

Evaluating The Role Of Student And Community Engagement In Advancing Environmental Sustainability: A Case Study Of The University For Development Studies, Tamale, Ghana

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Abstract

Background: This study evaluates the impact and potential of student and community engagement in environmental sustainability initiatives at the University for Development Studies (UDS) in Ghana. It aims to identify current practices, assess engagement levels, and propose strategies for enhancing sustainability efforts.

Materials and Methods: A qualitative research design was employed, utilizing semi-structured interviews with key stakeholders, including university administrators, faculty members, student leaders, and community partners. Document analysis of university policies and reports complemented these interviews to provide a comprehensive understanding of UDS's sustainability initiatives.

Results: The research reveals that UDS has implemented several successful sustainability initiatives, leveraging its unique mission of blending academic pursuits with community development. Student and community engagement in these initiatives is growing, although challenges such as limited resources and inconsistent participation persist. The study identifies opportunities for enhancing engagement and maximizing the impact of sustainability efforts.

Conclusion: The findings offer actionable recommendations for UDS and similar institutions to enhance their sustainability initiatives through increased student and community engagement. These include developing comprehensive sustainability strategies, implementing robust assessment frameworks, and expanding community partnerships. By improving the effectiveness of sustainability initiatives in higher education, this research contributes to broader efforts in addressing environmental challenges and promoting sustainable development in Ghana and beyond.

Key Word: Environmental sustainability, Higher education, Student engagement, Community engagement, Ghana, University for Development Studies.

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I. Introduction

Addressing the need for environmental sustainability is a pressing goal for universities worldwide to respond to accelerating environmental challenges. Universities have a key role in walking the talk about sustainable development, notably through their core missions of teaching, research and knowledge exchange (Filho et al, 2019). The University for Development Studies (UDS) in northern Ghana is an important point of reference here, given its key position as an anchor institution. UDS was established in 1992 with a dual mission of academic excellence and community development, making it a unique case study for internal sustainability initiatives.

Its pedagogical style emphasises the solution of grassroots problems in an engaged manner with the local community. Such an approach is part of a global movement that encourages universities to address social change and transformation. Especially could make a significant impact their educational formats include sustainable

This can be seen in UDS's strategic initiatives that seek to integrate academic activities with community development, a key to fostering a sustainable culture on and off campus. Since students spend most of their time outside the university, experiential learning and community engagement help them to ground their

theoretical understanding of sustainability issues in real-world experiences. Such learning environments and experiences encourage students to see themselves as active citizenry.

This study aims to evaluate the success of UDS sustainability programmes in engaging students and the community by assessing current practises and identifying areas of improvement. Through the evaluation of current practises and student engagement, the studies aim to provide insights that could make the university more effective in advocating for environmental sustainability. The research objectives include analysing existing practises, evaluating the level of student engagement, determining the level of collaboration with the community, and identifying the areas to improve.

In so doing, it contributes to a growing body of knowledge on how universities in developing countries can make use of their odd positions in space to accelerate sustainable development. UDS's successes and failures provide lessons and traps for other universities attempting to make sustainability central to their mission.

II. Literature Review

Student Engagement in Environmental Sustainability

Student activity and involvement is important for the advancement of environmental stewardship at universities. Over the past decade various research studies have been carried out on universities and their impact on the citizens and the future of the Earth. The one thing that all these studies had in common is the fact that student activity and involvement is an important factor in the advancement of environmental stewardship at universities.

An increase in student activity was directly correlated with an increase in student responsibility for the environment at hand. This increase resulted in a decrease of greenhouse gases being released into the atmosphere. Based on this information many universities have made strides in lowering their energy consumption, promoting more recycling and decreasing the use of certain toxic chemicals.

Moreover, Yeghoian (2023) suggest that reshaping the triangular relationship between student, faculty and administration into more of a partnership will improve sustainability on campus and help pool resources and energies into joint, common goals. Such a partnership mindset is evident at the UDS, where the educational philosophy urges academics to 'engage on some of society's problems through academic-community partnerships' (Rusaina, 2019). All of which is well-aligned with a widespread trend in higher education to proactively engage higher education in sustainable development, because that's where the trends are going anyway.

Furthermore, it was found that involving students in environmental education programmes led to an increase in their awareness of green infrastructure, as well as a higher likelihood of advocating for the implementation of green infrastructure in their communities. This suggests that student engagement on campus can lead to societal-level change, which is a central intention of UDS to 'connect academic life with community life.'

Community Engagement in Higher Education Sustainability Initiatives

Community engagement is another critical component of higher-education sustainability. Salazar (2023) emphasises the need for partnerships between colleges and universities with their surrounding communities to promote sustainable development. Breaking down the 'walls' between schools and communities can lead to larger conversations between community leaders, educators and non-profits to have greater impact and possibilities (Salazar, 2023). At UDS, community is at the heart of sustainability and provides students with hands-on learning opportunities that serve both students and their home communities (Dickens-Russell, 2023).

