

Willing But Constrained: A Barrier–Solution Framework for Addressing the Sustainability Intention–Action Gap in Indian Higher Education Institutions

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Abstract

Despite broadly positive environmental attitudes, university students consistently fail to translate intentions into sustainable behavior — a persistent challenge known as intention-action gap. In India, this gap is highlighted by structural conditions largely absent from Western research: inadequate infrastructure, unaffordable sustainable products, weak institutional regulation, and culturally specific social norms. Drawing on 16 structured interviews across Indian higher education institutions (HEIs), analysed through cross-case thematic analysis in NVivo and theorised using the Theory of Planned Behavior and behavioral economics, this study examines why students fail to act sustainably and what interventions consistently resolve those failures. Four barrier types are identified — infrastructure, economic, cultural resistance, and institutional policy contradictions — and paired with evidence-based institutional and governmental responses. The mandate-to-habit pathway, confirmed across four independent cases, emerges as the strongest policy mechanism. The study proposes a barrier-solution framework as a practical diagnostic tool for HEI sustainability practitioners and policymakers in emerging economy contexts.

Keywords: sustainable behavior; intention-action gap; barriers; higher education; behavioral economics; Theory of Planned Behavior

1. Introduction

Sustainability has moved from a theoretical concept to global imperative. Accelerating climate change, depleting natural resources, and deepening social inequality demand development that, as the Brundtland Commission first articulated, "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). Within this context, higher education institutions (HEIs) occupy an important position — recognised as hubs of knowledge, innovation, and value formation tasked with shaping the sustainability competencies of future professionals and citizens (Leal Filho et al., 2023; Menon & Suresh, 2020). Globally, HEIs have responded with a range of initiatives: integrating sustainability into curricula, adopting green campus programmes, and committing to net-zero targets — over 1,200 universities across 85 countries have joined the UN's Race to Zero campaign alone (United Nations Climate Change, 2020; Abo-Khalil et al., 2024). Yet despite these investments, a persistent paradox remains: why do university students who know about sustainability, express concern for the environment, and state intentions to act sustainably so often fail to follow through in their daily lives (Kollmuss & Agyeman, 2002; Dixon & Parker, 2021; Stankevičiūtė & Jarmalavičiūtė, 2025)?

This question — the intention-action gap — is one of the most consistently documented puzzles in sustainability research (Sheeran & Webb, 2016). This gap also has real consequences: university students are future professionals and policymakers whose habits and norms are still forming, and the sustainable or unsustainable habits they form now will ripple through decades of personal and institutional decision-making (Robertson & Walkington, 2009).

India presents a compelling yet underexplored context for this inquiry. With 4.33 crore students enrolled across 1,168 universities and 45,473 colleges (Ministry of Education, 2022), India's higher education system is among the world's largest. Yet the overwhelming majority of research on student sustainability behavior originates from Europe and North America (Leal Filho et al., 2022; Cornet et al., 2024), where structural conditions differ fundamentally from the Indian context. Studies specifically examining the intention-action gap in Indian HEIs remain scarce (Rana et al., 2023; Goyal et al., 2023). This gap carries global significance: as the world's most populous nation, India's sustainable behavior choices directly shape global SDG outcomes — the United Nations explicitly acknowledges that India "will play a leading role in determining the achievement of the SDGs" (UNDP, 2024). India's composite SDG score has improved to 71 in 2023–24 from a baseline of 57 in 2018, yet responsible consumption and climate action targets remain off-track (NITI Aayog, 2024). Closing the intention-action gap among India's 43 million university students is therefore not merely an academic concern but a strategic national and global sustainability imperative.

Against this background, this paper is guided by the following research questions:

- **RQ1:** What barriers prevent university students in Indian HEIs from translating sustainability intentions into everyday behavior?
- **RQ2:** What institutional and governmental interventions are most likely to resolve each identified barrier type?

To address these questions, the paper draws on 16 structured interviews across Indian HEIs, analysed through the Theory of Planned Behavior (Ajzen, 1991) and behavioral economics (Thaler & Sunstein, 2008). The paper makes four important contributions to the literature. First, it extends the intention-action gap literature — predominantly grounded in Western contexts (Leal Filho et al., 2022; Cornet et al., 2024) — to the underexplored Indian higher education setting. Second, it advances existing barrier typologies (Connell, 2010; Harris et al., 2015) by moving beyond diagnosis to specify the institutional responses most likely to resolve each barrier type. Third, it offers an empirically grounded barrier-solution framework that integrates TPB and behavioral economics into a single analytical structure. Fourth, it generates actionable evidence for HEI policymakers and government bodies seeking to close the sustainability intention-action gap at scale in Indian/emerging economy contexts.

