Obstacles to Sustainable Development in Higher Education Institutions of Pakistan

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Abstract

This research paper explores the obstacles to sustainable development in Pakistan's higher education institutions (HEIs), focusing on challenges in implementing sustainability initiatives within academic and administrative settings. Despite the global emphasis on sustainability, Pakistani HEIs face several barriers that hinder the integration of sustainable development into curricula, research, and campus operations—the research problem centers around understanding these challenges and their impact on promoting sustainability in higher education. The study aims to identify the key obstacles preventing the effective implementation of sustainable development initiatives in Pakistani HEIs. Theoretical frameworks on sustainable development in education and institutional change guide the research. Phenomenology is a type of qualitative research involving semi-structured interviews with lecturers, professors, and educational administrators from various HEIs across Pakistan. Data is analyzed using thematic analysis to uncover recurring themes related to sustainability challenges. Results of the study revealed that insufficient policy support, inadequate funding, a lack of faculty training, and limited student engagement are significant obstacles to sustainability in HEIs. Additionally, participants emphasized the need for better institutional strategies and more robust government policies. The study underscores the urgent need for policy reforms, capacity-building initiatives, and increased financial support to promote sustainable development in Pakistani HEIs. Recommendations include improving policy alignment with global sustainability goals, fostering public-private partnerships, and integrating sustainability into academic curricula and research practices.

Keywords: Obstacles in Education, Sustainable Development, Higher Education Institutions.

Introduction

Sustainable development has emerged as a critical focus in the global agenda, particularly within the educational sector. Higher education institutions (HEIs) are vital in advancing sustainable development by incorporating environmental, social, and economic considerations into teaching, research, and campus practices (Hafeez et al., 2022; Filho et al., 2024). In recent years, universities worldwide have increasingly emphasized the importance of sustainability in both curriculum and operational practices, recognizing the potential of higher education to address global challenges such as climate change, resource depletion, and social inequality (Wals & Corcoran, 2012). In

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Pakistan, sustainable development is critical, given the country's vulnerabilities to climate change, rapid urbanization, and economic pressures. Despite the urgency, significant obstacles hinder the integration of sustainable development within Pakistan's HEIs, making it essential to understand these barriers to create practical solutions (Raza et al., 2023).

This research explores the obstacles to sustainable development in higher education institutions in Pakistan. Sustainable development in education entails fostering an understanding of sustainability principles and instilling a sense of social responsibility among students and staff. However, the successful implementation of sustainability in HEIs requires a holistic approach that encompasses curriculum integration, policy alignment, administrative support, and community engagement (Sebire & Isabeles-Flores, 2023). This study aims to explore the perceptions of lecturers, professors, and educational administrators regarding the integration of sustainable development in HEIs in Pakistan, identify the key obstacles preventing effective implementation, and propose practical recommendations to overcome these barriers (Saqib et al., 2020).

The research adopts a qualitative, phenomenological research design, which is well-suited for exploring HEI faculty and administrators' lived experiences and perceptions. This approach allows for an in-depth analysis of how key stakeholders perceive the challenges in promoting sustainability within higher education, capturing their subjective experiences and insights (Creswell & Poth, 2016).

Current literature highlights several barriers to implementing sustainable development initiatives in higher education. For example, Alhazmi et al. (2023) identified limited institutional support and funding constraints as significant obstacles to sustainability in HEIs. Similarly, studies by Barth and Timm (2011) emphasize the role of policy and administrative commitment in fostering sustainability, noting that the lack of comprehensive policy frameworks often impedes progress. In Pakistan, a study by Saqib et al. (2020) revealed that inadequate awareness among faculty and students about sustainability concepts, coupled with limited resources, creates substantial challenges for integrating sustainable development into higher education. This suggests that both structural and perceptual barriers exist within HEIs in Pakistan, indicating a need for targeted strategies that address these issues holistically.

Moreover, faculty training and development are essential for successful sustainability initiatives in HEIs. According to Mondragon et al. (2023), faculty members often need more knowledge and skills to teach sustainability concepts effectively, underscoring the importance of training and capacity-building initiatives. In Pakistan, however, institutional support for such initiatives still needs to be improved, as evidenced by the Hinduja et al. (2023) study, which points to budget constraints and competing institutional priorities as significant impediments. The present study will add to this body of knowledge by providing a focused analysis of these challenges within the Pakistani context and offering recommendations tailored to the unique needs of the country's HEIs.

