Employee Green Behavior and Organizational Effectiveness: Evidence from Public Organizations in Sub-Saharan Africa

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ABSTRACT

This study explores how Employee Green Behavior (EGB) affects organizational effectiveness in public sector institutions in Sub-Saharan Africa. Using Institutional Theory and Social Exchange Theory, the research examines the interaction between institutional capacity and employee reciprocity in supporting organizational sustainability and results. Through a systematic literature review (SLR) of 34 peer-reviewed studies from 2020 to 2025, conducted in accordance with PRISMA guidelines, the study summarizes empirical and conceptual findings. The findings indicate that EGB consistently promotes organizational effectiveness, though its impact is shaped by internal structures, policies, and context. Transformational leadership and green human resource practices are key mechanisms that foster employee commitment, empowerment, and shared environmental goals. Ultimately, organizational effectiveness in this context requires coordinated alignment among green behaviors, institutional capabilities, leadership vision, and integrated policy, recognizing employees as drivers of sustainable change.

Keywords: Employee Green Behavior, Organizational Effectiveness, Environmental Sustainability

INTRODUCTION

Over recent decades, environmental sustainability has garnered increasing attention from governments, stakeholders, organizations, consumers, and society at large. Heightened environmental awareness and regulatory pressures have prompted organizations to adopt environmentally responsible management practices (Siraj et al., 2022; Alreahi et al., 2022). This development reflects a broader shift toward sustainability in response to challenges such as climate change, biodiversity loss, and resource depletion (Hameed et al., 2021). Organizational effectiveness in achieving environmental sustainability is now recognized as a critical challenge of the 21st century. Environmental sustainability is defined as maintaining a relationship with the natural environment that ensures a sustained quality of life (Zacher et al., 2022).

The United Nations 2030 Agenda for Sustainable Development establishes a universal framework comprising 17 Sustainable Development Goals, which emphasize the integration of environmental, social, and economic objectives to ensure a livable future. Research indicates that, although countries such as Japan, Germany, and the United States have made progress since 2015, many nations in the Global South remain "off track" on key sustainability indicators, including carbon emission reductions, waste management, land use, and ecosystem preservation (Zacher et al., 2022; Wang et al., 2025). Both public and private organizations are increasingly aligning with sustainability objectives, necessitating policy reforms, technological innovation, and changes in employee behavior.

Research shows that Employee Green Behavior (EGB) is especially important in the public sector, where governments use many resources and help drive societal change. EGB covers both voluntary and required actions that support environmental sustainability in the workplace, like saving paper, using less energy, recycling, and buying sustainable products. Factors such as leadership, workplace atmosphere, and training influence EGB. Leadership engagement and supportive culture are also key drivers. Public sector employees' actions are widely seen and reflect government priorities, making their sustainable behavior a powerful example for others. When these employees embrace sustainability, it builds public trust and supports government goals. Boosting EGB in the public sector is not only an operational issue but also a symbolic and political one, requiring effective government support.

Effective governments can design, implement, and uphold sustainability standards, leading to better results in public organizations. This ability drives sustainability and shapes how people view both organizations and government. For example, government contributions to sustainability include establishing clear rules, fostering a culture that values openness and participation, and supporting employee training and tools. When governments are effective, the public is more likely to trust and follow their policies. This is particularly important in developing countries, where government credibility can decide if a sustainability program succeeds. In contrast, weak institutions may struggle to enforce laws, allowing environmental problems to persist. Strong governance and public trust are essential.

Despite the increasing prominence of environmental sustainability, a research gap persists concerning the interplay between organizational effectiveness and employee behaviors in achieving sustainability within the public sector, particularly in Sub-Saharan Africa. Existing research on EGB predominantly focuses on private organizations, where pro-environmental behavior is often promoted through corporate social responsibility (CSR) policies and competitive pressures (Zacher et al., 2022; Murdiono et al., 2025). This gap leads to the central research question: How can public sector organizations leverage employee green behavior (EGB) to enhance organizational effectiveness outcomes in Sub-Saharan Africa?

This study examines the relationship between Employee Green Behaviour (EGB) and organizational effectiveness in public sector organizations in Sub-Saharan Africa. The following questions guide the research:

1. RQ1: What mechanisms link employee green behaviour to effective organizational performance of public sector organizations?

2. RQ2: What is the role of organizational effectiveness in affirming employee green behaviour?

3. RQ3: How do leadership style, organizational climate, and training moderate or mediate the relationships of employee behaviour to the sustainability outcomes of organizations?

The hypotheses include:

1. H1: Employee green behaviour has a positive impact on the sustainability performance of public sector organizations.

2. H2: Organizational effectiveness positively affirms the relationship between employee green behaviour and organizational sustainability.

3. H3: Leadership style and green organizational climate mediate the relationship between organizational effectiveness and employee green behaviour.

Following the introduction, the study is structured into five sections. Theoretical frameworks grounded in Institutional Theory and Social Exchange Theory establish the context. The literature review synthesizes empirical research on Employee Green Behavior and organizational effectiveness. The conceptual framework delineates the relationships between EGB and organizational enablers. The research design section details the systematic literature review (SLR) conducted in accordance with PRISMA guidelines. The findings and discussion address the research questions, emphasizing mechanisms, moderating factors, and contextual influences. The conclusion summarizes the principal findings and provides recommendations for advancing sustainability in public organizations.