2. Literature Review and Theoretical Background

2.1 The Intention-Action Gap and Its Explanations

A consistent finding across sustainability research is that people who care about the environment often fail to act on that concern in daily life. Early work by Kollmuss and Agyeman (2002) demonstrated that knowledge and positive attitudes are surprisingly weak predictors of actual behavior. Subsequent decades of research have confirmed and deepened this finding. Sheeran and Webb (2016), in a comprehensive meta-analysis of 422 studies, found that intentions translate into action far less reliably than assumed, particularly when behavior demands sustained effort or depends on external conditions. For sustainability behaviors — which typically involve upfront costs, deferred benefits, and social norm uncertainty — this gap is particularly pronounced.

In higher education settings specifically, this pattern is visible: students report high sustainability concern (Benzehaf et al., 2025), yet sustainable behaviors — from recycling and energy conservation to sustainable consumption — remain inconsistent and context-dependent (Dixon and Parker, 2021; Stankevičiūtė and Jarmalavičiūtė, 2025).

Importantly, the gap is not primarily attributable to lack of knowledge. Perrault and Clark (2017) found that completing sustainability coursework improved student attitudes but changed behaviors far less. This points attention toward structural and contextual barriers — a shift reinforced by behavioral economics: even strongly motivated individuals default to habit and convenience when sustainable choices are made difficult (Sunstein, 2014).

2.2 Barrier Typologies: Prior Frameworks and Their Limitations

The most widely used barrier framework distinguishes internal barriers (values, motivation, knowledge, perceived ability) from external barriers (cost, availability, social norms, infrastructure) (Connell, 2010; Harris et al., 2015). Studies in European university contexts identify high prices, inadequate facilities, poor information, and weak peer pressure as the most common obstacles (Stankevičiūtė & Jarmalavičiūtė, 2025; Dixon & Parker, 2021).

These frameworks offer a useful starting point but carry two limitations. First, they are built on high-income country data, where basic sustainability infrastructure exists and barriers operate at the margins — in India, the challenge is more foundational: infrastructure is often absent altogether. Second, they are diagnostic rather than prescriptive, mapping barriers without specifying solutions. Behavioral economics offers both an explanation for why these barriers persist and a logic for how institutions can counter them.

2.3 Behavioral Economics and Institutional Design as Solution Architectures

Behavioral economics studies how people actually make decisions — drawing attention to cognitive biases (systematic errors in judgment), heuristics (mental shortcuts used when choices feel complex), and social influences (the tendency to follow what others appear to do). Together, these explain why even well-intentioned individuals repeatedly fail to act on their values (Korteling et al., 2023).

Three biases are particularly relevant here. Present bias leads students to overweight immediate inconvenience relative to future environmental benefit, making sustainable choices feel not worth it at the moment (Frederick et al., 2002). Status quo bias keeps unsustainable habits intact even when better alternatives exist (Kahneman et al., 1991). And when peers appear indifferent, individual action feels futile — unsustainable behavior becomes self-reinforcing (Cialdini et al., 1990). Running through all of these is friction — the accumulated effort of making the sustainable choice — which acts as the common pathway through which all barriers take effect (Sunstein, 2014).

The practical response is choice architecture: redesigning environments so that sustainable options become the path of least resistance rather than the effortful exception (Thaler & Sunstein, 2008). Each barrier has a corresponding counter-mechanism — friction is reduced through default design, norm contagion through social proof, present bias through immediate rewards and habit formation. Universities are well-placed to apply this logic, controlling infrastructure, dining, transport, and social norms at scale. Evidence on such interventions in HEIs is growing (Lozano et al., 2015; Leal Filho et al., 2019) but remains sparse for Indian institutions — the gap this study addresses.

2.3. Theoretical Framework

This study is anchored in the Theory of Planned Behavior (TPB), which holds that behavior is determined by intention, shaped in turn by three factors: attitude toward the behavior, subjective norms (what peers and society appear to expect), and perceived behavioral control or PBC (the individual's perception of their capacity to act) (Ajzen, 1991). Barriers operate primarily by reducing PBC— through external constraints (infrastructure absence, cost) and social pressures (normative barriers). Even when the attitude is strongly pro-sustainability, low PBC prevents behavior: the gap between wanting to act and being able to act is the operationalisation of the intention-action gap in TPB terms.

