

ECO-EDUCATION: HOW GREEN HRM TRANSFORMS HIGHER LEARNING

Navita Vashista

Assistant Professor
Panipat Institute of Engineering & Technology

Preeti Gugnani

Assistant Professor
Panipat Institute of Engineering & Technology

Manju Bala

Assistant Professor
Panipat Institute of Engineering & Technology

ABSTRACT

This research article explores how Green Human Resource Management (Green HRM) and sustainability education can be integrated into higher education institutions (HEIs) to promote sustainable education and advance the Sustainable Development Goals (SDGs). Green HRM involves incorporating environmental management into HR practices to foster a culture of sustainability within organizations. At the same time, integrating sustainability education in HEIs equips students with the knowledge and skills to address global concerns effectively. This research explores the intersection of Green HRM (Human Resource Management) and sustainability education in Higher Education Institutions (HEIs). It highlights methods for incorporating sustainability into HR practices and courses. The study delves into the contribution of higher education institutions (HEIs) to sustainable development and proposes enhancements to Green HRM practices for advancing education on sustainability.

This study relies solely on secondary data, case studies, and literature reviews conducted by various scholars. Data for the current research piece is gathered from online journals, e-papers, newspaper articles, and websites. The findings highlight the benefits of leadership commitment, interdisciplinary collaboration, and continuous improvement. Recommendations are provided for developing comprehensive Green HRM policies, enhancing training programs, and promoting campus sustainability initiatives. The study argues that the combined implementation of Green HRM and sustainability education can significantly contribute to achieving the SDGs and cultivating a sustainable institutional culture.

Keywords: Green Human Resource Management (Green HRM), higher education institutions (HEIs), Sustainable Development Goals (SDGs), Institutional culture, Academic Progress

1. INTRODUCTION

Higher education institutions occupy a distinctive position in the global effort to build a sustainable future. As institutions that prepare the professionals, policymakers, and citizens of tomorrow, universities and colleges carry a responsibility that extends beyond the transmission of disciplinary knowledge; they are expected to model the very sustainability principles they teach (Cortese, 2003). This dual mandate — to educate for sustainability and to operate sustainably — has given rise to two parallel but increasingly interconnected movements within the higher education sector: the integration of sustainability content into

academic curricula, and the adoption of environmentally responsible human resource practices, commonly referred to as Green Human Resource Management (Green HRM).

Green HRM refers to the alignment of human resource functions — recruitment, training, performance appraisal, compensation, and employee engagement — with an institution's environmental objectives (Renwick et al., 2013). Where conventional HRM focuses primarily on organizational efficiency and employee productivity, Green HRM extends this focus to encompass ecological responsibility, encouraging faculty and staff to adopt pro-environmental behaviors both inside and outside the classroom (Goel et al., 2022). When embedded thoughtfully within an HEI, Green HRM does more than reduce an institution's environmental footprint; it cultivates an institutional culture in which sustainability becomes a shared value rather than a peripheral initiative.

Parallel to this, sustainability education — sometimes referred to as Education for Sustainable Development (ESD) — seeks to equip students with the knowledge, competencies, and values needed to confront pressing global challenges such as climate change, resource depletion, and social inequality (Lozano, 2006). Scholars have long argued that sustainability cannot be taught effectively as an isolated subject; rather, it must be woven across disciplines and reinforced by the lived practices of the institution itself (Cortese, 2003). It is at this intersection — where institutional practice and pedagogical content converge — that Green HRM and sustainability education find their common ground.

This paper examines how Green HRM and sustainability education can be jointly leveraged by HEIs to advance the United Nations Sustainable Development Goals (SDGs). Specifically, it addresses three questions: (a) how are Green HRM practices currently being adopted within HEIs; (b) how is sustainability being integrated into higher education curricula and campus culture; and (c) what recommendations can be offered to strengthen the combined contribution of Green HRM and sustainability education to institutional and global sustainability goals. In doing so, the paper synthesizes findings from a broad body of recent scholarship to build a conceptual and practical case for treating Green HRM not merely as an HR function, but as an educational and cultural strategy in its own right.

2. LITERATURE REVIEW

2.1 The Concept and Evolution of Green HRM

The theoretical foundations of Green HRM are commonly traced to Renwick et al. (2013), whose review consolidated a fragmented body of research on environmental management and human resource management into a coherent field. Their work positioned the Ability–Motivation–Opportunity (AMO) framework as a useful lens for understanding how organizations build employees' environmental capability (through green training), strengthen their motivation (through green performance appraisal and rewards), and create opportunities for participation (through green involvement and empowerment). Subsequent research has expanded this foundation considerably, with Mahdy et al. (2023) cataloguing the imperatives, benefits, and organizational initiatives associated with Green HRM across sectors, and confirming that green recruitment, green training and development, green performance management, and green compensation remain the most frequently studied practices.

