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Sustainability in Higher Education in Brunei Darussalam: Policies, Pedagogy, and Pathways Forward

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Abstract
This study examines the integration of sustainability principles in Brunei Darussalam's higher education sector, focusing on two key institutions: Universiti Brunei Darussalam (UBD) and Universiti Islam Sultan Sharif Ali (UNISSA). Using a qualitative case study approach, the research draws on document analysis, semi-structured interviews, and observational data to explore how sustainability is conceptualised, implemented, and evaluated within each university. The analysis is guided by the frameworks of Education for Sustainable Development (ESD), the Triple Bottom Line (TBL), and Institutional Theory, allowing for a multidimensional understanding of both progress and challenges. Findings indicate that while both universities demonstrate a strong commitment to sustainability, their approaches differ in emphasis and execution. UBD adopts a policy-driven and science-based model, aligning closely with national development goals and international best practices, while UNISSA frames sustainability within Islamic ethical principles, focusing on stewardship and community responsibility. Both institutions have achieved notable successes in environmental and social initiatives, yet the economic dimension of sustainability remains less developed. External policy directives, cultural values, and institutional capacities significantly influence the scope and depth of sustainability integration. The study concludes that a more comprehensive, whole-institution approach is required to deepen curriculum integration, strengthen financial sustainability, and improve monitoring systems. Recommendations include enhancing faculty development, securing diverse funding streams, fostering inter-institutional collaboration, and embedding robust evaluation mechanisms. This research contributes to understanding how small, resource-rich nations can harmonise cultural traditions and global sustainability imperatives in higher education policy and practice.
Keywords*:* Brunei Darussalam, Sustainability, Higher Education, Whole-Institution Approach, Culture

Introduction

The twenty-first century has brought unprecedented global challenges such as climate change, biodiversity loss, social inequity, and the overexploitation of natural resources. These interlinked crises threaten the stability of ecological systems and the well-being of societies across the globe (Rockström et al., 2009; United Nations, 2015). In this context, the concept of sustainability has emerged as a defining paradigm for addressing these threats through integrated, long-term, and inclusive approaches. Governments, businesses, civil society, and educational institutions all have essential roles to play, yet higher education occupies a particularly strategic position. Universities are not only centres for the generation and dissemination of knowledge; they are also responsible for cultivating the values, skills, and competencies that will shape the attitudes and behaviours of future leaders (Lozano et al., 2015; Tilbury, 2011). Through their teaching, research, campus operations, and engagement with communities, higher education institutions can make a profound contribution to the transition towards more sustainable societies.

Sustainability in higher education extends far beyond environmental protection. It involves a systemic transformation that integrates environmental stewardship, social responsibility, and economic viability into the mission and daily practice of universities (Leal Filho et al., 2018). This comprehensive approach aligns with the principles of the Triple Bottom Line, which emphasises the balance between people, planet, and prosperity (Elkington, 1998). It is also reflected in international policy frameworks such as the United Nations' Education for Sustainable Development initiative and the Sustainable Development Goals, particularly the goals dedicated to quality education and climate action (UNESCO, 2017). These frameworks provide both moral imperatives and practical guidance for embedding sustainability across all dimensions of higher education.

In many developed countries, the integration of sustainability into higher education is now well established. By contrast, smaller, resource-rich nations, especially those in Southeast Asia, have been less thoroughly examined in the scholarly literature (Salleh et al., 2017). Brunei Darussalam offers an especially interesting case. Situated on the island of Borneo, Brunei is a small but wealthy state whose economy has long depended on oil and gas revenues. At the same time, it has made strong commitments to Islamic governance and long-term national planning. These commitments are embodied in the country's long-term vision, Wawasan Brunei 2035, which aspires to create a highly educated and skilled population, to diversify the national economy, and to maintain a high quality of life in an environmentally sustainable manner (Prime Minister's Office, 2008).

Brunei's national sustainability framework is supported by a range of sectoral strategies. The Brunei National Climate Change Policy, introduced in 2020, outlines key areas for action including renewable energy development, sustainable transport, waste management, climate resilience, and environmental education (Ministry of Development, 2020). Within this framework, education is recognised as both a catalyst for change and a vehicle for delivering the country's sustainability ambitions. The Ministry of Education works closely with other government agencies to ensure that higher education policies and practices reflect national priorities. Universities such as Universiti Brunei Darussalam and Universiti Islam Sultan Sharif Ali have responded to this call by introducing sustainability committees, aligning degree

programmes with the Sustainable Development Goals, and launching green campus projects (UBD, 2023; UNISSA, 2022).