TPB identifies where the gap occurs; behavioral economics explains why it persists. As established in Section 2.3, present bias, status quo bias, and social norm contagion each reduce PBC through distinct mechanisms — making sustainable action feel costly, unfamiliar, or socially risky. Friction is the common pathway through which these mechanisms operate.

The solution architecture follows directly from this pairing. Friction is countered by choice architecture and default design. Norm contagion is countered by social proof and visible peer participation. Present bias is countered by immediate rewards and habit-forming structures. Institutional contradiction — when universities formally promote sustainability while operationally undermining it — is countered by whole-institution integration. This bidirectional framework, mapping each barrier to its institutional counter-mechanism, is the

theoretical contribution of the present study and the lens through which the findings in Sections 5 and 6 are interpreted.

3. Methodology

3.1 Design and Sampling

An exploratory qualitative design was adopted using structured interviews — appropriate for understanding barrier mechanisms that require contextually rich, respondent-led explanation rather than measurement (Creswell, 2013; Bryman, 2016). Sixteen respondents were selected through purposive sampling across eight institutions. In research that employs structured interviews, the sample size is often determined by the number of participants until “data saturation”, the point at which the data collection process no longer yields new or relevant data (Guest et al., 2020). Disciplinary diversity was deliberate, as barrier profiles are expected to vary by context (Chen et al., 2025). According to Hennink and Kaiser (2022), data saturation can be achieved even with 9–17 interviews. In this research, data saturation was confirmed after 14 interviews, with no new barrier codes emerging in the final two transcripts. Table 1 presents respondent profiles. For each transcript/interviewee a code was given: the student transcripts were marked with codes Participant 1, Participant 2, etc.

Table 1. Respondent profiles

Respondent Code	Age	Discipline/Course	UG/PG	Gender (M/F)
Participant 1	19	Bachelors of Business Administration	UG	F
Participant 2	22	Masters of Business Administration (Finance & Marketing)	PG	F
Participant 3	21	Biotechnology	UG	M
Participant 4	21	Biotechnology	UG	M
Participant 5	20	Bachelor of Commerce (Honours)	UG	M
Participant 6	21	Masters of Business Administration	PG	F
Participant 7	18	BALLB	UG	F
Participant 8	18	Bachelor of Arts in Economics and Advertising	UG	F
Participant 9	20	Bachelor of Commerce (Honours)	UG	F
Participant 10	22	Masters of Business Administration	PG	F

Participant 11	20	B.A.(H) Economics	UG	F
Participant 12	20	B.A.(H) Economics	UG	M
Participant 13	22	Masters of Business Administration (Digital Marketing)	PG	M
Participant 14	19	B.A. (Hons.) Political Science	UG	F
Participant 15	21	B.A.(H) Clinical psychology	UG	M
Participant 16	18	B.A.(H) Clinical Psychology	UG	M

UG = Undergraduate; PG = Postgraduate, M= Male, F=Female

(Source: By Author)

3.2 Data Collection

A structured interview guide covered five areas: sustainability awareness and knowledge; institutional initiatives and their effectiveness; personal sustainable behavior practices; motivations and barriers; and proposed solutions/recommendations. All interviews were conducted by the lead researcher, lasted 30–45 minutes, were recorded with informed consent, and transcribed verbatim. Participants were informed of their right to withdraw at any point; confidentiality was protected through pseudonymisation.

3.3 Data Analysis

Analysis of the interview data was carried out in line with the six phases of qualitative thematic analysis proposed by Braun and Clarke (2006). The first phase involved the researchers familiarising themselves with the data while reading and re-reading the data several times. All 16 interview transcripts were read and re-read by both researchers separately. During the second phase, initial codes were generated. Each researcher generated the codes independently. The third phase involved collating the codes into potential themes. The researchers tried to find the most appropriate theme based on codes. The next phase allowed us to review the themes. At the fifth phase, the themes were defined and named.

Finally, the research report was produced, quotations support all findings. Both co-authors of this paper, after working separately, met to discuss their independent findings and agreed 100% on the final themes. Additionally, a record was maintained of new themes emerging across interviews; no new barrier-related themes appeared after interview 14, confirming thematic saturation and the sufficiency of the sample size.

4. Findings and Analysis

This section presents findings from 16 structured interviews across different Indian HEIs, organised around the two research questions guiding this study.

