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Fostering Green Behaviour in Higher Education Institutions: An Empirical Prioritisation using the Analytic Hierarchy Process (AHP)

(The article has already been presented at the Kohinoor Business School Mumbai Conference, on November 15, 2025)

Priya Bennett[1] and Nutan Karnik[2]

Abstract

Purpose: While educational institutions strive to provide the best of curricula to aspiring students, it has also become equally important to inculcate and promote good value systems in them. Corporate social responsibility and Environmental awareness have always been an integral part of their syllabi; however, fostering green behaviour among the young generation is only possible when the institution as a whole, including their mentors, exemplifies such practices. As a first step towards this drive, this study aims to identify and prioritise the pertinent factors impacting green behaviour among faculty and students in higher educational institutions using the Analytic Hierarchy Process (AHP) framework. The research seeks to provide an evidence-based approach for promoting sustainability-oriented culture and practices in academia.

Design/methodology/approach: The researchers constructed an AHP framework using five main criteria—Leadership & Culture, Curriculum Integration, Individual Motivation, Institutional Policies, and Infrastructure & Resources. Expert judgments were collated to form a consistent pairwise comparison matrix. The AHP calculations included normalisation, derivation of priority weights, and consistency ratio (CR) validation.

Findings: Results indicate that leadership & Culture (0.28) and Curriculum Integration (0.24) are the most influential factors in fostering green behaviour, followed by Individual Motivation (0.20), Institutional Policies (0.17), and Infrastructure & resources (0.11). The aggregated matrix showed excellent consistency (CR = 0.0003), demonstrating the reliability of expert evaluations.

Practical implications: The findings highlight the importance of leadership commitment and curriculum design in embedding environmental sustainability across institutional operations and pedagogy. Educational leaders can use the derived priorities to allocate resources, design interventions, and measure progress in cultivating green culture and behaviour.

Originality/value: This study contributes a structured multi-criteria decision-making

[1] Dr. Priya Bennett, Assistant Professor, Department of HRM, [ITM Business School], bpriya@itm.edu

[2] Dr. Nutan Karnik, Associate Professor, Department of HRM, [ITM Business School], nutank@itm.edu

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model for sustainability management in education, integrating organisational, behavioural, and infrastructural dimensions through AHP. It offers a replicable methodological framework for assessing green initiatives across academic settings.

1. Introduction

Higher education institutions (HEIs) are uniquely positioned to shape society's sustainability orientation, not only through knowledge diffusion but also through the normalisation of environmentally responsible behaviours, institutional culture, and operational standards that align with sustainable development goals (SDGs). In emerging economies such as India—with its rapidly expanding education sector, NEP 2020 reforms, and intensifying sustainability and climate governance discourse—universities and business schools serve as critical social infrastructure, producing graduates who will influence future environmental, economic, and industrial decision frames.

Despite multiple institutional sustainability initiatives across Indian HEIs—renewable energy installation, green campus certification programs, waste segregation systems, green HRM practices, and sustainability curriculum infusion—empirical evidence assessing which drivers carry maximum influence on fostering green behaviour remains limited. The sustainability literature suggests that individuals rarely modify behaviour through knowledge-enrichment alone; behaviour shifts require integrated reinforcement across culture, leadership role modelling, institutional systems, motivational enablers and continuous exposure within formal curriculum and campus climate. Thus, this research attempts to identify and systematically prioritise the critical criteria influencing green behaviour within HEIs using the Analytic Hierarchy Process (AHP)—a robust multi-criteria decision-making method widely used in sustainability evaluation contexts.

This study makes three specific contributions:

(1) It synthesises recent Q2 journal evidence to conceptualise a five-factor sustainability influence framework within higher education.

(2) It applies AHP empirically to quantify priority weights across these criteria by using aggregated expert judgments.

(3) It contextualises findings for Indian HEIs, creating policy, pedagogical, and HRM decision value for sustainability implementation roadmaps.

The remainder of this paper is structured as follows. Section 2 provides a literature synthesis and positions research questions (RQs). Section 3 describes the AHP methodology. Section 4 presents the empirical prioritisation results. Section 5 discusses implications and contributions. Section 6 concludes with recommendations and future research scope.

2. Literature Review & Research Questions

Recent sustainability literature in higher education positions green behaviour as a multidimensional construct shaped by leadership philosophies, organisational culture,

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educational design, policy environments, motivational psychology, and environmental infrastructure conditions. The literature suggests that systemic alignment, rather than isolated interventions, primarily influences sustainability adoption and environmentally responsible behaviour. For HEIs—especially within developing regions—the transformation journey towards green campus behaviour requires integrated structural and behavioural catalysts rather than only technological or capital-based upgrades.

2.1 Leadership & Culture

Leadership plays a vital role in designing and developing new initiatives which can change the organisational culture. Sustainable leadership has appeared as a fundamental driver of sustainability initiatives across businesses and educational institutions. It is not behind in initiative, especially in the context of higher education transformation as mentioned in the work done by [1] Iqbal & Piwowar- Sulej, 2022). Sustainable leadership stresses assimilating sustainability vision into organisational development by blending organisational and individual perspectives, which can foster the organisational transformation toward sustainable business (Liao, 2022).