Despite these encouraging developments, little is known about how sustainability is actually conceptualised, implemented, and evaluated within Brunei's higher education sector. Existing accounts tend to describe individual initiatives rather than provide a comprehensive analysis of institutional strategies, governance structures, and long-term impacts. This study seeks to address this gap by examining the extent to which sustainability is embedded in the policies, practices, and culture of higher education institutions in Brunei Darussalam. The research aims to explore how sustainability is defined in these institutions, how it is integrated into curricula and pedagogy, and how it is operationalised in campus management and community outreach. It also investigates the influence of cultural values, particularly those rooted in Islamic teachings, on the framing and practice of sustainability.

By focusing on a small, resource-rich, and culturally distinctive nation, this study contributes to a more diverse and inclusive understanding of sustainability in higher education. The findings have the potential to inform not only academic debates but also policy-making and institutional planning in Brunei and similar contexts. The analysis is guided by a qualitative case study approach, using a combination of document analysis, interviews, and observations. Two universities are examined in depth: Universiti Brunei Darussalam, the country's largest and most internationally connected institution, and Universiti Islam Sultan Sharif Ali, which represents the Islamic higher education sector. The interpretation of the data is informed by three complementary theoretical perspectives: Education for Sustainable Development, the Triple Bottom Line, and Institutional Theory. Together, these frameworks provide a multidimensional lens for understanding the drivers, processes, and outcomes of sustainability in Brunei's higher education sector.

Theoretical Framework and Literature Review

The conceptual basis for this study draws on three complementary perspectives: Education for Sustainable Development, the Triple Bottom Line, and Institutional Theory. Together, these frameworks provide a multidimensional understanding of how sustainability can be conceptualised, integrated, and maintained within higher education institutions. They offer an analytical lens that is particularly relevant for exploring the context of Brunei Darussalam, where cultural, political, and economic factors intersect in distinctive ways.

Education for Sustainable Development, often referred to as ESD, is both a pedagogical philosophy and a global movement that seeks to empower learners to make informed decisions and take responsible actions for environmental integrity, social justice, and economic viability (UNESCO, 2014). Within higher education, ESD advocates for the incorporation of sustainability principles across disciplines, encouraging students to develop systems thinking, critical analysis, and collaborative problem-solving skills (Tilbury, 2011). Rather than being confined to environmental sciences or specific sustainability courses, ESD calls for a holistic approach in which sustainability becomes a pervasive element of curricula, research agendas, and institutional culture (Lozano et al., 2013). In Brunei, elements of ESD are already visible in academic programmes such as Universiti Brunei Darussalam's "Discovery Year," which integrates experiential learning and encourages students to engage with real-world sustainability challenges (UBD, 2023).

The Triple Bottom Line, first articulated by Elkington (1998), provides another vital dimension for examining sustainability in higher education. This framework emphasises that organisational performance should be measured in terms of its social, environmental, and economic outcomes. For universities, this means balancing commitments to social equity, environmental stewardship, and financial responsibility. The social dimension involves ensuring inclusive access to education, fostering diversity, and promoting community engagement. The environmental dimension encompasses actions to reduce the institution's ecological footprint through energy efficiency, waste reduction, sustainable procurement, and green infrastructure. The economic dimension addresses resource management and long-term financial sustainability, ensuring that environmental and social initiatives are not pursued in isolation from fiscal realities. In the Brunei context, the Triple Bottom Line aligns with Wawasan Brunei 2035's emphasis on balanced development, where economic diversification, social well-being, and environmental protection are seen as mutually reinforcing goals.

Institutional Theory offers a further analytical tool for understanding how sustainability practices emerge and evolve within higher education institutions. This theory explores how organisational behaviour is shaped by the norms, rules, and expectations of the wider institutional environment (DiMaggio & Powell, 1983). It highlights three mechanisms of influence: coercive pressures that stem from legal or policy requirements; mimetic pressures that lead institutions to imitate successful models from elsewhere; and normative pressures arising from professional standards and academic networks. In Brunei, coercive pressures can be seen in national directives such as the Brunei National Climate Change Policy, which calls for environmental education and sustainable practices in all sectors (Ministry of Development, 2020). Mimetic influences may include the adoption of sustainability strategies used by leading universities in neighbouring countries, while normative pressures emerge from global university ranking systems and professional associations that reward sustainability integration.

The global literature on sustainability in higher education provides important insights into both drivers and barriers. Studies have shown that leadership commitment, international frameworks such as the Sustainable Development Goals, and external recognition through sustainability rankings are strong motivators for institutional action (Leal Filho et al., 2018). At the same time, barriers such as limited funding, competing priorities, resistance to organisational change, and a lack of faculty expertise can hinder progress (Lozano et al., 2015). Many universities find that sustainability integration is uneven, often concentrated in environmental science faculties while other disciplines lag behind. This highlights the importance of whole-institution approaches that embed sustainability into governance, operations, and academic work across all departments.