Addressing the obstacles to sustainable development in Pakistani HEIs has broader implications for the country's educational and economic landscape (Khurshid et al., 2020). By embedding sustainability in higher education, HEIs can produce graduates better equipped to address local and global challenges, contributing to Pakistan's progress towards the United Nations' Sustainable Development Goals (SDGs). This aligns with international trends where universities are increasingly seen as critical agents in fostering a culture of sustainability (Filho et al., 2024). However, without understanding and addressing the specific barriers HEIs face in Pakistan, efforts to promote sustainability are unlikely to succeed (Acosta Castellanos & Queiruga-Dios, 2022).

To fulfil the study's objectives, this research engaged with lecturers, professors, and administrators across several Pakistani universities to understand their perceptions and experiences. The insights

derived from this qualitative investigation will inform recommendations aimed at improving institutional support, policy alignment, and curriculum development for sustainability. By addressing these obstacles, the study seeks to enhance the role of Pakistani HEIs in promoting sustainable development, ultimately contributing to the nation's broader sustainability agenda.

Research Objectives
1. To explore the perceptions of lecturers, professors, and educational administrators regarding integrating sustainable development in higher education.
2. To identify the key obstacles preventing the implementation of sustainable development initiatives in Pakistani HEIs.
3. To propose recommendations for overcoming these obstacles and enhancing the contribution of HEIs to sustainable development in Pakistan.

Research Questions
The central research questions were:
1. What are the main barriers to integrating sustainable development into the curriculum and operations of higher education institutions in Pakistan?
2. How do lecturers, professors, and educational administrators perceive these obstacles?
3. How can these barriers be overcome to promote sustainable development in higher education?

Theoretical Framework
This study's theoretical framework draws on three core theories: Triple Bottom Line (TBL) Theory, Transformative Learning Theory, and Institutional Theory of Change, each providing a unique lens to examine obstacles to sustainable development in Pakistani HEIs.

Triple Bottom Line (TBL) Theory
Proposed by Elkington (1997), TBL emphasizes balancing sustainability's environmental, social, and economic dimensions. In Pakistani HEIs, this framework helps identify specific barriers in each area: lack of eco-friendly practices (environmental), limited engagement and awareness (social), and funding constraints (Alhaddi, 2015).

Transformative Learning Theory
This theory, developed by Mezirow (1991), underscores the importance of critical reflection and a cognitive shift toward new perspectives in sustainability. Transformative learning is essential in overcoming resistance to sustainability initiatives encouraging faculty, students, and administrators to value and adopt sustainable practices (Mezirow, 2018).

Institutional Theory of Change
This framework from organizational change theory highlights how organizational structures, regulatory pressures, and cultural norms influence the adoption of sustainability. It provides insights into systemic barriers such as lack of government mandates, policy gaps, and the prevailing norms within HEIs (Coccia, 2018).
These combined theories create a comprehensive framework to explore individual, organizational, and systemic barriers, guiding the study's objectives to identify and address challenges to sustainable development in Pakistan's HEIs.

Global Best Practices in Sustainability Education
Globally, higher education institutions have made significant strides in embedding sustainable development into their core operations, teaching, and research. Developed countries, particularly in Europe and North America, have led efforts to adopt sustainability education by integrating the United Nations' Sustainable Development Goals (SDGs) into higher education curricula and fostering a "whole institution" approach (Sonetti et al., 2020). For instance, institutions like Arizona State University in the United States have established dedicated sustainability schools that provide comprehensive programs addressing the SDGs while conducting sustainability-oriented research and outreach (Holdsworth & Sandri, 2021). In Sweden, the University of Gävle integrates sustainability across all disciplines, ensuring students from diverse fields understand sustainability principles relevant to their area of study (Sammalisto & Lindhqvist, 2008).
Another notable example is the University of Edinburgh in the UK, which employs a "living lab" model to create a sustainable campus. It uses it as a space where students and faculty can collaboratively test sustainable practices in real-world contexts (Wals & Corcoran, 2012). Through similar initiatives, many universities have established institutional policies and funding models prioritising sustainability, demonstrating the potential impact of strategic leadership and government support on sustainability outcomes in higher education (Ertuna et al., 2023). These global practices underscore the importance of institutional commitment, interdisciplinary curriculum integration, and community engagement in advancing sustainability within HEIs.