For achieving these sustainable goals, leadership plays a crucial role in building, maintaining, and determining an organisation's culture. One of the advantages that organisations have due to this strong leadership is a continuous competitive advantage and achieving long-term successes, which is done by concentrating on contemporary thinking and data sharing. It has been the outcome of the study done by Iqbal, Ahmad, & Li (2021) on how institutions can achieve sustainability goals through leadership.

A study led by Al-Zawahreh, Khasawneh, & Al-Jaradat (2019) on higher education institutions concluded by mentioning the unique positioning of higher education institutions while contributing to sustainable development through education, research, community engagement, and policy influence. The study also emphasised the critical role of leadership in bringing this transformation.

A remarkable observation was made by Gerard et al. (2017), one of the qualities of a sustainable leader is that they intelligently accelerate their workforce who can think in new and innovative ways. They can facilitate higher sustainable performance by developing long-term objectives from short-term goals, developing tangible and measurable parameters for success, and evolving people by sharing knowledge. The above were some of the traits mentioned by Gerard et al. (2017) in this study. In another study conducted by Hargreaves & Fink (2012), it was pointed out that the overall performance of an organisation depends on how effectively managers perform, along with the fact that their responsibility towards sustainability is the strongest forecaster of the corporate sustainability index, further by adopting a top-down style for implementing corporate sustainability goals. Thus, both studies highlight that the commitment of a leader can act as a figurative gesture along with the structural and methodological amalgamation of sustainability values.

The culture of the organisation acts as a catalyst between leadership practices and sustainability performance. The presence of a culture that is culture-adapted towards

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innovation, collaboration, and adaptability promotes an environment where sustainability initiatives can bloom, as mentioned by Avery & Bergsteiner (2011). It was seconded by Liao (2022), in his study, where he mentioned how the organisational culture also shapes the sustainable leadership style. Encouraging gesture of senior leaders towards green innovation and sustainable organisational culture encourages employees to have the same environmental and social goals, leading to an impactful sustainable development of the organisation, as sharply pointed out by McCann and Sweet (2014). True implementation of corporate sustainability largely depends on in-depth changes in organisational culture and not on hollow changes or just implementing sustainability measures and publishing sustainability reports, according to the findings of Hoover & Harder (2015). Nothing is possible without the employee's collaboration while implementing sustainability policies. These policies are highly effective when employees of all levels are working mindfully towards the same goal of sustainability, and a stronger commitment level is demonstrated, as thoughtfully mentioned by Bauer et al. (2020) in the study. For achieving sustainability goals, engagement of various stakeholders through numerous methods, unofficial and official, but clear communications comprising the importance of sustainability along with sustainability-focused value and vision statements is highly impactful. Also, by adopting initiatives like forming green teams of internal champions, educating shareholders, setting sustainability goals and preparing progress reports, accelerates the sustainability goals is the finding of Davis & Goedegebuure (2017).

2.1 Curriculum Integration

Higher Education Institutions (HEIs) are increasingly recognised as critical sites for cultivating sustainability competencies that translate into pro-environmental behaviour across society (Findler et al., 2018). Curriculum-based exposure to sustainability — when embedded in pedagogy, assessments, experiential projects and interdisciplinary modules — functions as a formal mechanism for institutionalising sustainability values, developing environmental literacy, and shaping long-term norms among student cohorts who later enter the workforce and policy roles (Fuertes-Camacho et al., 2019; Wang, 2022).

Curriculum integration accomplishes four linked educational functions relevant to behaviour change:

(1) **knowledge framing**, (2) **cognitive engagement**, (3) **norms development**, and (4) **actionable environmental literacy**. First, curriculum content frames how students cognitively organise

environmental problems and solutions. When sustainability is presented through systems thinking and problem-based modules, students form integrated mental models that link consumption, production and governance — enabling transfer from abstract understanding to concrete workplace decisions (Fuertes-Camacho et al., 2019). Empirical quasi-experimental work shows project-method curricula increase students' sustainability competencies (knowledge, attitudes, and skills) more than lecture- only formats, supporting the framing effect of curriculum design (Fuertes-Camacho et al.,

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2019).

Second, curriculum-driven **cognitive engagement** — active learning, interdisciplinary teamwork, and real-world projects — promotes deeper processing and higher retention. Wang (2022), using multi- method evidence across HEIs, finds that pedagogies that require students to analyse local sustainability problems and design interventions improve both cognitive competence and intentions to act. This aligns with learning-theory expectations: active, contextualised tasks foster deeper encoding and schema construction, which are prerequisites for behaviour change beyond graduation (Wang, 2022).