In Southeast Asia, sustainability initiatives in higher education are influenced by cultural traditions, development priorities, and regional policy frameworks. ASEAN's Environmental Education Action Plan has encouraged member states to promote environmental literacy, while national strategies have led to varied levels of adoption in countries such as Malaysia, Indonesia, and the Philippines (Salleh et al., 2017). Common approaches include campus greening programmes, curriculum reforms, and partnerships with local communities to address sustainability challenges. Brunei shares some of these features but differs in scale, governance structure, and the

influence of Islamic principles such as khalifah (stewardship) and mizan (balance), which frame environmental care as a moral and spiritual obligation.

Despite its unique context, scholarly research on Brunei's approach to sustainability in higher education remains limited. Existing studies are largely descriptive, focusing on individual projects such as solar panel installations at Universiti Brunei Darussalam or waste segregation campaigns at Universiti Islam Sultan Sharif Ali (UBD, 2023; UNISSA, 2022). There is a need for more analytical work that examines the coherence of policies, the depth of institutional commitment, and the long-term impacts of these initiatives. By drawing on ESD, the Triple Bottom Line, and Institutional Theory, this study aims to fill that gap, providing a comprehensive understanding of how Brunei's higher education institutions engage with the sustainability agenda.

Research Methodology

This study adopts a qualitative case study approach to examine how sustainability is conceptualised, implemented, and evaluated in higher education institutions in Brunei Darussalam. The qualitative design is chosen because it allows for an in-depth exploration of the meanings, experiences, and interpretations that shape sustainability practices within specific institutional contexts (Creswell & Poth, 2018). Case studies are particularly suitable for understanding complex social phenomena in real-life settings, and in this research, they provide an opportunity to investigate sustainability initiatives within the cultural, political, and economic realities of Brunei. By focusing on two universities—Universiti Brunei Darussalam and Universiti Islam Sultan Sharif Ali—the study captures both secular and Islamic higher education perspectives, enabling a comparative analysis that highlights similarities and differences in approach.

The research relies on multiple sources of data to build a rich and nuanced understanding of the topic. Institutional documents such as strategic plans, policy statements, sustainability reports, and curriculum outlines are examined to identify formal commitments and the scope of sustainability integration. Semi-structured interviews are conducted with university administrators, academic staff, and students, allowing participants to express their views on sustainability in their own words while enabling the researcher to probe for depth and clarification. Observations of campus facilities, environmental initiatives, and sustainability-related events further contribute to the dataset, providing tangible evidence of how sustainability principles are translated into practice. The use of multiple data sources facilitates triangulation, enhancing the credibility and trustworthiness of the findings (Patton, 2015).

Data collection in Brunei requires careful consideration of cultural norms and institutional protocols. Formal approval is sought from the relevant university authorities before conducting interviews or accessing internal documents. Interviews are conducted in English or Malay depending on participant preference, with provisions made for translation where necessary to ensure accuracy. Given Brunei's small population and close-knit academic community, the research design prioritises confidentiality and anonymity, avoiding the use of identifiable details that could compromise participants' privacy. This ethical sensitivity is consistent with international research ethics standards as well as the country's cultural expectations.

The analysis of the data follows a thematic approach, which is well suited for identifying patterns and recurring themes across qualitative datasets (Braun & Clarke, 2006). Transcribed interviews and field notes are read multiple times to become

familiar with the content, after which codes are generated to label significant features of the data. These codes are then grouped into broader themes that reflect conceptual categories such as curriculum integration, governance structures, operational initiatives, and cultural framing of sustainability. The themes are compared across the two case study institutions to identify areas of convergence and divergence. NVivo software is used to assist with data organisation and retrieval, but the interpretation remains an iterative, researcher-driven process in which emerging insights are continually refined.

An important feature of this methodological approach is its alignment with the theoretical frameworks outlined earlier. The Education for Sustainable Development perspective informs the analysis of pedagogical practices and curriculum content, while the Triple Bottom Line provides a lens for assessing social, environmental, and economic performance. Institutional Theory guides the examination of policy drivers, organisational structures, and external influences. By integrating these frameworks into the analysis, the study ensures that the findings are grounded in both empirical evidence and relevant theory.

This methodological design enables the research to capture the complexity of sustainability in higher education in Brunei Darussalam while remaining sensitive to the local context. It offers a comprehensive approach that combines documentary analysis, stakeholder perspectives, and observational insights, providing a robust foundation for the findings and discussion that follow.