Figure 1: The Barrier–Solution Framework (concept map) presents the study's theoretical contribution: a bidirectional framework that maps each identified barrier type to its behavioural mechanism and the corresponding institutional or governmental response. The framework is grounded in the Theory of Planned Behaviour (Ajzen, 1991) and behavioural economics (Thaler & Sunstein, 2008), and is derived from a cross-case thematic analysis of 16 structured interviews across Indian HEIs.

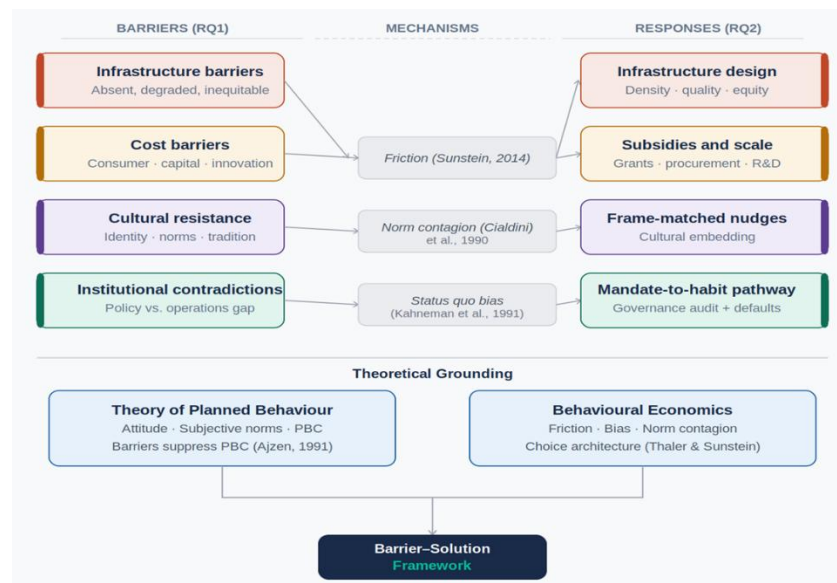


Figure 1. Barrier–Solution Framework for Student Sustainability Behaviour in Indian HEIs

(Source: Author's own, derived from thematic analysis, $n=16$).

Table 2 presents a thematic overview of all four barrier types, mapping direct interviewee evidence to the researcher's observations and analysis.

Table 2: Themes, Responses and Analysis

Theme	Interviewees' responses	Researcher's observation and analysis
Infrastructure barriers	"I littered today because there was no bin nearby." — P1 "Even if they have trash cans, they are so dirty that no one wants to go near them." — P8 "E-vehicles are available in some Delhi sectors but not others — people will use what is available in front of them." — P14 "We avoided public transport not because it was unavailable — it just didn't feel safe." — P1 & P8	The infrastructure deficit is multidimensional — three distinct sub-dimensions emerged: a quantity gap (absent bins), a quality gap (present but unusable bins), and a geographic equity gap (unequal access to sustainable transport). A fourth dimension — transport safety — is unique to the Indian context and absent from all Western-origin barrier typologies. Broken Windows principle (Wilson & Kelling, 1982) observed in the data: degraded environments signal collective neglect, triggering further neglect. Infrastructure density is therefore a direct behavioural intervention, not a background condition. Perceived behavioural control (Ajzen, 1991) is suppressed not by motivation failure but by physical absence — confirming that supply-side policy is more effective than demand-side persuasion in this context.