Third, curricular experiences shape **norms and social identity**. Sustained exposure to sustainability discourse in multiple modules and through campus-level initiatives creates a normative environment where pro-environmental behaviours become socially salient and sanctioned. Findler et al. (2018) argue that HEIs' institutional practices — including curriculum, research priorities and campus operations — jointly create an ecosystem that socialises students into sustainability norms. When curriculum is coupled with visible campus sustainability practices and peer group projects, students internalise environmental norms that persist into their professional identities (Findler et al., 2018).

Fourth, curricula must generate **actionable environmental literacy** — not merely knowledge but the skills to make context-sensitive decisions (e.g., life-cycle thinking, resource accounting, stakeholder analysis). Sustainability literacy is practice-oriented: modules that integrate measurement tools, policy appraisal and community engagement produce graduates who can operationalise sustainability in organisational settings. Studies indicate that competence-focused curricula that emphasise applied tools lead to greater self-efficacy and behavioural intentions than knowledge-only courses (Fuertes-Camacho et al., 2019; Personnel Review studies on green behaviour linkage).

Beyond pedagogical format, several moderating and mediating conditions determine curriculum effectiveness. **Interdisciplinarity** is critical: sustainability challenges are cross-cutting, and curricula that remain siloed within single disciplines fail to produce systemic understanding (Wang, 2022).

Faculty capacity and incentives matter: teacher competence in ESD (education for sustainable development) and institutional incentives for curricular innovation increase integration depth (Findler et al., 2018). **Experiential components** — fieldwork, internships, community projects — are strong

mediators linking curriculum exposure to real-world skill development and subsequent behaviour (Fuertes-Camacho et al., 2019).

The **temporal horizon** of curricular exposure also shapes outcomes. Short, isolated modules have limited impact on long-term behavioural persistence; sustained curricular streams across the degree (multiple touchpoints across years) better scaffold habit formation and identity change (Wang, 2022). This cumulative exposure effect is important for converting students into early-career professionals who apply

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sustainability principles in organisations.

Digital learning platforms and assessments are emerging as amplifiers but require design attention. Evidence suggests that blended and digital pedagogies increase reach and allow scalable experiential learning (micro-projects, e-portfolios), but they must preserve active, reflective components to maintain impact (Frontiers in Education, 2025). Moreover, assessment design that values problem- solving and real-world implementation — not rote recall — is associated with higher levels of transferable environmental literacy (Fuertes-Camacho et al., 2019).

On outcomes, longitudinal and multi-method studies indicate that graduates exposed to integrated sustainability curricula report higher pro-environmental workplace intentions and are more likely to pursue sustainability roles or embed green practices within mainstream jobs (Findler et al., 2018; Wang, 2022). However, measurement challenges persist: many studies rely on self-reported intentions rather than behavioural indicators, underscoring a need for research that follows cohorts into employment to track objective behavioural adoption and policy influence (Findler et al., 2018).

In sum, the literature converges on a clear thesis: curriculum-based sustainability exposure — when designed as integrated, competency-oriented, experiential and longitudinal — is a powerful lever for building actionable environmental literacy, shaping norms, and producing long-term behavioural change among future professionals. For HEIs, this implies re-orienting curricula, faculty development, assessment frameworks and institutional incentives toward sustained ESD implementation if societal behavioural impact is the goal (Fuertes-Camacho et al., 2019; Wang, 2022; Findler et al., 2018; Frontiers in Education, 2025).

2.2 Individual Motivation

A persistent challenge in sustainability research is the "intention-behaviour gap": people often express environmental awareness or intentions but fail to translate them into consistent, habitual green actions (de Matos et al., 2025). Contemporary behavioural research identifies **motivation**—both intrinsic and extrinsic—as the central bridging mechanism that converts awareness into repeated practice (Ryan & Deci, 2020). Self-Determination Theory (SDT) distinguishes autonomous (intrinsic and well- internalised extrinsic) motivation from controlled (externally pressured) motivation; autonomous

forms are consistently linked to more durable, self-regulated behaviour because they satisfy basic psychological needs for autonomy, competence and relatedness (Ryan & Deci, 2020). In sustainability contexts, autonomous motivation predicts deeper engagement with pro-environmental tasks and greater persistence over time. In contrast, externally controlled motivation produces weaker, compliance- bound behaviour that is less likely to become habitual.

Intrinsic motivation operates through inherent enjoyment and value congruence: individuals who find environmental tasks meaningful are more likely to repeat them without external incentives (Tabernero & Hernández, 2011). Empirical studies in recycling and energy conservation consistently demonstrate that intrinsic motives

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mediate the effect of self-efficacy on actual behaviour — that is, competent actors who also feel intrinsically motivated are the most likely to convert awareness into action (Tabernero & Hernández, 2011; Mughal et al., 2022). Conversely, extrinsic incentives (e.g., fines, rewards) can change behaviour short-term but may undermine intrinsic interest if perceived as controlling, reducing long-term habit formation (Ryan & Deci, 2020).