Findings and Analysis

The findings presented in this section draw upon the qualitative data gathered from document reviews, interviews, and campus observations at Universiti Brunei Darussalam (UBD) and Universiti Islam Sultan Sharif Ali (UNISSA). They reveal how sustainability is conceptualised, operationalised, and experienced within these two institutions and how broader national and cultural contexts influence the process. The analysis is organised thematically, focusing on curriculum and pedagogy, governance and leadership, operational practices, cultural framing, and the challenges and opportunities that shape sustainability integration. Throughout the discussion, the perspectives of Education for Sustainable Development (ESD), the Triple Bottom Line (TBL), and Institutional Theory are used to interpret the data.

A prominent theme emerging from the analysis is that both universities frame sustainability in ways that align strongly with Brunei's national development priorities. Institutional documents at UBD make frequent reference to Wawasan Brunei 2035 and the Brunei National Climate Change Policy, positioning the university's sustainability work as a direct contribution to national goals. UNISSA similarly emphasises alignment with state policy, but its articulation of sustainability is also deeply embedded in Islamic principles such as khalifah, the notion of stewardship over the Earth, and mizan, the concept of balance between human needs and environmental preservation. This religious framing gives sustainability an ethical and spiritual dimension that resonates strongly with staff and students and differentiates UNISSA's discourse from the more policy-driven tone found at UBD. The two approaches reflect the interplay of coercive and normative pressures described by Institutional Theory, where national policies and religious values both shape institutional narratives (DiMaggio & Powell, 1983).

Curriculum integration of sustainability varies between the two universities. At UBD, sustainability is embedded both through dedicated modules and through cross-

disciplinary approaches. Environmental science and engineering programmes offer specialised courses on renewable energy, climate change adaptation, and environmental management, while other faculties incorporate sustainability themes into broader subjects. The "Discovery Year" initiative is particularly notable; it allows students to spend a year engaged in experiential learning activities that often involve sustainability-related projects, such as community-based conservation or research on sustainable agriculture (UBD, 2023). This reflects ESD's emphasis on transformative, action-oriented learning (Tilbury, 2011). At UNISSA, curriculum integration takes the form of both standalone environmental education courses and the infusion of Islamic environmental ethics across theological, legal, and social science programmes. Lecturers often draw on Qur'anic verses and Hadith to illustrate principles of resource stewardship, waste minimisation, and social justice, thereby embedding sustainability within the moral framework of students' education.

In terms of pedagogy, UBD adopts a combination of lecture-based and project-based learning approaches. Faculty members reported increasing use of interdisciplinary projects that require students from different faculties to collaborate on solving complex sustainability challenges, thus fostering systems thinking and holistic problem-solving skills (Lozano et al., 2013). UNISSA, while also employing project-based approaches, places greater emphasis on reflective learning and the cultivation of values. For example, students in Islamic jurisprudence courses may be tasked with developing fatwas or community guidelines on contemporary environmental issues, which encourages them to apply religious reasoning to modern sustainability dilemmas. Both approaches illustrate how ESD principles can be adapted to institutional missions and cultural contexts.

Governance structures play a critical role in shaping sustainability initiatives. At UBD, the Office of Sustainability and the Environment coordinates cross-faculty projects, monitors progress against sustainability targets, and reports to senior leadership. This office works in collaboration with the facilities department to implement operational measures such as energy audits, water conservation schemes, and waste reduction campaigns. Sustainability reporting is beginning to follow international models such as the UI GreenMetric World University Rankings, which has created a degree of mimetic pressure to match or exceed the performance of regional peers. At UNISSA, sustainability governance is less formalised but closely integrated with the university's religious and academic leadership. Senior administrators see environmental stewardship as a natural extension of the institution's mission, and initiatives are often framed as part of broader efforts to promote Islamic values on campus. While this approach fosters strong normative commitment, it can also lead to less systematic monitoring and evaluation of outcomes.

Operational practices at both universities reveal tangible commitments to environmental sustainability, although differences in resources and priorities are apparent. UBD has invested in renewable energy infrastructure, with solar panels installed on several buildings and pilot projects exploring energy storage solutions. The university has implemented a campus-wide recycling system, established green spaces to enhance biodiversity, and promoted sustainable transport through cycling facilities and electric vehicle charging stations. These measures align with the environmental dimension of the TBL and reflect coercive pressures from national carbon reduction targets. UNISSA's initiatives, though smaller in scale, focus on practical and community-oriented solutions such as tree-planting campaigns, water

conservation in ablution facilities, and waste minimisation drives linked to religious events. These activities, often organised by student associations, highlight the social and environmental dimensions of sustainability as understood through Islamic principles.