Economic barriers	<i>"Sustainable products are not inherently costly — small production volumes keep prices high."</i> — P6 <i>"Sellers have identified sustainability as a premium segment and price accordingly regardless of actual cost."</i> — P10 <i>"We get stopped — the people say they are already doing it, not giving us the chance to be part of it."</i> — P12 — market gatekeeping <i>"Whatever we buy comes in a plastic package — ultimately we have to use plastic even if we try to reduce it."</i> — P2 — supply-side lock-in <i>"Until unless their business comes in that ESG threshold category, they don't really care."</i> — P5 — MSME regulatory gap	Economic barriers operate across five distinct dimensions — not a single price problem. These are: everyday sustainable products costing more at the point of purchase; high upfront costs for larger investments like solar panels; sustainable materials remaining expensive due to low production volumes; established market players blocking new sustainable enterprises from entering (P12); and plastic packaging being unavoidable even for students who actively try to reduce it (P2). Prior frameworks have treated cost as a single barrier (Harris et al., 2015; Connell, 2010) — this study shows it is not, and that each dimension requires a different policy response. The plastic lock-in finding (P2) is particularly significant: when sustainable alternatives do not exist at the point of purchase, individual motivation becomes irrelevant — no awareness or intention can overcome a structural absence (Frederick et al., 2002). The MSME ESG regulatory gap (P5) compounds this further — most students will graduate into environments where sustainability compliance is not legally required, disconnecting university sustainability education from the professional world they will actually inhabit.
Cultural and identity-based resistance	<i>"It won't make a difference, let it happen once a year."</i> — P9 — Diwali crackers <i>"Banana leaf plates have been replaced by plastic at community events because plastic feels more modern."</i> — P15 <i>"Family resistance to dietary changes — described as 'Western radical behaviour.'"</i> — P15 — sustainability as cultural imperialism <i>"All the influencers are promoting fast fashion, zero sustainability — buy more, spend more. None of them is talking about sustainability."</i> — P14	Cultural resistance is the most undertheorised barrier in the existing literature and the most distinctively Indian finding in this dataset. Three forms were identified: (1) festival-driven collective fatalism, where group norms override individual intent; (2) modernisation displacing traditionally sustainable practices, where plastic is perceived as a marker of progress; and (3) sustainability advocacy framed as cultural imperialism, where environmental recommendations are resisted as Western imposition. These findings are entirely absent from European-context barrier typologies (Dixon & Parker, 2021; Stankevičiūtė & Jarmalavičiūtė, 2025). The influencer landscape (P14) adds a fourth structural dimension — mass-scale normalisation of overconsumption through social media — confirming descriptive norm contagion (Gravert & Kurz, 2020) as the operative mechanism. Interventions must embed sustainability within existing cultural values rather than positioning it as a departure from them.

Institutional policy contradictions	<i>"Students cannot switch off classroom ACs — they are classified as university property."</i> — P13 <i>"We are making 20-page projects, wasting trees, and no one is even checking what we have written."</i> — P8 <i>"The plastic bottle ban failed — students distrust tap water and reverted to buying bottles."</i> — P10 <i>"Everything that's been done is all on the surface. Nobody goes into the depths of it."</i> — P7 — on HEI initiatives	All three cases share a common structure — — universities promote sustainability through visible initiatives while their own operational rules may quietly work against it. This is what Leal Filho et al. (2019) call a governance silo failure: sustainability as branding rather than practice. The plastic bottle ban case (P10) shows how barriers interact — a good policy failed because a separate infrastructure problem (water quality) was never fixed. The strongest solution confirmed in the dataset is the mandate-to-habit pathway — evidenced across four independent cases (P1, P6, P9, P10). When institutions remove the unsustainable option entirely, students comply, habits form, and the mandate eventually becomes unnecessary (Thaler & Sunstein, 2008; Deci & Ryan, 2000; Mazar et al., 2021).
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Note. P = Participant. Saturation: infrastructure (16/16), economic (16/16), cultural resistance (multiple cases), institutional contradictions (3 case studies). Theoretical basis: Ajzen (1991); Thaler & Sunstein (2008); Mazar et al. (2021); Gravert & Kurz (2020); Leal Filho et al. (2019).

4.1 RQ1: Barriers to Sustainable Behavior

As presented in Table 2, cross-case analysis identified four barrier types operating simultaneously across the student population. Two — infrastructure and economic — came up in every single interview. The other two — cultural resistance and institutional contradictions — were raised by many but not all respondents. Together, these four barriers go beyond prior frameworks (Connell, 2010; Harris et al., 2015) that classify barriers as simply internal or external. What emerged here is more layered — the barriers interact and reinforce each other in ways earlier research has not fully captured.

4.1.1 Infrastructure Barriers

The waste disposal infrastructure gap was cited by all 16 respondents — the most saturated finding in the dataset. Three distinct dimensions emerged.

The first is the quantity gap — bins that simply do not exist. Participant 1 admitted littering on the very day of the interview because no bin was nearby. Participant 10 described carrying a wrapper for a long time before giving up. Without bins, even motivated students litter.

The second is the quality gap — bins present but avoided. Participant 8 noted: "even if they do have trash cans, they are so dirty that no one wants to go near them." A degraded bin is functionally the same as an absent one. Participant 14 connected this to the broken windows principle (Wilson & Kelling, 1982): clean environments encourage people to keep them clean, while neglected ones signal that nobody cares, triggering further neglect.

The third is a geographic equity gap. Participant 14 observed that e-vehicles are available in some Delhi sectors but not others — "people will use what is available in front of them." This confirms Dixon and Parker's (2021) findings about inadequate facilities, but goes further by showing that the infrastructure deficit operates across multiple dimensions, not just one.