Self-efficacy is a critical psychological resource that strengthens the translation of motivation into behaviour. Bandura's social-cognitive perspective positions self-efficacy—belief in one's ability to perform specific tasks—as a proximal determinant of action initiation and persistence (Bandura, classic foundational works). In environmental domains, green self-efficacy (confidence in performing ecologically relevant tasks) increases the probability that motivated individuals will attempt, sustain and generalise pro-environmental acts (Yusliza et al., 2020; Mughal et al., 2022). Mughal et al. (2022) found that green self-efficacy mediated the relationship between environmentally-oriented leadership and employees' pro-environmental behaviours — indicating that organisational interventions that build employees' competence perceptions (training, modelling, feedback) amplify the motivational bridge.

Moral responsibility (or personal moral norms) enhances behaviour execution strength by converting abstract values into felt obligations. The Value–Belief–Norm (VBN) tradition and related empirical work show that when environmental values are internalised as moral duties, individuals experience stronger affective drives (guilt, pride) that support behavioural persistence (de Matos et al., 2025; Yusliza et al., 2020). Moral responsibility often interacts with motivation: intrinsic motivation rooted in moral concern produces action that is less susceptible to situational barriers than motivation grounded purely in self-interest.

Environmental values (biospheric, altruistic, egoistic orientations) shape both the direction and strength of motivation. Biospheric values (concern for nature) are particularly predictive of long-term, principled pro-environmental behaviour because they align personal identity with environmental goals (Cuadrado et al., 2022; Yusliza et al., 2020). Studies comparing value profiles report that individuals with stronger biospheric values display higher green behavioural intentions and are more likely to sustain behaviour when confronted with inconvenience or cost.

Social identity and collective efficacy further potentiate the motivation→behaviour link by embedding individual motives within group-level norms and perceived collective capability. Social identity approaches show that when pro-environmental behaviour is congruent with salient group identities (e.g., "we are an eco-friendly team" or civic identity), individuals are more likely to adopt and repeat green practices because doing so affirms group belonging and earns social approval (Shen et al., 2024; Wild et al., 2024). Empirical work also highlights **collective efficacy** (belief that the group can achieve environmental goals) as a moderator: when collective efficacy is high, individual self-efficacy and motivation translate more readily into sustained collective action (Cuadrado et al., 2022).

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The interaction among these psychological resources is important. For example, intrinsic motivation without perceived competence is less likely to yield action; likewise, high self-efficacy without value congruence may promote opportunistic rather than principled green behaviour. Longitudinal and multi-method studies suggest an additive and multiplicative relationship: the strongest predictors of habitual green practice are (a) autonomous motivation, (b) robust green self-efficacy, (c) internalised moral norms, and (d) social identity cues that make the behaviour visible and socially rewarded (Tabernero & Hernández, 2011; Mughal et al., 2022; Shen et al., 2024).

From an intervention perspective, the literature points to several design principles for converting awareness into durable habits: (1) support autonomy and internalisation (design choices that foster meaningful engagement rather than control); (2) build competence through training, micro-tasks and feedback (raising green self-efficacy); (3) activate moral norms via narrative framing and reflective exercises; and (4) leverage social identity and collective efficacy through group commitments, public pledges and visible norms. Digital nudges, gamification and social feedback loops can be effective, but their long-term success depends on alignment with intrinsic motives and competence building rather than temporary extrinsic rewards (Ryan & Deci, 2020; de Wildt et al., 2023).

Finally, measurement issues remain: many studies still rely on self-reported intentions rather than observed habitual behaviour. Future research should prioritise longitudinal designs, field interventions with behavioural metrics, and cross-level analyses that link individual psychological resources to team and organisational habit formation.

2.3 Institutional Policies

Policies and governance frameworks act as the formal institutional architecture that translates high- level sustainability goals into operational rules, measurement systems, resource allocations,

compliance mechanisms and accountability chains (Niedlich et al., 2020). A robust governance system aligns strategic intent with administrative processes, creating the structural preconditions for behavioural change across staff, students and administrative units (Niedlich et al., 2020). In higher education, where autonomy and disciplinary silos can fragment action, governance frameworks perform a coordination function: they integrate curricula, campus operations, research priorities and external engagement under a common sustainability mandate, enabling consistent messaging and joint accountability (Renwick-style syntheses; Price et al., 2021.

Several strands of literature converge on why governance matters for behavioural cascading. First, **policy clarity and measurement logic** provide actionable targets and feedback loops: when universities translate lofty sustainability aims into measurable KPIs (energy intensity, waste diversion rates, curriculum coverage), stakeholders can monitor progress and organisational actors gain clear signals about expected behaviours (Niedlich et al., 2020; Oliveira et al., 2025). Measurement systems convert values into verifiable performance, which supports managerial accountability and incentivises

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operational changes (e.g., procurement rules, green building standards) that employees and students experience daily.

Second, **resource allocation and administrative embedding** ensure that sustainability is not merely rhetorical. Governance that embeds sustainability teams within institutional budgets, creates dedicated staff positions (sustainability officers), and funds faculty development links incentives to action and reduces the "implementation gap" (Abo-Khalil et al., 2024; Price et al., 2021). Empirical studies show that institutions with resourced sustainability offices and cross-functional committees are more successful at embedding sustainability into teaching, operations and community engagement—outcomes that produce visible behavioural norms for campus populations.