More importantly, UDS's approach to community engagement is an example of how to foster sustainability transitions. Working with community-based Stephany Abokzele Adongo¹ased organisations, students can get hands-on experience, and this goes beyond everyday classrooms to activities that imbibe in them an understanding of the issues facing the environment. This aligns perfectly with the core mission of UDS, to '[provide] assistance to solving the challenges of rural people' and strengthens the belief in the power of community-university partnerships for advancing sustainability.

Impact Assessment of Sustainability Initiatives

Assessing the impacts of sustainability initiatives is difficult but important. Sustainability initiatives might be made more effective if more competencies such as cognitive attitudes are incorporated into environmental education, as Seo and colleagues (2020) have suggested. For a university such as UDS that emphasises the advantage of pursuing academic and community pursuits simultaneously, impact assessment must consider impact on two levels, both campus and society.

The Role of Higher Education Institutions in Sustainable Development

Universities also embolden sustainable development through curriculum redesign, as well as campus initiatives. Lozano et al (2013b) describes how universities advance sustainable development, largely through declarations, charters and redesigned curricula, including sustainable campus initiatives. UDS (Ghana's first public university in the North) is located at the intersection of both, devoted to a mission of quality higher education and research, as well as to be responsive to the needs of communities.

The literature points to the importance of universities in supporting regional sustainable development through curricula that provide a broad, cross-disciplinary base that goes beyond traditional environmental and engineering education. UDS's holistic approach to addressing societal problems provides a strong basis for this emerging understanding of sustainable development in higher education. Overall, the literature review shows that in recent years, higher education institutions are increasingly encouraging student and community engagement in sustainability activities. The UDS's mission and innovative pedagogy are well in line with the best practices cited in the literature and is poised to make a significant contribution to sustainable development in Ghana and worldwide.

III. Materials And Methods

This study adopts a qualitative design to explore the transformative and reciprocal relationships among the students and community in their efforts towards sustainability transformations at the UDS in Ghana. Qualitative approach is, therefore, suitable for this study because it will aid in grasping the intricacy of social phenomenon and various actors' views (Patton, 2015).

Research Design

As the research is qualitative and uses a case study approach, the case of UDS should be seen as a single case, where a maximum level of description can be provided. The case study method is a suitable approach in grasping the contemporary events and the real-world context in which the events unfold, but especially when it is not possible to cleanly carve the phenomenon of interest from its context (Yin, 2018). Documentary analysis and semi-structured interviews are used to triangulate data to increase the credibility of the study, as suggested by Bowen (2009).

Sampling

The study employs purposive sampling to select interview participants who can provide diverse perspectives on UDS's sustainability initiatives. Purposive sampling is a non-probability sampling technique that focuses on selecting individuals based on specific characteristics or qualities relevant to the research question (Patton, 2015). This approach ensures that the sample includes voices from various stakeholder groups involved in or affected by sustainability efforts at UDS.

Data Collection

The main source of primary data collection was semi-structured interviews with key stakeholders including university administrators, faculty members, student leaders and community partners. Semi-structured interviews will allow for flexibility as it provides more room for the interviewer to probe responses when they desire to delve deeper into the subject or to request more details and to identify new emerging themes as they surface (Creswell & Creswell, 2018). The interview protocol will inquire about the starting point at which sustainability initiatives came to be implemented at UDS, the challenges that arose in implementing these initiatives, and how these initiatives influenced student learning.

Document analysis, in turn, complements fieldwork. In our institution-focused research, it involves reviewing university policies, sustainability reports and other types of official documents and reports in order to understand the institutional framework underlying sustainability (Bowen, 2009). It provides the context and helps to corroborate the results from interviews.

Data Analysis

The six-step thematic analysis process of familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report follows the proven approach of Braun and Clarke (2006), where through familiarisation with the data, initial coding, searching for themes, reviewing themes, defining and naming themes, researchers are systematically empowered to identify and interpret patterns in the data, or to describe the phenomenon within the given context. NVivo software is used in managing and analysing data. NVivo offers robust software for coding interview transcripts and documents. It is a relevant qualitative data analysis software that offers meaningful possibilities (Crabtree & Jackson, 2013).

Ethical Considerations

The study follows BERA's ethical guidelines for educational research (2018). Participants in interviews are given information about the research so they understand its purpose and can withdraw at any point. All identifiable participants are assigned pseudonyms in reports and publications, and confidentiality is always assured.

IV. Results And Discussion

Current Environmental Sustainability Initiatives at UDS

All of these projects are expressions of the commitment to a development orientation, which seeks the integration of academic goals with community needs – an aspect that has characterised UDS since its founding. Among the most prominent projects with direct links to issues of environmental sustainability is the Energy Technology Centre (ETC), a research and capacity-building facility on renewable energy, which is at the nexus of policies.

ETC's work is especially critical given the growing interest in the world in renewables as a key component of sustainable development. UDS contributes to this global effort with innovative research and capacity building, which is aimed at reducing fossil-energy use and promoting cleaner energy solutions, a key objective of the UN's sustainable development goals. (Filho et al, 2019).