A transport safety barrier also emerged. Participants 1 and 8 avoided public transport not because it was unavailable but because it felt unsafe, defaulting to private vehicles. Safety concerns — particularly for women — are a real constraint in India absent from European studies (Dixon & Parker, 2021; Stankevičiūtė & Jarmalavičiūtė, 2025).

4.1.2 Economic Barriers

All 16 respondents confirmed economic barriers, but the data reveal five distinct dimensions rather than a single price problem.

The everyday consumption tier covers organic food, jute bags, and ethical clothing — consistently more expensive at the point of purchase. The capital investment tier captures high upfront costs deterring adoption of solar panels and electric vehicles. The innovation tier reflects sustainable materials like bioplastics being expensive due to low production volumes. Participant 6 explained precisely: products are not inherently costly — small volumes keep prices high. Participant 10 added that sellers price sustainability as a premium segment regardless of actual costs. These three tiers align with Bianchi and Gonzalez's (2021) observation that financial barriers operate simultaneously at multiple levels requiring differentiated responses.

The fourth dimension is structural gatekeeping. Participant 12 described a family initiative to start a plant and seed business being blocked by established market players: "We get stopped by not getting the opportunity — they are not giving us the opportunity of being a part of it." The barrier is market exclusion, not price.

The fifth is supply-side lock-in. Participant 2 observed: "Whatever we are buying, it is coming in a plastic package — ultimately we have to use plastic, even if we are trying to reduce it." When sustainable alternatives do not exist at the point of purchase, individual motivation becomes irrelevant.

4.1.3 Cultural and Identity-Based Resistance

Cultural resistance emerged clearly across multiple cases. Participant 9 described collective fatalism around Diwali crackers: "it won't make a difference, let it happen once a year." Participant 2 described peer pressure making sustainable choices feel socially costly. This reflects descriptive norm contagion (Gravert & Kurz, 2020): when unsustainable behavior is normalised collectively, acting differently carries a social cost suppressing action even among motivated students.

Participant 15 noted banana leaf plates — a sustainable tradition — replaced by plastic because plastic feels more modern. The same respondent described family resistance to dietary changes as "Western radical behavior." These findings are absent from European typologies (Stankevičiūtė & Jarmalavičiūtė, 2025; Dixon & Parker, 2021), underscoring the need for culturally grounded research in Indian HEIs (Cornet et al., 2024).

Participant 14 identified influencers as a structural anti-sustainability force: "All the influencers are promoting fast fashion, zero sustainability — buy more, spend more." When students follow this content daily, overconsumption becomes the perceived norm (Gravert & Kurz, 2020).

4.1.4 Institutional Policy Contradictions

A fourth barrier originates within institutions — the gap between stated sustainability commitments and actual operational practices.

Participant 13 described being unable to switch off classroom air conditioners and smart boards because they are classified as university property — effectively mandating energy waste through an asset protection policy. Participant 8 described mandatory paper assignments generating waste as nobody reads: "We are making 20-page projects, wasting trees, and no one is even checking what we have written." Participant 10 described a plastic bottle ban undermined by distrust of tap water — students reverted to bottled water for health reasons, recreating the problem the ban sought to eliminate.

All three reflect what Leal Filho et al. (2019) describe as governance silo failures — sustainability promoted through visible programmes while operational rules go unexamined. As Lozano et al. (2015) argue, genuine behavioral change requires whole-institution integration, not isolated programme launches.

4.2 RQ2: Institutional and Governmental Responses

The findings point to a layered set of responses — from simple environmental fixes to structural mandates — with different interventions working better for different barrier types (Thaler & Sunstein, 2008).

4.2.1 Resolving Infrastructure Barriers

The clearest response is infrastructure itself. Participant 8 noted her campus had bins every ten steps, producing consistently clean behavior — confirming that accessible infrastructure drives sustainable action (Koster et al., 2022). Bin cleanliness matters equally: a dirty bin is functionally absent. Participant 7 recommended scaling clean drinking water provision across campuses — directly fixing the contradiction in Section 5.1.4 where plastic bottle bans fail because students distrust tap water. Participant 14 reinforced the transport equity argument: "people will use what is available in front of them" — sustainable transport must be geographically equitable, not concentrated in select sectors (Nogueira et al., 2023).