Cultural framing emerges as a decisive factor in how sustainability is perceived and prioritised. Interviews at UNISSA revealed that students and staff often see environmental responsibility as a form of religious duty, citing scriptural injunctions against wastefulness and harm to creation. This framing generates strong personal motivation and fosters a sense of moral obligation that may be more powerful than compliance with policy directives alone. At UBD, sustainability is generally framed in terms of scientific necessity and national interest, appealing to evidence-based reasoning and developmental aspirations. While this can mobilise support among those who prioritise pragmatic outcomes, it may not inspire the same depth of personal commitment as religious narratives. These contrasting framings underscore the importance of cultural context in ESD implementation, supporting the argument that sustainability education must be locally relevant to be effective (UNESCO, 2014).

Despite these strengths, several challenges hinder the full integration of sustainability into the higher education sector in Brunei. Limited funding for sustainability projects was mentioned by participants at both institutions, with administrators noting that competing priorities often lead to the postponement of infrastructure upgrades or programme expansions. Faculty at UBD reported that integrating sustainability into non-environmental courses can be difficult without appropriate training or resources, while staff at UNISSA observed that religious framing, although motivating, sometimes leads to the perception that sustainability is a moral issue rather than a technical and policy-driven one, potentially limiting interdisciplinary engagement. These findings echo global research identifying financial constraints, resistance to change, and uneven faculty capacity as persistent barriers to ESD implementation (Leal Filho et al., 2018).

Another challenge lies in the measurement and reporting of progress. UBD's adoption of performance indicators aligned with international sustainability rankings has improved data collection, but some interviewees expressed concern that the focus on ranking criteria may encourage superficial compliance rather than deep transformation. UNISSA's reliance on informal assessments and narrative accounts of success limits its ability to benchmark progress or secure external recognition. Institutional Theory suggests that without clear performance metrics and accountability mechanisms, sustainability initiatives risk becoming symbolic rather than substantive (Meyer & Rowan, 1977). Both universities could benefit from adopting evaluation tools that capture both quantitative and qualitative outcomes, ensuring that progress is measured in ways that reflect institutional values and goals.

Opportunities for strengthening sustainability in Brunei's higher education sector are significant. National policy frameworks such as the Brunei National Climate Change Policy provide a supportive context, while the small size of the country allows for relatively quick dissemination of successful practices across institutions. Collaborative initiatives between UBD and UNISSA could combine the former's technical expertise and infrastructure with the latter's strong ethical framing, creating synergies that enhance both impact and reach. Interview data suggest that students are increasingly interested in sustainability careers, particularly in areas such as renewable energy, sustainable business, and environmental education. This presents

an opportunity to develop academic programmes that meet both national workforce needs and global sustainability demands.

From a TBL perspective, both universities show strengths in social and environmental dimensions but need to give greater attention to the economic dimension of sustainability. Ensuring financial viability for sustainability initiatives is essential for their long-term success, and this may require innovative funding models such as partnerships with industry, alumni contributions, or green bonds. From the perspective of ESD, expanding faculty development programmes to equip lecturers across disciplines with sustainability teaching strategies could help mainstream these concepts beyond specialised courses. Institutional Theory suggests that greater engagement with regional and international sustainability networks could increase normative and mimetic pressures for improvement, creating a virtuous cycle of innovation and recognition.

In summary, the findings reveal that sustainability in Brunei's higher education institutions is shaped by a complex interplay of national policy, cultural and religious values, institutional priorities, and resource availability. UBD's approach is characterised by structured governance, alignment with international standards, and infrastructure investment, while UNISSA offers a model of values-driven engagement grounded in Islamic teachings. Both approaches have distinct strengths and face similar challenges, particularly in ensuring systematic integration, adequate resourcing, and effective evaluation. The analysis confirms that ESD, the TBL, and Institutional Theory together provide a robust framework for understanding these dynamics, offering insights that can inform both institutional practice and national policy development.

Discussion

The findings of this study demonstrate that sustainability in Brunei Darussalam's higher education sector is shaped by a convergence of national development strategies, cultural and religious values, institutional capacities, and global sustainability discourses. In both Universiti Brunei Darussalam (UBD) and Universiti Islam Sultan Sharif Ali (UNISSA), sustainability is more than a rhetorical aspiration; it is operationalised through teaching, governance, and community engagement. However, the nature and depth of this operationalisation vary, reflecting the institutions' missions, resource bases, and stakeholder expectations. Interpreting these results through the lenses of Education for Sustainable Development (ESD), the Triple Bottom Line (TBL), and Institutional Theory offers valuable insights into both achievements and areas for growth.