Third, **compliance and accountability architectures**—formal reporting, certification, and audit processes—generate cascading effects by holding organisational units to standards that require behavioural change. For example, sustainability reporting and third-party certifications (LEED, ISO 14001, STARS) create external and internal pressure to comply, prompting faculties, facilities managers, and student services to alter routines (from procurement to laboratory practices) in ways that become habitual over time (Puertas et al., 2023; Niedlich et al., 2020). When compliance is visible—through dashboards, annual reports, and departmental scorecards—it signals normative expectations and makes pro-environmental behaviours socially salient.

Fourth, governance shapes **institutional culture**. Studies show that governance is not only procedural but also cultural: the "cultures of sustainability governance" influence how actors interpret policies and whether they internalise sustainability norms (Niedlich, 2020). Governance that couples top-level mandate with distributed leadership and faculty participation tends to produce deeper

institutionalisation because it balances direction with ownership. In contrast, governance that remains top-down without participatory mechanisms risks superficial compliance and resistance among academic staff, limiting behavioural diffusion. The literature also documents important mechanisms through which governance cascades behaviour across levels:

- **Policy-to-practice translation:** Clear policy instruments (curriculum requirements, green procurement rules, mandatory sustainability modules) compel units to redesign activities; the redesigned activities expose students and staff to new routines that become normalised. Studies of "whole-institution" approaches illustrate that multiple coordinated policy levers produce stronger behavioural outcomes than isolated initiatives.

- **Visibility and signalling:** Governance that makes sustainability outcomes visible (dashboards, public commitments, awards) leverages social norms and reputational concerns to accelerate behaviour adoption. Visibility also supports social learning—observing peer units' successes encourages imitation.

- **Capacity building and proceduralization:** Embedding sustainability within governance typically includes capacity measures—staff training, toolkits, curricular

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resources—which lower the cognitive and logistical costs of behaviour change. Proceduralization (standard operating procedures, checklists) transforms discretionary actions into routine practices.

Policy context matters. Comparative work shows variation by national regulation, funding environments and institutional type: public universities with explicit governmental sustainability mandates or funding tied to sustainability indicators show faster governance changes than purely private institutions, though organisational culture and leadership remain decisive (Price et al., 2021; Abo-Khalil et al., 2024). External drivers—SDG alignment, funder expectations and employer demands—also make governance changes strategic, particularly for research-intensive universities.

Finally, the literature highlights limits and caveats. Governance reforms that focus narrowly on reporting and compliance risk "decoupling" where policies exist on paper but do not alter everyday practice; likewise, uneven resourcing can create patchy implementation across departments (Leal Filho et al., 2017; Niedlich et al., 2020). Robust governance must therefore combine clarity, resourcing, participatory mechanisms, and measurement to produce cascading behavioural effects.

2.4 Infrastructure & Resources

Physical campus design and environmental infrastructure (green buildings, renewable energy installations, rainwater harvesting, waste management facilities, green transport options) provide visible, tangible evidence of an institution's sustainability commitment. These capital investments reduce the logistical friction of pro-environmental actions (e.g., providing segregated bins, accessible cycling lanes, and on-campus water refill stations) and create infrastructural affordances that make green behaviours possible and easier to perform (system 1 facilitation). Systematic reviews and recent empirical studies emphasise that well-designed infrastructure can improve operational sustainability outcomes and increase student and staff engagement with environmental initiatives—but it is usually a necessary, not sufficient, condition for big behavioural change.

However, multiple studies caution that infrastructure alone seldom functions as the primary trigger for sustained behavioural transition. Instead, infrastructure tends to facilitate behaviour when accompanied by supportive policies, leadership signalling, curricular integration, and social norm activation. For example, green infrastructure that is underused (e.g., bicycle parking without cycling culture) or poorly maintained (broken refill stations, overflowing bins) fails to alter habitual routines; users quickly relegate infrastructure to symbolic status unless accompanied by social and managerial reinforcements (visibility, maintenance, incentives and education). This "facilitation but not activation" finding recurs in campus sustainability research: infrastructure reduces the cost of acting. However, it does not automatically create the motivational or normative drivers needed for habit formation.

The interaction between the built environment and institutional culture is therefore decisive. A whole- institution approach—where infrastructure investments are

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integrated with pedagogy, governance, communications, and incentives—creates cascading effects that convert one-off actions into habitual practices. Studies that compare universities with similar physical assets but different governance and curricular integration show diverging behavioural outcomes: universities that pair infrastructure with education for sustainable development (ESD), visible leadership engagement, and student participation report higher and more persistent pro-environmental behaviours. In other words, infrastructure enables practice; culture and leadership—through narratives, curriculum, rules and role modelling—activate and sustain it.