4.2.2 Resolving Economic Barriers: Subsidies and Scale

Respondents supported government subsidies and procurement policies to bring everyday sustainable product prices down through volume — as Participant 6 explained, the economics only works at scale. For investments in solar panels and electric vehicles, grants and zero-interest loans were commonly suggested (Abo-Khalil et al., 2024). Participant 5 described a domestically developed biochar product that is priced higher in Indian markets despite international demand — pointing to the need for R&D support. It is noted that cost barriers are also a communication problem: sustainable alternatives that save money over time are rarely presented that way. Framing sustainability as economically sensible rather than costly is a low-effort, high-impact intervention consistent with behavioral economics insights on present bias (Frederick et al., 2002).

Participant 16 suggested that reliable eco-labelling standards would help consumers identify genuinely sustainable products at the point of purchase.

4.2.3 Resolving Cultural Resistance: Embedding, Not Imposing

The most original solution came from Participant 3, who described a temple message: *"Electricity is the energy of Krishna — save it."* This reached people who would ignore a standard poster because it spoke their value language. Nudges work best when frame-matched to the audience: civic framing for politically aware students, health framing for others, economic framing for cost-conscious families (Florence et al., 2022).

However, Participants 6 and 7 both noted nudges are not universal — Participant 7 observed: "There are people who would just look at a notice and say — okay, fine, I don't care." Participant 15 offered the most insightful account — drawing on the door-in-the-face technique: "We have planted a seed. With time, he will repeat it. When he repeats it, it will become a big practice." This reframes nudges as habit seeds rather than one-off prompts. Participant 14 added that government-backed influencer partnerships represent an underused high-reach lever for younger audiences.

4.2.4 Resolving Institutional Contradictions: Mandates and Governance Audits

The strongest solution in the dataset is the mandate-to-habit pathway: when sustainable behavior becomes the only available option, compliance follows and habit forms thereafter. Four cases confirm this. Participants 1 and 9 described a mandatory 70-hour community service requirement producing students who kept attending after credits were no longer needed. Participant 6 discussed a residential waste segregation rule created sector-wide habits within months. Participant 10 described an institutional plastic bottle ban permanently changing her behavior: "In the earlier phase I used to buy so many plastic bottles. Now I carry my own." This operationalises Thaler and Sunstein's (2008) default design principle: removing the unsustainable option works better than making the sustainable one more attractive.

Governance audits — reviewing operational rules, not just programme launches — were also called for (Lozano et al., 2015), with three actionable changes: digital assignment submissions (Participant 8), allowing student to control classroom energy systems (Participant 13), and tap water quality investment (Participant 10). Participant 7 offered the sharpest critique: "Everything that's been done is all on the surface." Her solution is direct: when grades dominate student motivation, embed sustainability as a graded academic component as an institutional design. Finally, Participant 5 flagged a regulatory blind spot: ESG thresholds exempt virtually all MSMEs — "until unless their business comes in that category, they don't really care." Most students will enter MSME environments; without regulatory coverage there, university sustainability education remains disconnected from the professional world students actually inhabit.

5. Discussion

The findings make one thing clear: the intention-action gap in Indian HEIs is not a motivation problem — it is a structural, cultural, and institutional design problem that no single intervention can resolve alone. Participant 11 put it directly: closing this gap requires government, communities, and universities to invest together rather than treating sustainability as a university-level responsibility alone — extending Lozano et al.'s (2015) whole-institution argument to a whole-ecosystem logic.

Participant 1 reinforced this through Singapore's community housing policy — when sustainable behaviors are built into community design from childhood, they become a habit rather than an effort. The most durable change is designed in, not campaigned for.

Participant 6 captured present bias precisely: *"result baad me milega — they don't feel motivated enough to keep doing it."* Programmes framed around distant outcomes will lose students. Proximate feedback — visible impact metrics, progress boards — is needed to sustain motivation (Höpfl et al., 2025). The same respondent flagged a generational communication gap: sustainability messaging reaches students on Instagram but misses parents entirely. Participant 5 recommended universities actively engage parents to bridge this gap.

Participant 15 validated a core TPB claim: attitude must precede knowledge transmission — sustainability education that skips attitude formation will not change behavior (Ajzen, 1991).

Finally, Participant 4's proposal to convert COVID masks into construction bricks illustrates the study's most original finding: sustainability solutions already exist within Indian HEIs — what is missing is a mechanism to connect student innovation to policymakers who could deploy it.