From the perspective of ESD, both universities have made progress in embedding sustainability into their curricula and pedagogical approaches, yet the integration remains uneven. At UBD, sustainability is present in specialist programmes such as environmental science and engineering, and cross-disciplinary initiatives like the Discovery Year provide students with experiential learning opportunities that embody ESD's emphasis on transformative education (Tilbury, 2011; Lozano et al., 2013). However, sustainability is not consistently embedded across all faculties, which aligns with global findings that integration is often strongest in environmentally related disciplines while social sciences, humanities, and business programmes may lag behind (Leal Filho et al., 2018). At UNISSA, the Islamic framing of sustainability ensures that environmental stewardship is integrated into theology, law, and ethics courses, creating a values-based approach that aligns with ESD's call for contextual

relevance (UNESCO, 2014). Yet, there is a risk that framing sustainability solely as a moral or religious duty could limit interdisciplinary engagement and downplay the technical, economic, and policy aspects required for comprehensive action.

When viewed through the TBL framework, the two universities exhibit clear strengths in the environmental and social dimensions but comparatively less emphasis on the economic dimension. Both institutions have implemented environmental initiatives — from renewable energy projects at UBD to water conservation and tree-planting campaigns at UNISSA — that align with the environmental bottom line (Elkington, 1998). Socially, both have demonstrated commitments to community engagement, inclusivity, and student-led initiatives. However, ensuring the financial sustainability of these projects remains a challenge, as reported in interviews. Without dedicated funding streams or innovative financial mechanisms, sustainability initiatives risk being dependent on short-term grants or leadership goodwill, which can limit their longevity. This mirrors a common challenge identified in higher education globally, where environmental and social goals often advance more quickly than economic sustainability measures (Lozano et al., 2015).

Institutional Theory provides an additional layer of analysis by highlighting how external pressures shape sustainability practices. Coercive pressures are evident in both universities' alignment with national policies such as Wawasan Brunei 2035 and the Brunei National Climate Change Policy, which provide clear expectations for integrating environmental education and operational sustainability (Ministry of Development, 2020). Normative pressures arise from professional networks and the growing emphasis on sustainability in global higher education rankings. UBD, for example, has adopted sustainability performance metrics influenced by the UI GreenMetric World University Rankings, reflecting a desire to align with international best practices. Mimetic pressures are also visible, particularly in the adoption of strategies and initiatives that mirror those of leading universities in neighbouring countries such as Malaysia and Singapore. While these pressures can drive adoption of sustainability measures, there is also the risk of symbolic compliance, where policies and initiatives are introduced primarily to signal alignment with global trends rather than to achieve deep institutional transformation (Meyer & Rowan, 1977).

One of the distinctive findings in the Brunei context is the powerful role of cultural and religious framing in shaping sustainability narratives, particularly at UNISSA. The integration of Islamic principles such as khalifah (stewardship) and mizan (balance) offers a moral and spiritual foundation for sustainability that can enhance personal motivation and align environmental action with broader life values (Khalid, 2010). This reflects research suggesting that sustainability education is most effective when it resonates with learners' cultural contexts and belief systems (Sterling, 2010). At the same time, there is a need to ensure that this moral framing is complemented by technical knowledge and critical thinking skills, enabling graduates to apply their values to complex, real-world sustainability challenges that require interdisciplinary solutions.

The interplay between national policy and institutional autonomy also emerges as a significant factor. Brunei's strong policy framework provides clear direction, but it can also create a top-down dynamic in which universities feel compelled to focus on compliance rather than innovation. While alignment with national goals ensures coherence, it may limit the scope for locally driven, bottom-up sustainability

initiatives that respond to specific institutional contexts or stakeholder needs. This tension is not unique to Brunei; similar patterns have been observed in other Southeast Asian nations where strong government direction coexists with limited institutional freedom to experiment (Salleh et al., 2017).

In terms of operational sustainability, UBD's investment in infrastructure such as solar panels and electric vehicle charging stations positions it as a leader within Brunei, reflecting the influence of resource availability and international benchmarking. UNISSA's more modest but community-focused initiatives highlight the potential for sustainability to be pursued through low-cost, high-impact actions that are culturally resonant. This diversity of approaches underscores the need for flexible models of sustainability in higher education, recognising that institutional missions, capacities, and community relationships will shape what is both feasible and effective.

