes for free repairs and borrow them for free using their student ID cards.

Eco-friendly campus developments are still being driven by college student advocacy. In addition to making financial and practical commitments to sustainability, green universities provide chances for green learning by offering sustainability-focused programs and events. When sustainability practices are supported by university resources and commitment, students are able to respond to environmental issues. Such practices not only lessen the environmental impact of campuses but also educate the student body about environmental issues. Students can easily imbibe eco-friendly habits in a sustainable environment.

Green Content in Curricula

UNESCO (2006) outlined four key areas to achieve sustainable development where the second is specifically related to education. This agency of the UN emphasized rethinking and reforming education from early childhood to higher education and the development of information, skills, perspectives, and values connected to sustainability in existing and future civilizations. To build transdisciplinary understandings of social, economic, and environmental sustainability, existing curricula must be reviewed in terms of their aims and content, along with the preferred and required methods of teaching, learning, and evaluation [18]. The introduction and adoption of green content in the curriculum is the primary indicator that environmental protection is becoming a priority. University competitiveness can be assessed by measuring the share of green content in the curriculum [19].

Enhancing the role of teachers and attracting young people to the profession, creating mechanisms to keep teachers informed, and promoting knowledge transfers in creative ways are all necessary in order to address the challenges of sustainable development [20]. This is especially true when it comes to making sustainability the focus of their disciplines and professions during the curriculum development process.

Student's Involvement in Green University Initiatives

It cannot be overstated how important student involvement is in creating colleges that are more ecologically sustainable. Green universities consider student's awareness about the associations between their course curriculum and sustainable development and therefore engage students in green university initiatives. They have a potential impact on society and foster the development of competencies in the students to carry forward in their careers where they have the potential to drastically change both people and the environment.

Cultural awareness and sustainable behaviour are developed among students through awareness-raising activities [21]. The degree of student engagement as well as how frequently and effectively they participate will determine how effective environmental sustainability initiatives are overall in the education sector [22]. While educational programs clearly intent to increase awareness about environmental concerns, they also serve as platforms for self-education on the one hand. The institution promotes its green projects to its stakeholders and actively engages in them, which encourages responsible pro-environmental behavior. Students' pro-environmental behavior is positively impacted by awareness of the university's campaigns and environmental programmes since these activities inspire pride and passion in the students. Students feel a feeling of belonging to an organization that practises what it preaches and nurtures an attitude of being green. This may be due to students' strong interest in environmental issues and academic initiatives at their university. The Green university concept might potentially be used by the institutions for marketing and student recruitment. Green campus programmes appear to be one of the most well-known ways to support and promote global sustainability.

India embraced the 2030 Agenda for Sustainable Development in 2015 and SDG 4 envisages equal quality education, learning opportunities, the incorporation of environmental awareness in curricula, and transparent disclosure of all financial, academic, and operational aspects in the assessment of Higher Education Institutions are all part of the global education development agenda. The University Grants Commission (UGC) recommended a sustainable campus framework in 2020 to outline the guidelines for creating a green and sustainable campus environment for Indian higher education institutions. A sustainable university strives for academic achievement, makes an effort to embrace human values and employs sustainability techniques in its teaching, research, community outreach, waste and energy management, and land planning and land use. It will not only assist organizations in going green, but it will also impart to young folks the value of preserving natural harmony and promoting sustainable development. Sustainability approaches are being included within the programmes and the educational environment at Green Campus. India has various campuses that are environmentally sustainable, including IIM Bangalore, Mangalore University, Universal Business School in Mumbai, IIT Roorkee, and St Teresa College in Ernakulam.

CONCLUSION

Students are adopting a new way of thinking and learning about integrated, systemic solutions to problems that affect not only the economy and environment but also the interconnected problems with health, social issues, and politics. The green economy serves as the focus point for comprehending the significant linkages between economics, energy, the environment, and social well-being, which are often referred to as sustainability in this new way of thinking. More institutions are embracing the popular notion of a "green university," and students from across the world are drawing attention. Students aspire to educational institutions which are committed to the environment. So, they observe the institutional attributes which are aligned with the concept of the green university during their enrolment. Furthermore, the emphasis on sustainable polymer materials aligns with growing concerns about plastic pollution, making it a compelling factor for students seeking institutions that actively contribute to solutions. By integrating Circular and Green Polymer Science into their curriculum and operational practices, colleges and universities not only provide students with valuable knowledge and skills but also foster a culture of environmental stewardship. This proactive stance not only attracts students passionate about sustainability but also positions institutions as leaders in addressing global environmental issues, enhancing their appeal in an increasingly environmentally-conscious academic landscape.

From the university perspective, the Green Campus can be used for marketing purposes for student recruitment. Being green affects university rankings, and environmental sustainability may provide regional and global universities with a competitive edge. Morally, universities are the flag bearers of change and must put sustainability principles into practice. Youngsters who will be the founders of a new generation of eco-innovations must be educated and developed.

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