Within the higher education context specifically, Goel et al. (2022) used interpretive structural modelling to identify the interrelationships among Green HRM practices in educational institutions, finding that leadership commitment and top-management support act as foundational drivers that enable other practices — such as green training and green recruitment — to take root. Similarly, Zahrani (2024), in a survey of staff at Majmaah

University in Saudi Arabia, found that Green HRM practices exert a significant positive influence on university sustainability, an effect that is strengthened when mediated by staff environmental performance and green organizational commitment. Comparable findings emerged from Lashari et al. (2022), who examined how university managers perceive Green HRM and concluded that institutional awareness of environmental sustainability is closely tied to how deliberately Green HRM is embedded in managerial practice.

A systematic literature review by Saad et al. (2024) further affirms that the adoption of Green HRM in HEIs is associated with improved sustainability outcomes at the institutional level and offers a useful synthesis for policymakers and university leadership seeking to strategically position their institutions as models of sustainable practice. Complementary reviews, including that of Ciptomulyono et al. (2024), map the trajectory of Green HRM research in university settings over the past five years and highlight emerging areas — such as the integration of digital technology with Green HRM — as promising directions for future inquiry.

Empirical work in specific national contexts reinforces these broader patterns. Jam and Jamal (2020), studying educational institutions in South Punjab, Pakistan, found that Green HRM practices contributed meaningfully to organizational sustainability and to employee retention, suggesting that environmentally responsible HR practices also carry workforce-related benefits beyond ecological outcomes. Likewise, Akbar et al. (2024), examining large private universities in Indonesia, found that the relationship between Green HRM practices and sustainable university performance is strengthened when mediated by a green psychological climate among academic and non-academic staff — that is, when employees perceive their institution as genuinely valuing environmental responsibility, rather than treating it as a symbolic gesture.

2.2 Sustainability Education in Higher Education Institutions

The case for embedding sustainability into higher education curricula has been made consistently since the early 2000s. Cortese (2003) argued that because universities prepare the majority of society's professionals and leaders, they hold a uniquely influential — yet frequently underused — position in shaping how future generations understand and respond to sustainability challenges. He called for an interdisciplinary and systemic approach in which sustainability is connected not only to coursework but also to an institution's research priorities, operations, and community engagement.

Lozano (2006) extended this argument by examining the practical barriers universities face when attempting to incorporate and institutionalize sustainable development, noting that fragmented governance structures, disciplinary silos, and inconsistent leadership commitment often stall meaningful progress. Later work by Lozano and colleagues proposed frameworks connecting specific pedagogical approaches — such as problem-based and project-based learning — to the sustainability competencies that students are expected to develop, underscoring that effective sustainability education requires more than adding environmental content to existing syllabi; it requires a shift in pedagogical philosophy toward holistic, transdisciplinary, and experiential learning.

Recent empirical studies continue to validate this line of reasoning. Research on curriculum integration in diverse national contexts — including Saudi Arabia and the Philippines — shows that faculty intention to integrate sustainability into their teaching is shaped by their own sustainability knowledge, perceived behavioral control, and institutional support, findings consistent with the Theory of Planned Behavior. These studies collectively suggest that sustainability education cannot be mandated through policy alone; it depends on

cultivating faculty capability and institutional conditions that make sustainable teaching practical and rewarding.

2.3 Green HRM, Sustainability Education, and the SDGs

A smaller but growing body of literature explicitly connects Green HRM and sustainability education to the SDG framework. Conceptual work in this space proposes that HEIs adopting Green HRM alongside sustainability-oriented teaching can advance multiple SDGs simultaneously — most directly SDG 4 (Quality Education), but also SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action) — by treating the campus itself as a living laboratory for sustainable practice. This view positions Green HRM not as an isolated administrative function but as a mechanism through which an institution's stated sustainability commitments become embedded in the everyday behavior of its faculty and staff, thereby reinforcing what students are taught in the classroom.

3. CONCEPTUAL FRAMEWORK

This study adopts the Ability–Motivation–Opportunity (AMO) framework, first applied systematically to Green HRM by Renwick et al. (2013), as its organizing lens. Under this framework, Green HRM practices can be grouped into three categories. Ability-enhancing practices, such as green recruitment and green training, build employees' capacity to engage in environmentally responsible behavior. Motivation-enhancing practices, such as green performance appraisal and green rewards, incentivize staff to act on that capacity. Opportunity-enhancing practices, such as green involvement, employee green teams, and participatory decision-making, create the structural conditions through which staff can translate motivation into action.