Sustainable Development in Pakistan's HEIs
In Pakistan, sustainable development within higher education institutions (HEIs) is gaining attention as universities increasingly recognize their role in fostering environmentally and socially responsible graduates. However, implementing sustainability practices in Pakistani HEIs faces significant challenges, including limited funding, lack of faculty expertise, and insufficient policy frameworks (Waqas et al., 2016). While some universities have introduced sustainability-oriented programs and initiatives, these efforts are often fragmented and need more institutional support, resulting in limited impact (Ahmad et al., 2019). Furthermore, many Pakistani HEIs need help integrating sustainability into their core curricula, mainly due to outdated curricula and insufficient resources for faculty training (Sain et al., 2024). Despite these obstacles, there is a growing acknowledgement that Pakistani HEIs must adapt global sustainability models to local contexts, fostering interdisciplinary approaches and community engagement to advance sustainable development (Dhindsa, 2016). Addressing these barriers can help Pakistan's HEIs play a crucial role in educating future leaders who are equipped to tackle pressing environmental and social challenges.

Worldwide Barriers to Sustainability in Higher Education
While the benefits of sustainability education in HEIs are widely recognized, numerous obstacles prevent its effective implementation, particularly in developing countries. Research in UAE highlights vital barriers, including inadequate institutional policies, limited financial resources, insufficient training and awareness among faculty, and a lack of administrative support (Abo-Khalil, 2024). In countries such as India and Bangladesh, sustainability efforts are often hindered by outdated curricula and limited faculty capacity to teach sustainability topics effectively, necessitating extensive policy and training reforms (Simi Mehta et al., 2019; Leal Filho et al., 2021).
In African HEIs, barriers include a lack of funding, insufficient infrastructure, and limited access

to sustainability resources, further compounded by institutional challenges such as high student-to-teacher ratios and an absence of supportive policies (Ulmer & Wydra, 2020). Similarly, studies in Latin American countries have revealed that financial limitations and a lack of collaboration between universities and local governments obstruct sustainability initiatives, indicating a need for more comprehensive support from governmental and non-governmental stakeholders (Blanco-Portela et al., 2018). These findings suggest that while global best practices provide a model for sustainability in higher education, context-specific challenges must be addressed to adapt these practices effectively.

Research Methodology
This study adopted a qualitative research methodology phenomenology research design to gather in-depth insights into the obstacles faced by Pakistani HEIs in promoting sustainable development. This qualitative approach is ideal for exploring subjective experiences, perceptions, and challenges faced by educators and administrators in different institutions.

Data Collection
Semi-structured interviews were conducted with lecturers, professors, and educational administrators from multiple HEIs in Pakistan. For this purpose, two public and one private university were selected from the district of Faisalabad using convenient sampling. Furthermore, purposive sampling was used to select participants directly involved in sustainability-related teaching, research, or administration.
There were 21 participants, including lecturers, professors, and educational administrators, seven from each university chosen for interview.

Thematic Analysis of Research
In this thematic analysis, data were collected through semi-structured interviews with 21 participants from three Pakistani universities, including lecturers, professors, and educational administrators (7 participants from each university). Participants responded to questions on the primary barriers to integrating sustainable development within curricula and institutional operations, perceived obstacles to sustainability initiatives, and recommended steps to overcome these challenges. This analysis identifies recurring themes, coding responses into thematic categories to capture the participants' shared and divergent perspectives on sustainability obstacles in higher education.

Coding Framework
To streamline the analysis, each participant has been assigned a unique identifier, such as "P1L1" (Participant 1, Lecturer from University 1), "P2P3" (Participant 2, Professor from University 3), P3 A2 (Participant 3, Administrative from University 2) and so on.

Key Findings from Thematic Analysis
The key findings identified by using thematic analysis are described below.