6. Implications

Theoretical Implications

This study makes three contributions to theory. First, it extends the intention-action gap literature — predominantly Western (Leal Filho et al., 2022; Cornet et al., 2024) — into the Indian HEI context, demonstrating that culturally specific barriers such as festival-driven fatalism, modernisation displacing sustainable traditions, and public transport safety concerns are absent from existing frameworks (Connell, 2010; Harris et al., 2015). The internal-external typology needs expanding to capture these layered, mutually reinforcing dynamics.

Second, it empirically validates TPB's claim that perceived behavioral control is most directly suppressed by structural barriers (Ajzen, 1991) — but extends this by showing PBC operates across five economic dimensions, not one, and that cultural and institutional factors suppress it as powerfully as physical infrastructure absence.

Third, the mandate-to-habit pathway offers a theoretically grounded mechanism — consistent with Mazar et al. (2021) extrinsic-to-intrinsic motivation transition — that prior research noted as a pattern but never explained as a process. This study names and evidences it across four independent cases.

Practical Implications

For HEI administrators, three immediately actionable changes require will rather than budget: digital assignment submissions, student control over classroom energy systems, and tap water quality investment. Participants 8, 11, and 13 recommended experiential and field-based learning over theoretical instruction, while Participant 1 stressed that improving session quality matters as much as adding new content. Participant 5 flagged an underused lever: *"I suggest the university talks to parents — bring them in — teach them — students connect with parents."* In India, where family influence on student behavior is strong, parent engagement programmes could extend sustainability education into the home environments where habits are actually formed.

For policymakers, five priorities emerge: equitable sustainable transport infrastructure, lower ESG thresholds to cover MSMEs, stronger eco-labelling standards, R&D subsidies for sustainable innovation, and government-backed influencer campaigns for younger audiences.

For sustainability educators, Participant 15 makes the most actionable point: attitude must precede knowledge delivery — programmes that skip this step will not change behavior (Ajzen, 1991; Perrault & Clark, 2017). Her broader observation — *"economics, psychology, science, technology — everyone should work collectively"* — points to the study's central implication: the intention-action gap cannot be closed by any single actor, discipline, or institution working alone.

7. Limitations and recommendations

This study has certain limitations worth acknowledging. The sample of 16 respondents, while sufficient for thematic saturation, limits generalisability across India's highly diverse higher education landscape. The study is geographically concentrated in Delhi NCR, meaning institutions from other regions — with potentially different infrastructural, cultural, and economic contexts — may not be represented. Reliance on self-reported interview data introduces the possibility of social desirability bias, where respondents may overstate their sustainability intentions. The framework is also grounded in student perspectives alone; incorporating faculty, administrator, and policymaker voices might offer a broader picture.

These limitations point to clear directions for future research. Larger quantitative studies should test the barrier-resolution framework across diverse Indian regions and institution types. Longitudinal research would establish whether the mandate-to-habit pathway produces durable behavioral change over time. Comparative studies across other emerging economy HEIs would assess whether the culturally specific barriers identified here — particularly festival-driven fatalism and public transport safety — extend beyond the Indian context.

8. Conclusion

This study set out to understand why university students in India who care about sustainability so often fail to act on that concern — and what can be done about it. Drawing on 16 structured interviews across Indian HEIs, it identified four barrier types — infrastructure deficits, economic barriers, cultural resistance, and institutional contradictions — and mapped each to a corresponding institutional or governmental response.

The findings reveal something important: the gap between intention and action is not a knowledge problem or a motivation problem. It is a design problem. When bins are absent, students litter. When sustainable products cost more, students buy conventional ones. When festivals normalise pollution and influencers promote overconsumption, individual intent is overridden. When universities promote sustainability while their own rules mandate waste, students disengage. None of these barriers yield to awareness campaigns alone.

The most powerful finding is the mandate-to-habit pathway — confirmed across four independent cases — which shows that when institutions remove the unsustainable option, behavior changes, and habit eventually follows (Thaler & Sunstein, 2008; Mazar et al., 2021). Sustainable behavior does not need to be chosen if it is designed as the default.

As Participant 15 observed, no single discipline or institution can close this gap alone. This is the study's deepest implication: sustainability in Indian HEIs is not a niche academic concern but a whole-society design challenge with consequences that extend far beyond the campus.

India's 43 million university students represent both the scale of the challenge and the scale of the opportunity. As NITI Aayog (2024) acknowledges, responsible consumption and climate action targets remain off-track. Closing the intention-action gap in Indian HEIs is not a peripheral academic concern — it is a strategic national priority with global consequences (UNDP, 2024).

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