The constraint perspective is particularly salient for resource-constrained HEIs in emerging economies (including many Indian institutions). Capital investments are often limited, and institutional priorities may favour visible, one-off projects (solar panels, flagship green buildings) for signalling rather than scaled operational changes. In these contexts, modest infrastructural measures combined with low-cost behavioural interventions (orientation modules, student green pledges, campus competitions) frequently outperform expensive but isolated capital projects in producing measurable behaviour change. Research from Southeast Asian and South Asian HEIs indicates that.

contextual factors—funding, maintenance capacity, decentralised governance, and competing academic priorities—moderate the effectiveness of infrastructure as a behaviour lever. Thus, infrastructure must be designed with local maintenance plans, participatory governance, and cost- effective user engagement strategies to produce lasting impact in emerging economies.

Mechanisms by which infrastructure influences behaviour operate through at least three pathways. First, **affordance pathway**: infrastructure makes the green choice easier (proximity, convenience), increasing the frequency of desired actions. Second, **signal pathway**: well-publicised infrastructure signals institutional priorities and legitimises green practices. Third, **learning pathway**: infrastructure integrated into curriculum and hands-on projects provides experiential learning opportunities that increase competence and self-efficacy, promoting internalisation of green habits. Empirical work shows that the learning pathway is especially important: when students engage with campus infrastructure as part of coursework or research (e.g., measuring building energy use, designing waste- reduction campaigns), they are more likely to sustain behaviours after graduation.

Finally, the literature identifies several practical design and policy implications. Investments in infrastructure should be accompanied by maintenance funding and visible governance structures (sustainability offices, cross-functional committees). Infrastructure projects must be paired with curricular hooks and participatory student/staff engagement to convert facility affordances into habits. Low-cost behavioural interventions (nudges, prompts, social norms messaging) can amplify infrastructure effects, particularly where capital budgets are constrained. Importantly, monitoring and feedback systems (dashboards, public metrics) help sustain motivation by showing progress and making outcomes salient. In summary, campus infrastructure

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is a powerful enabler but not the primary behaviour trigger—activation requires integrated governance, pedagogy and leadership- driven cultural work.

Based on these conceptual foundations, this study formulates the following Research Questions:

RQ1: Which factor contributes the most towards fostering green behaviour within Indian HEIs?

RQ2: How do the relative priority weights differ across criteria influencing green behaviour?

RQ3: Does the empirical prioritisation confirm literature-based theoretical expectations?

3. Methodology

Research Design

This research adopts a quantitative multi-criteria decision modelling framework using AHP to evaluate and prioritise sustainability criteria influencing green behavior in Indian higher education institutions. AHP enables systematic decomposition, pairwise comparison, normalisation, and prioritisation of decision criteria based on expert judgment.

Criteria Selection

Five main criteria were identified through literature synthesis across journal articles:

(1) Leadership & Culture

(2) Curriculum Integration

(3) Individual Motivation

(4) Institutional Policies

(5) Infrastructure & Resources

Expert Dataset & Aggregation

20 Subject matter experts (academicians + sustainability administrators) evaluated the pairwise relative importance of the five criteria. Judgments were aggregated to generate a consolidated pairwise comparison matrix.

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AHP Computation:

This empirical paper demonstrates step-by-step AHP calculations using aggregated expert judgments. It includes the aggregated pairwise comparison matrix, normalisation, priority derivation, and consistency check.

Table 1.1: Aggregated Pairwise Comparison Matrix

	Leadership & Culture	Curriculum Integration	Individual Motivation	Institutional Policies	Infrastructure & Resource
Leadership & Culture	1.0000	1.1885	1.3896	1.6620	2.4217
Curriculum Integration	0.8414	1.0000	1.2109	1.4501	2.2097
Individual Motivation	0.7196	0.8258	1.0000	1.1301	1.8815
Institutional Policies	0.6017	0.6896	0.8849	1.0000	1.5645
Infrastructure & Resource	0.4129	0.4526	0.5315	0.6392	1.0000

Table 1.2: Column sums

Measure	Leadership & Culture	Curriculum Integration	Individual Motivation	Institutional Policies	Infrastructure & Resource
Colum Sums	3.575610	4.156532	5.016860	5.881417	9.077381

Table 1.3: Normalised Pairwise Matrix (divide each element by its column sum)

	Leadership & Culture	Curriculum Integration	Individual Motivation	Institutional Policies	Infrastructure & Resource
Leadership & Culture	0.279673	0.285947	0.276984	0.282589	0.266783
Curriculum Integration	0.235306	0.240585	0.241368	0.246558	0.243425
Individual Motivation	0.201262	0.198681	0.199328	0.192150	0.207272

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Institutional Policies	0.168273	0.165908	0.176378	0.170027	0.172356
Infrastructure & Resource	s 0.115486	0.108879	0.105942	0.108676	0.110164