Student Engagement in UDS Sustainability Efforts

Student projects on sustainability at UDS are growing, following a global trend of increasing student participation and leadership on environmental issues. In a study, Liao and Li (2019) found that college students are acquiring greater knowledge of sustainability through coursework and project-based learning experiences that allow them to actually apply their knowledge and skills, an ongoing example at UDS being the Climate Resilience of Ecosystem Services (CRES) project – a student-centred project that provides opportunities for students to exercise their coursework knowledge in the real world. Master's and PhD students from Ghana and Burkina Faso are also engaged in the CRES project to help improve the conservation of native tree species and the value chains that sell them. This helps to enhance the course of study for these students and prepare them to address conservation and other sustainability issues in their communities (Rusaina, 2019).

Community Involvement and Collaboration

UDS's education programmes that connect scholarship to community needs encourage partnerships where sustainability projects are rooted in research but also meet local community needs and are personally relevant. As such, they can be owned by community members and pursued with a sense of ownership and commitment. In UDS's project to teach indigenous communities to identify and map their natural forests – CRES – community members such as local chiefs, elders and women's groups are also engaged in research (WACWISA, n.d.). Not only does this community-centred model make projects more relevant to the sustainability objectives, it also enhances the university's role as a resource for local development. Because UDS works with many different community stakeholders, its sustainability efforts are much more likely to be culturally appropriate and to respond directly to local environmental issues.

Impact Assessment and Potential for Growth

There are differences in how UDS's sustainability initiatives affect the environment, but the overall effect is mostly positive in terms of raising environmental awareness and behavioural changes. School-based projects, in particular, have been found to have a significant impact on enhancing environmental awareness among participants. At UDS, the flagship Energy Technology Centre is where the impacts of UDS's sustainability initiatives can be examined, while simultaneously advancing the University's promotion of the adoption of renewable energy.

There are opportunities to expand the scope of activities (for example, increasing student and community involvement) at others. As a multicampus university, UDS could also pilot and compare sustainability efforts across different contexts in northern Ghana, which could help to determine the most effective ways to promote environmental sustainability in different contexts (Vaughters et al., 2013). Because of the unique nature of its mission and educational approach, UDS is well-positioned to make a real difference to environmental sustainability in Ghana. It can be a leader in environmental sustainability among universities in developing countries, drawing on its unique resources in community engagement and academic quality.

V. Conclusion And Recommendations

The UDS with its distinctive and genuine mission of combining academic excellence with community development, has been doing an excellent job at environmental sustainability projects. However, valuable opportunities for stronger, better-defined and more robust engagement remain largely unrealised. This case

study shows that a renewed and better engagement of students and the community should be at the very heart of their sustainability efforts.

VI. Conclusion

From its inception, there have also been a number of initiatives and projects that UDS has undertaken on sustainability matters, mostly rooted in the very philosophy of UDS pedagogy in addressing societal problems in particular rural ones and contributing to greater environmental awareness and sustainable behavioural changes among students and local communities. But at the same time, there are also several challenges: lack of funding for such projects, uneven implementation and a need to articulate a more UDS-focused sustainability approach.

The findings recommends that the UDS must adopt a holistic university sustainability approach that integrates all the dimensions of its operations into the education of the students and engagement of the communities at all levels. It will enhance the operations of the University of Development Studies as a mouthpiece of sustainable development in Ghana and also serve as a guiding tool for universities in the developing countries.

VII. Recommendations

Besides, to maximise the competitiveness of its sustainability agenda, UDS needs to foster the creation of comprehensive sustainability plans that seek to integrate environmental goals across the institution. Such a strategy needs to be defined and well-specified, with a clear timeline and metrics to monitor its progress. Finally, it is to extend its network to the community; by interacting with local communities and NGOs, UDS can get students involved in concrete experiences in the field and tackle local sustainability issues. This will not only increase the impact of university-led interventions but also their relevance.

Furthermore, infusing sustainability topics into classes throughout the curriculum, from psychology to biology labs, for example, helps build a campus-wide culture of lifelong learning and awareness that can cultivate the tools and skills students need to address the fundamentally interdisciplinary nature of the environmental challenges of our time. And then there are the students themselves. It is as important as ever to keep students at the helm of their own sustainability work. Research from Yeghoian in 2023 suggests that student leadership of sustainability efforts can be a catalyst for innovation and inspires students to become deeply engaged in sustainability efforts on campus.

However, UDS's real impact and influence is likely to be amplified by effectively harnessing technological developments to support outreach and engagement with internal and external audiences. Sharing of knowledge and working together with others on sustainability themes could be enhanced via online means. Last but not least, building research capacity in sustainability-related fields could position UDS to gain both reputational clout and practical influence through its research outputs. These should be capable of informing policymaking within and outside of academia, and of contributing to high-level debates on sustainable development at the global level.

Second, they can harness the rest of the campus – designing it, building it, managing it, and engaging the community in efforts to improve energy efficiency, run waste-reduction programmes, or increase biodiversity. Students can learn in living laboratories and have their own campus function as a living example of one way that UDS can commit to modelling an ideal sustainable future. Finally, these efforts can be shared with other institutions such that the university's own lab becomes, in turn, a resource for other institutions attempting to accomplish their own dreams of embedding sustainability within their own core missions but without going back on the promise of engaging with local community needs.

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