The challenges identified — particularly funding limitations, inconsistent curriculum integration, and uneven monitoring — are consistent with global literature on barriers to ESD (Lozano et al., 2015; Leal Filho et al., 2018). Addressing these challenges in Brunei will require a combination of capacity-building, resource mobilisation, and the development of robust monitoring and evaluation systems. Capacity-building could include faculty development programmes to equip lecturers across all disciplines with the skills to integrate sustainability into their teaching, an approach supported by ESD literature as key to whole-institution transformation (UNESCO, 2017). Resource mobilisation might involve partnerships with industry, alumni networks, or international donors to secure funding for sustainability projects, thereby addressing the economic dimension of the TBL. Monitoring systems should combine quantitative indicators, such as energy use and waste reduction, with qualitative measures that capture changes in institutional culture and stakeholder engagement.

Comparing Brunei's experience to regional peers offers further perspective. In Malaysia, universities such as Universiti Sains Malaysia have established comprehensive sustainability frameworks with dedicated offices, performance targets, and extensive community engagement programmes (Leal Filho et al., 2018). Singapore's universities, while operating in a very different economic context, have integrated sustainability into strategic planning and invested heavily in green campus infrastructure. Brunei's smaller scale and resource wealth give it unique advantages, including the potential for rapid implementation of new initiatives and the ability to fund infrastructure projects without reliance on external donors. However, its small academic community and limited research capacity pose challenges for generating the knowledge base needed to sustain innovation.

From a policy perspective, the findings suggest that the Ministry of Education and other relevant agencies could play a more active role in facilitating collaboration between institutions, sharing best practices, and providing targeted funding for sustainability projects. Joint initiatives between UBD and UNISSA, for example, could combine the technical expertise and infrastructure of the former with the ethical framing and community engagement strengths of the latter. Such partnerships could model a holistic approach to sustainability that balances the environmental, social, and economic dimensions of the TBL while remaining grounded in Brunei's cultural and religious context.

Ultimately, the discussion underscores that sustainability in higher education is a dynamic process shaped by intersecting local and global forces. ESD provides the

pedagogical vision, the TBL ensures a balanced approach across key dimensions, and Institutional Theory explains how external pressures influence institutional behaviour. In Brunei, these frameworks reveal both the progress that has been made and the work that remains. The challenge moving forward is to deepen integration, secure sustainable funding, and create robust systems for monitoring and continuous improvement. If addressed, these steps could position Brunei's higher education sector not only as a contributor to national sustainability goals but also as a model for other small, resource-rich nations seeking to balance tradition, development, and environmental stewardship.

Conclusion and Recommendations

The examination of sustainability practices in Brunei Darussalam's higher education institutions, specifically Universiti Brunei Darussalam (UBD) and Universiti Islam Sultan Sharif Ali (UNISSA), reveals a complex but promising picture of progress, challenges, and opportunities. This study set out to explore how sustainability is conceptualised, implemented, and evaluated in the context of a small, resource-rich nation whose development vision is framed by both modern policy priorities and deep cultural traditions. Through the lenses of Education for Sustainable Development (ESD), the Triple Bottom Line (TBL), and Institutional Theory, the analysis demonstrates that both institutions have taken significant steps toward embedding sustainability into their operations, teaching, and community engagement. However, the nature, depth, and scope of these efforts are shaped by distinct institutional missions, governance structures, and resource constraints.

A key finding is that UBD tends to frame sustainability in policy and science-based terms, drawing heavily on national development plans such as Wawasan Brunei 2035 and international frameworks like the Sustainable Development Goals. This has resulted in structured governance arrangements, performance monitoring aligned with international ranking systems, and investment in green infrastructure such as solar energy and sustainable transport. UNISSA, by contrast, positions sustainability within an Islamic ethical framework, emphasising concepts such as khalifah (stewardship) and mizan (balance). This gives sustainability a strong moral and spiritual resonance, encouraging personal responsibility among staff and students, even if the approach is less formalised in terms of monitoring and reporting. Together, these approaches illustrate that there is no single path to sustainability in higher education; rather, institutional strategies must align with their cultural identity, mission, and stakeholder expectations (Sterling, 2010; Lozano et al., 2013).

From the perspective of ESD, both institutions have succeeded in integrating sustainability into specific parts of their curricula and in adopting pedagogical strategies that foster active, experiential, and values-based learning (Tilbury, 2011). UBD's Discovery Year programme, for example, allows students to apply sustainability concepts in real-world contexts, while UNISSA's integration of Islamic environmental ethics ensures that these principles are embedded across theology, law, and social sciences. Yet, in both cases, the integration remains partial, with some faculties more engaged than others. This mirrors global trends, where sustainability often begins in environmentally oriented disciplines but takes time to achieve full cross-disciplinary uptake (Leal Filho et al., 2018).

The application of the TBL framework shows that environmental and social sustainability have received the most attention, with notable successes in energy management, biodiversity enhancement, waste reduction, and community outreach.