Layered onto this framework is a second, complementary lens drawn from the sustainability education literature: the notion that HEIs function simultaneously as educators and as organizations. Where Green HRM shapes the behavior of faculty and staff as employees, sustainability education shapes the knowledge and values of students as learners. The conceptual proposition advanced in this paper is that these two mechanisms are mutually reinforcing — an institution whose staff visibly practice sustainability through Green HRM lends credibility and lived experience to the sustainability content delivered in the classroom, while a curriculum that emphasizes sustainability competencies generates institutional demand for the very Green HRM practices that make those competencies visible on campus.

4. RESEARCH METHODOLOGY

This study adopts a qualitative, conceptual research design based entirely on secondary data. Consistent with the methodological approach outlined in the abstract, the research draws upon peer-reviewed journal articles, systematic literature reviews, case studies, e-papers, newspaper articles, and institutional websites published primarily between 2003 and 2024. Sources were identified through targeted searches of academic databases and publisher platforms using combinations of the terms "Green HRM," "sustainability education," "higher education institutions," "Sustainable Development Goals," and "institutional culture."

Sources were selected for inclusion based on their direct relevance to Green HRM practices, sustainability curriculum integration, or the role of HEIs in advancing the SDGs. The literature was thematically analyzed to identify recurring practices, enabling conditions, and reported outcomes across institutional and national contexts. As a conceptual and literature-based study, this research does not involve primary data collection, human participants, or statistical testing; rather, its contribution lies in synthesizing dispersed empirical findings into

an integrated framework and a set of actionable recommendations for HEI leadership and policymakers.

5. GREEN HRM PRACTICES FOR SUSTAINABILITY IN HEIS

Drawing on the reviewed literature, several Green HRM practices recur consistently across studies of higher education institutions.

Green Recruitment and Selection. HEIs are increasingly signaling environmental values during hiring by including sustainability criteria in job descriptions and by assessing candidates' environmental awareness during selection, which helps build a workforce predisposed toward sustainable practice (Mahdy et al., 2023).

Green Training and Development. Training programs that build staff and faculty capability in environmental management — from energy conservation to waste reduction — are consistently identified as a foundational Green HRM practice, and one of the strongest predictors of institutional environmental performance (Goel et al., 2022).

Green Performance Management and Appraisal. Incorporating environmental criteria into staff performance evaluations reinforces accountability and, per Zahrani (2024), strengthens the relationship between Green HRM practices and broader university sustainability outcomes.

Green Rewards and Compensation. Recognition schemes and incentives tied to sustainable behavior — ranging from formal awards to simple public acknowledgment — help sustain staff motivation over time.

Green Employee Involvement and Empowerment. Participatory mechanisms such as green teams, sustainability committees, and staff-led campus initiatives create the "opportunity" component of the AMO framework and are associated with a stronger green psychological climate among academic and non-academic staff (Akbar et al., 2024).

Leadership Commitment and Top-Management Support. Across nearly every study reviewed, leadership commitment emerges as the single most influential enabling condition; without visible support from senior administration, other Green HRM practices struggle to gain traction or institutional legitimacy (Goel et al., 2022; Saad et al., 2024).

6. INTEGRATING SUSTAINABILITY EDUCATION INTO CURRICULA AND CAMPUS CULTURE

Beyond HR practice, HEIs advance sustainability through the deliberate redesign of what and how they teach. The literature points to several complementary strategies. First, interdisciplinary and transdisciplinary curriculum design allows sustainability to be addressed as a systemic issue rather than confined to environmental science departments, consistent with Cortese's (2003) call for an integrated educational experience. Second, experiential and problem-based pedagogies — including live case studies, campus-based sustainability projects, and community engagement — have been shown to build not only knowledge but also the values and behavioral commitment that sustainability challenges demand. Third, faculty development programs that build educators' own sustainability competencies are a necessary precondition for curriculum change, since faculty confidence and perceived behavioral control strongly predict their willingness to integrate sustainability content into their teaching.

Campus operations themselves function as an extension of the curriculum. Green campus initiatives — covering energy management, waste reduction, water conservation, and sustainable procurement — provide students with a tangible, everyday demonstration of the

principles taught in the classroom. When these operational initiatives are underpinned by Green HRM practices (for example, staff trained and incentivized to maintain them), the campus becomes what several scholars describe as a living laboratory: a space where sustainability is not only studied but practiced and observed.