Institutional Barriers
This theme includes organizational issues such as lack of strategic policy, limited administrative support, and absence of sustainability-focused leadership. As P1L1 stated, "There's no clear policy on sustainability from the administration. Without direction, it's challenging to integrate

sustainability in any meaningful way." Similarly, according to P2A1, "Administrative support for sustainability initiatives is sporadic, which limits our ability to plan long-term projects."

Resource Limitations
Participants frequently highlighted the lack of financial, human, and infrastructural resources as a significant barrier to sustainability initiatives. According to P3L2, "Our department lacks the budget to initiate sustainability projects, and there's no funding allocated for this purpose." P2A3 commented, "We need proper resources and training programs to educate our faculty about sustainability."

Curriculum and Faculty Development Challenges
A recurring theme was the difficulty in adapting or developing a curriculum focused on sustainable development, compounded by a need for more faculty training. P1L3 described, "Our curriculum is outdated, and there's little focus on sustainability topics." Likewise, P3P3 also mentioned, "that Without specialized training, faculty struggle to teach sustainability effectively."

Awareness and Cultural Challenges
Some participants expressed that students and faculty needed more awareness and understanding of sustainability, and cultural resistance to new teaching methods was observed. As P2L1 said, "Sustainability is not prioritized by students or staff. There's little understanding of why it matters." P1P2 also states, "Introducing sustainability concepts requires a shift in mindset, but there's resistance to changing the usual teaching approaches."

Recommendations for Improvement
Participants proposed several solutions, such as increasing funding, establishing dedicated sustainability policies, and fostering collaboration with governmental and non-governmental organizations. P3A3 mentioned, "Government support is essential. Dedicated funding and policies can empower universities to prioritize sustainability." Meanwhile, P2P3 stated, "Partnerships with NGOs and sustainability-focused training programs could address the awareness gap."

Discussion
The first vital finding, "institutional barriers," underscores the lack of formal sustainability policies and the limited administrative support for sustainability initiatives. Participants noted the absence of leadership in this area, which prevents coordinated sustainability efforts. Many participants, particularly administrators and professors, felt that the lack of direction hindered both teaching and operational practices related to sustainability.

In 2nd key finding, "resource limitations," resource constraints emerged as a significant barrier across the three universities. Funding limitations restricted the scope of sustainability projects, and the absence of dedicated financial support for faculty training and infrastructure development was frequently mentioned. This theme highlights the need for institutional commitment through budget allocations specifically targeted at sustainability initiatives.

In 3rd key finding, "curriculum and faculty development challenges," participants expressed concerns regarding outdated curricula that do not adequately address sustainability topics. Faculty members highlighted the need for more training programs enabling them to integrate sustainability into their courses effectively. This theme reflects a need for comprehensive curriculum reform and investment in professional development to enhance faculty expertise in sustainability education.

The 4th finding, "awareness and cultural challenges," discussed awareness about sustainability among faculty and students was cited as low, often due to cultural resistance to new teaching approaches. Participants noted that a shift in mindset is required, particularly in traditional educational institutions, to embrace sustainability fully. Some also suggested that faculty and student awareness campaigns could increase buy-in and foster a campus culture that is more receptive to sustainable practices.

In the last finding, "recommendations for improvement," participants recommended several approaches to overcome these barriers, such as policy development, increased funding, and partnerships with external organizations. Many advocated collaborating with government bodies and NGOs to bring external expertise and funding into universities. They also suggested the administration's need for a structured policy framework to provide a clear path toward integrating sustainability in HEIs.

Conclusion

The results from thematic analysis reveal that institutional barriers, resource limitations, curriculum challenges, and awareness gaps are significant obstacles to sustainable development in Pakistani HEIs. These findings highlight the importance of establishing sustainability policies, increasing funding, reforming curricula, and developing faculty training programs to foster sustainable practices. Participants' insights emphasize that overcoming these barriers requires internal and external support, including public-private partnerships, government backing, and a cultural shift towards sustainability education. Furthermore, this research provides a foundational understanding of targeted interventions that could address these barriers, enabling Pakistani HEIs to align with global best practices in sustainable development and education.

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