However, the economic dimension of sustainability — ensuring that initiatives are financially viable in the long term — remains underdeveloped. Without dedicated budgets or innovative funding mechanisms, projects risk being dependent on leadership commitment or external grants, which can be unstable sources of support (Lozano et al., 2015).

Institutional Theory helps explain both the drivers and limitations of current practices. Coercive pressures from national policy have encouraged institutions to adopt sustainability agendas, while mimetic pressures from international rankings and regional peers have influenced specific initiatives, particularly at UBD. Normative pressures, especially from religious teachings at UNISSA, have created strong moral imperatives for environmental responsibility. Yet, without comprehensive evaluation mechanisms, there is a risk of symbolic compliance, where the existence of initiatives is not matched by evidence of their sustained impact (Meyer & Rowan, 1977).

Recommendations

Based on these findings, a set of targeted recommendations can be proposed for institutional leaders, policymakers, and other stakeholders in Brunei's higher education sector:

First, there is a need to develop a whole-institution approach to sustainability that ensures integration across all faculties, administrative units, and operational areas. For UBD, this could involve expanding faculty development programmes to equip lecturers in non-environmental disciplines with the skills and resources to incorporate sustainability into their teaching. For UNISSA, it might mean complementing its strong values-based approach with more formal governance structures and measurable performance indicators, ensuring that religiously grounded initiatives also meet policy and technical objectives.

Second, the economic dimension of sustainability should be strengthened. Both universities could explore innovative funding models such as public–private partnerships, alumni contributions, and the establishment of green endowment funds. Partnerships with industry could not only provide financial support but also create opportunities for students to engage in applied sustainability projects that enhance employability and strengthen community ties (Leal Filho et al., 2018).

Third, monitoring and evaluation systems should be enhanced to provide reliable data on sustainability outcomes. UBD's experience with international ranking metrics could be adapted into a locally relevant framework that incorporates qualitative and quantitative measures, while UNISSA could introduce simple but consistent tracking systems to measure the impact of its initiatives. Such systems would enable evidence-based decision-making and facilitate transparent reporting to stakeholders.

Fourth, greater collaboration between UBD and UNISSA could create synergies by combining technical expertise, infrastructure capacity, and ethical engagement. Joint initiatives — such as a national sustainability conference, collaborative research projects, or co-developed community outreach programmes — could model a uniquely Bruneian approach to sustainability that integrates science, policy, and moral responsibility.

Finally, policymakers could support higher education sustainability by creating dedicated funding streams, recognising outstanding institutional and student-led initiatives, and facilitating international partnerships. The Ministry of Education could also provide a platform for cross-institutional learning, enabling best practices to be shared not only between UBD and UNISSA but also with regional partners.

In conclusion, Brunei's higher education institutions have laid a strong foundation for sustainability, each drawing on its strengths and contextual realities. The challenge ahead lies in achieving deeper integration, ensuring financial resilience, and creating robust systems for evaluation and continuous improvement. By embracing both the technical and ethical dimensions of sustainability, and by fostering collaboration across institutions, Brunei can develop a model of higher education that serves national goals while contributing meaningfully to the global sustainability agenda.

Final Reflection

Reflecting on the research process and findings, it is clear that the integration of sustainability in Brunei's higher education sector is both a practical and a philosophical endeavour. The experiences of UBD and UNISSA demonstrate that while sustainability is often discussed in technical terms — energy efficiency, waste reduction, biodiversity conservation — it is also deeply connected to values, identity, and the way institutions see their role in society. This is particularly evident in Brunei, where Islamic ethics and national development goals are not in conflict but are mutually reinforcing narratives that guide institutional behaviour.

As researchers, one of the most striking observations is how sustainability takes on different meanings depending on context. At UBD, it is a matter of strategic planning, measurable targets, and alignment with global best practices. At UNISSA, it is an expression of moral duty and faith-based stewardship. Both interpretations are valid and, in fact, necessary. The challenge lies not in choosing between them but in finding ways to integrate the strengths of each — to ensure that the passion inspired by ethical conviction is matched by the rigour of systematic planning and evaluation.

The process of gathering data also underscored the importance of trust and cultural sensitivity. Conducting interviews in Brunei required awareness of local norms, respect for institutional protocols, and a willingness to listen without imposing external assumptions. This is a reminder that sustainability research, particularly in small and close-knit societies, is as much about relationships as it is about data.

Ultimately, this study reaffirms that sustainability in higher education is not a fixed endpoint but an evolving journey. It is a process of continual learning, adaptation, and dialogue between diverse perspectives — scientific, cultural, ethical, and practical. For Brunei, this journey offers an opportunity to showcase how a small nation can combine tradition and innovation to create educational models that are both locally grounded and globally relevant.

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