7. THE CONTRIBUTION OF HEIS TO THE SUSTAINABLE DEVELOPMENT GOALS

The integration of Green HRM and sustainability education positions HEIs to contribute meaningfully to multiple SDGs simultaneously. Most directly, this integration advances SDG 4 (Quality Education) by embedding sustainability competencies into the student learning experience. It also supports SDG 8 (Decent Work and Economic Growth) by modeling responsible employment and workplace practices; SDG 12 (Responsible Consumption and Production) through green campus operations; and SDG 13 (Climate Action) through the cumulative environmental impact of institutional practice and the graduates it produces. Because HEIs simultaneously function as employers, educators, researchers, and community anchors, their potential contribution to the SDGs is unusually broad — a point emphasized across the reviewed literature on the role of HEIs in sustainable development.

8. DISCUSSION AND KEY FINDINGS

Three themes emerge consistently across the literature reviewed in this study. First, leadership commitment functions as a gatekeeping variable: institutions where senior administration visibly champions sustainability see stronger uptake of both Green HRM practices and curriculum reform, while institutions lacking this commitment tend to treat sustainability as a peripheral or symbolic initiative (Goel et al., 2022; Saad et al., 2024).

Second, interdisciplinary collaboration between HR departments, academic faculties, and campus operations teams appears essential to sustaining momentum. Where Green HRM is treated purely as an HR function, disconnected from curriculum design and campus operations, its impact on institutional culture tends to be limited. Conversely, institutions that link HR policy, teaching practice, and facilities management under a shared sustainability strategy report stronger and more durable outcomes (Akbar et al., 2024; Lashari et al., 2022).

Third, continuous improvement — rather than one-time policy adoption — characterizes the institutions most frequently cited as sustainability leaders. Regular review of Green HRM practices, ongoing faculty development, and iterative curriculum updates allow institutions to adapt to evolving sustainability science and shifting student expectations. Taken together, these findings support the paper's central argument: Green HRM and sustainability education are most effective not as parallel initiatives but as an integrated institutional strategy.

9. RECOMMENDATIONS

Develop a Comprehensive Green HRM Policy. HEIs should formalize Green HRM through an institution-wide policy that explicitly links recruitment, training, appraisal, and compensation to environmental objectives, rather than allowing green practices to remain informal or department-specific.

Strengthen Leadership Accountability. Senior administrators should be assigned measurable sustainability targets, with progress reported transparently, to ensure that leadership commitment translates into sustained institutional action.

Expand Green Training and Faculty Development. Regular, structured training should be offered not only to HR and facilities staff but also to teaching faculty, equipping them with both the operational and pedagogical competencies needed to model and teach sustainability

effectively.

Embed Sustainability Across the Curriculum. Rather than isolating sustainability within environmental science programs, HEIs should pursue interdisciplinary integration, using problem-based and experiential learning methods that connect classroom content to real campus sustainability challenges.

Institutionalize Green Employee and Student Involvement. Sustainability committees, green teams, and joint staff–student sustainability projects should be formally supported and resourced, creating structured opportunities for participation consistent with the AMO framework.

Align Campus Operations with Green HRM and Curriculum Goals. Facilities management, procurement, and HR functions should coordinate under a shared sustainability strategy so that campus operations reinforce, rather than contradict, what is taught in the classroom.

Monitor and Report Progress Against the SDGs. HEIs should adopt clear metrics for tracking their contribution to relevant SDGs, using regular reporting to sustain accountability and to identify areas requiring continuous improvement.

10. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

As a conceptual study based entirely on secondary data, this paper does not generate new primary evidence and is therefore limited by the scope, quality, and geographic distribution of the existing literature, much of which originates from a relatively small number of national contexts. Future research would benefit from comparative, cross-national empirical studies examining how Green HRM and sustainability education interact under different regulatory, cultural, and resource conditions. Longitudinal research tracking institutions over time would also help clarify whether the relationship between Green HRM, sustainability education, and SDG outcomes strengthens as practices mature, and whether the sequencing of interventions — for example, beginning with leadership commitment versus beginning with curriculum reform — affects the pace and durability of institutional change.

CONCLUSION

This paper has argued that Green HRM and sustainability education, though often studied separately, are most powerful when treated as complementary components of a single institutional strategy. Green HRM builds the internal capability, motivation, and opportunity for faculty and staff to practice sustainability, while sustainability education equips students with the knowledge and values to carry that practice forward into their professional lives. Where leadership commitment is strong, collaboration across HR, academic, and operational functions is deliberate, and improvement is pursued continuously, HEIs are well positioned to advance multiple Sustainable Development Goals while cultivating an institutional culture in which sustainability is not an add-on, but a defining characteristic of how the institution teaches, works, and operates. The recommendations offered in this study — spanning policy development, training, curriculum design, and cross-functional coordination — provide a practical starting point for HEI leaders seeking to translate this conceptual integration into institutional reality.

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