Figure 1.1: Pie Chart showing priority distribution

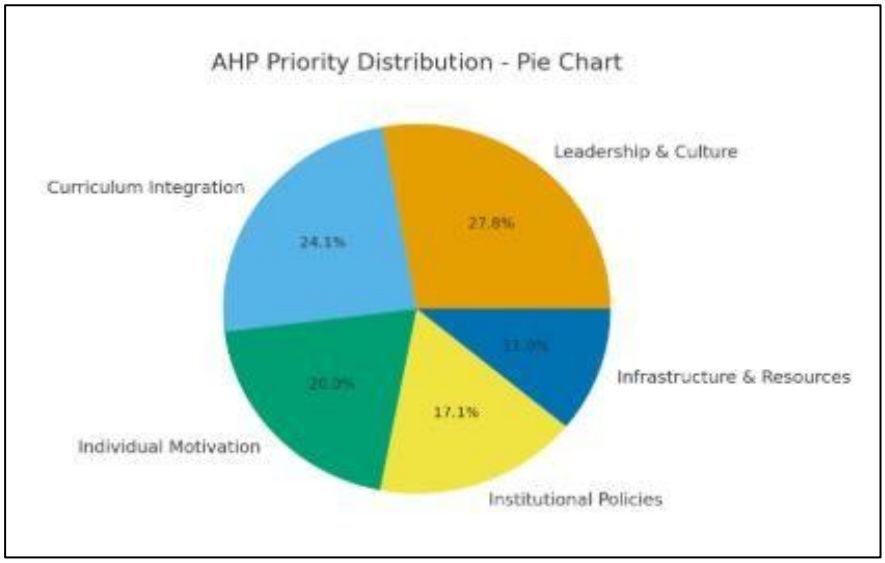

Figure 1.1: Radar Chart for multi-criteria visual signalling

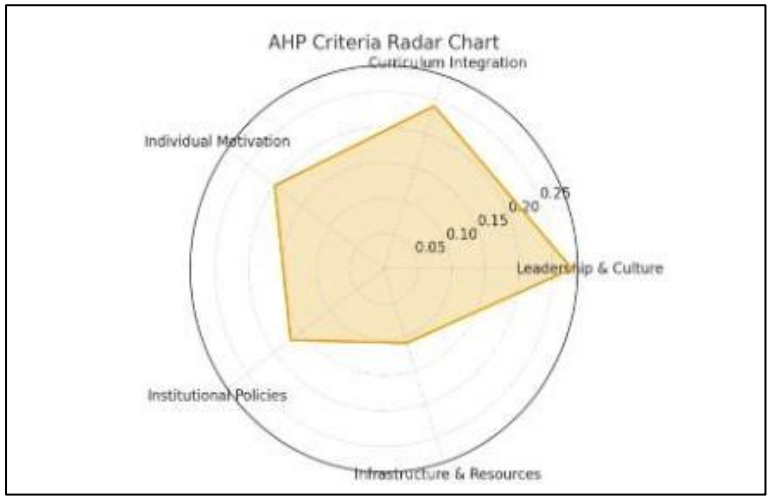

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Table 1.4: Consistency Check

Measure	Value
n (matrix size)	5
Lambda_max (principal eigenvalue)	5.001285
Consistency Index (CI)	0.000321
Random Index (RI)	1.120000
Consistency Ratio (CR = CI / RI)	0.000287

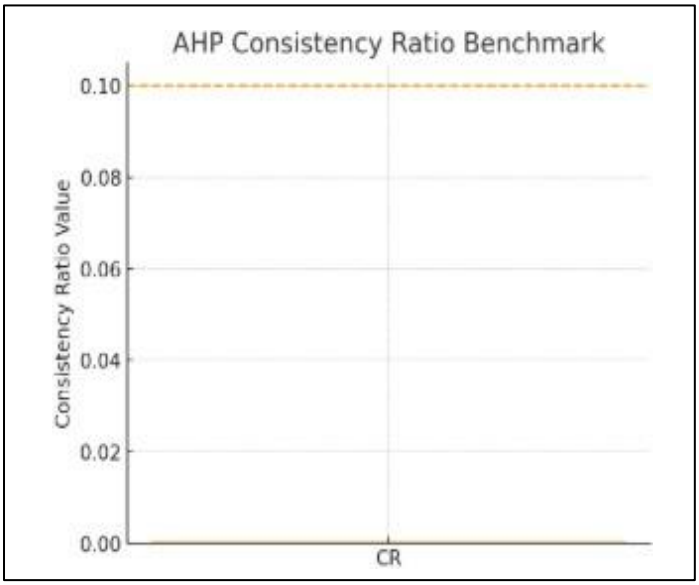

Figure 1.3: Radar Chart for multi-criteria visual signalling

Consistency Ratio (CR) = **0.000287** — which is significantly below the 0.10 threshold — indicating highly consistent expert judgments.

Interpretation

- Leadership & culture emerged as the strongest factor (0.2784).

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- Curriculum Integration ranked second (0.2414), confirming pedagogy's enabling power.
- Individual motivation ranked third (0.1997), reflecting its bridging function.
- Institutional Policies (0.1705) and Infrastructure (0.1098) ranked lowest, indicating HEIs in India require behavioral/cultural anchoring before physical investment-based sustainability outcomes materialise.

Discussion

The findings reveal that the most dominant driver of green behaviour in Indian HEIs is leadership & culture. It aligns with prior evidence that without leadership commitment and value-based cultural centrality, sustainability efforts become fragmented, symbolic, or short-lived. A culture anchored in sustainable leadership creates shared meaning systems that normalise environmental responsibility as part of "how things are done" within the institution — not as a compliance requirement.

Curriculum Integration ranking second reinforces the criticality of formal educational mechanisms for shaping consciousness, cognitive framing, and knowledge activation. In the Indian HEI context, the NEP 2020 reform agenda advances multidisciplinary sustainability infusion — indicating an alignment between national policy direction and empirical priority weight derived.

Individual motivation being third signals that behavioural sustainability change is not just top-down — it is relational, personal, and identity-connected. When students and staff internalise meaning through motivation and environmental identity, they enact more voluntary sustainable behaviours regardless of surveillance or enforcement.

Institutional Policies ranking fourth implies that although policy is important, its effect is secondary and derivative relative to culture and curriculum. Policy without cultural energy becomes inert paper compliance.

Infrastructure ranking last reflects a systemic reality in developing country HEIs — physical infrastructure alone cannot produce behavioural sustainability — it only supports it.

Taken together, the results shift sustainability transformation emphasis away from capital expenditure orientation (hardware of sustainability) toward culture, leadership, meaning-making, pedagogy, and psychological activation (software of sustainability).

It is consistent with behaviour change literature, which shows that sustainable behavioural adoption emerges when structural and symbolic contexts converge with personal cognitive belief systems.

6. Conclusion

The comprehensive analysis findings reveal that the ultimate fact about sustainability in higher education can be achieved by developing a sustainable culture more than infrastructure provides. It can be said confidently that the study conducted exhibits that

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leadership and organisational culture are 2.5 times more important for fostering green behaviour than investment towards infrastructure development. From the five-priority hierarchy factor, where leadership and culture have been given the highest priority, one can conclude that, for bringing the paradigm shift, institutions must develop more environmental values, regularise sustainable practices, and make visible administrative modelling before installing green infrastructure. Institutions with a strong sustainability culture demonstrate more adoption of green behaviours. Also, while designing the curriculum, it's not just about introducing the topic of sustainability, but how environmental consciousness can enhance learning across should be the motto of institutions. And the blend of this consciousness should be such that it becomes an invisible seamless campus philosophy rather than an independent environmental studies.

For finding the next important factor, which is about motivation, institutions need to understand that, by providing sustainable infrastructure, green behaviour adoption amongst faculty and students will not exist unless there is an attempt to understand the adoption curve and different strategies are designed by the higher education institutions. A simple practice of reducing friction can often lead to improved results rather than adding incentives. A small change in the policy from penalty to reward can make an overly complex sustainability practice the most adopted practice. These complex policies act as a barrier in behavioural practice towards sustainability amongst members of higher educational institutions. Infrastructure and allocation of resources are the most visible and expensive component that any institution invest in while taking green initiatives. The beautiful finding of the study is that institutions that overinvest in such green infrastructure will have very little investment done on human and cultural factors, which can actually lead to behavioural changes.

For bringing the paradigm shift, higher educational institutions must give little or no attention to the traditional approach of GREEN but must first build a sustainable culture, identify opportunities for the curriculum transformations, motivate members through relevance and ease, empower through policies, and then offer associated infrastructure.

This study empirically prioritises drivers of green behaviour within HEIs using the Analytic Hierarchy Process. Leadership & culture emerged as the most influential factor, followed by Curriculum Integration, Individual Motivation, Institutional Policies, and Infrastructure & Resources.

Contributions

- introduces a prioritisation model custom-tailored to Indian HEIs
- provides empirical evidence validating the leadership-driven sustainability transformation lens
- expands sustainability decision modelling literature in the educational sector
- offers a transferable prioritisation logic for global emerging markets with resource constraints

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Future research

- expansion into sub-criteria structural mapping
- longitudinal behaviour tracking models
- linking AHP to SEM or fuzzy inference logic
- Benchmarking India with other ASEAN regional HEIs
- Integration of AI-enabled behavioural analytics in HEI sustainability monitoring

Practical Implications

For Indian HEI Administrators

- Sustainability transformation should begin with leadership development
- The green culture building should precede capital-based upgrades
- Allocate resource budgets to sustainability pedagogy reform before facilities modernisation

For Policy Makers

- incorporate leadership development programs as mandatory under national HEI sustainability standards
- design incentive funding mechanisms that reward curriculum-led sustainability pathways

For Faculty & Teaching System Designers

- embed reflective projects, experiential eco labs, and SDG-linked assignments
- Develop sustainability competence frameworks aligned to NEP 2020

For HRM Units inside Universities

- Align green HRM systems with behavioural reinforcement logic
- hire for sustainability values → not just technical skill → for all academic & non-academic roles

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