Underpinning Theory

The study is grounded in two distinctive yet complementary theoretical frameworks: Institutional theory and Social Exchange Theory.

Institutional Theory

The foundation of Institutional Theory revolves around how organizations face pressures to adopt practices that meet societal demands, gain legitimacy, and ultimately survive. DiMaggio and Powell (1983) argue that three types of institutional pressures shape organizational practice: coercive, normative, and mimetic. Coercive

pressures are exerted by outside organizations (e.g., laws, regulations, and international frameworks, such as the United Nations' Sustainable Development Goals (SDGs)) to compel organizations to adopt green practices. Normative pressures arise from professional and socially acceptable practices, as well as environmental ethics and sustainable human resource practices, which establish pro-environmental values for organizational members to adhere to in their daily practices. Mimetic pressures arise when organizations seek to model the practices of successful peers, particularly when they are unsure about how to achieve sustainable outcomes.

From an institutional perspective, macro-level factors (organizational structures and government effectiveness) help define the boundaries of individual employee green behavior (EGB) in Sub-Saharan Africa. Public sector institutions in Sub-Saharan Africa are pushed towards sustainability by citizens, stakeholders, and international organizations for both compliance and legitimacy. Studies show that sustainability-oriented reforms in ministries and municipalities are only effective when institutional structures create enabling environments through supportive policies, transparent leadership, and accountability mechanisms to assess performance outcomes (Afedzie, Asante, & Aller, 2021; Rafiq & Duan, 2025; Latorcai et al., 2025).

When applied to this study, institutional theory provides a rationale for why public organizations adopt sustainability policies to respond to global and national sustainability pressures and build legitimacy, but it also explains how EGB becomes an organizational effectiveness (OE) driver when employees internalize institutional norms, developing pro-environmental behaviors and transitioning sustainability from symbolic compliance to an embedded organizational practice.

Social Exchange Theory (SET)

While institutional theory addresses the macro-level drivers of organizational effectiveness and sustainability, Social Exchange Theory (SET) examines the micro-level perspective of reciprocal relationships between organizations and employees. SET is based on Blau's (1964) social exchange theory and has been further developed by Cropanzano and Mitchell (2005). SET argues that people reciprocate behavior when they believe that their organization provides support and invests in them. In the work context, this exchange is measured by an employee's responses to their organization through training, empowerment, fair treatment, and recognition (Blau, 1964).

Within this framework, SET illustrates how organizational investment in employees stimulates reciprocal green behaviors. For example, organizations that employ green HRM practices, such as training programs that prioritize sustainability, rewarding participation in sustainability initiatives, and proactively recruiting sustainability leaders, send a clear message of environmental commitment. Employees, in turn, feel an obligation to reciprocate (i.e., "I owe this to the organization.") by voluntarily demonstrating pro-environmental behaviors, which often go beyond their formal requirements (Hùng et al., 2025). Similarly, certain leadership styles can affect employees in organizational settings. For example, transformational and empowering leadership foster higher levels of trust and inspiration, which, in turn, increase the likelihood that employees will demonstrate EGB (Yu et al., 2025). Ultimately, green job characteristics or initiatives can positively impact employee wellbeing and job satisfaction, potentially reinforcing the cycle of reciprocity (Wang et al., 2025).

SET is the theoretical mechanism applied in this study to understand how government efficacy and green leadership take shape in on-the-ground organizational outcomes through employee reciprocity. Employees who observe authentic institutional support and empowerment are more likely to demonstrate green behaviours that support organizational effectiveness. Therefore, SET captures the mediating role of EGB in translating institutional reform and sustainability policies into everyday practice, ultimately leading to long-term organizational effectiveness.

LITERATURE REVIEW

Employee Green Behavior (EGB)

The concept of Employee Green Behavior (EGB) is now a fundamental part of organizational effectiveness and sustainability research, encompassing the range of micro-level actions employees take to reduce environmental

harm while improving collective ecological performance. Recent studies have also expanded the narrow framing of EGB, which is limited to workplace recycling or energy policy, into a multidimensional concept. Scholars have argued that EGB should include both "in-role behaviors" (related to formal job duties) and "extra-role behaviors" (voluntary practices related to environmental activism, advocacy, and innovation) (Kaur et al., 2025; Yu et al., 2025; Wang et al., 2025).

Yu et al. (2025) examined the role of leadership in EGB and found that green transformational leadership fostered employee pro-environmental behavior through an environment of trust and inspiration. Yu et al. (2025) found that when leaders model sustainable behavior and articulate a vision that links individual and organizational environmental ideals, employees internalize pro-environmental values and behaviors across both voluntary and mandated roles. Furthermore, they examined employees who felt overqualified and found that while these employees disengaged from volunteering, they became engaged when their job roles were enriched with sustainability-based activities that provided fulfillment and valued contributions to sustainability. This study demonstrates that EGB results from leadership behavior that connects employee skills with organizational green objectives.

The role of organizational systems in enabling EGB is substantiated by Hùng et al. (2025), who build on Social Exchange Theory to articulate how Green Human Resource Management (GHRM) practices elicit proenvironmental behaviors. The authors found that the organization's investments in training, green rewards, and eco-friendly recruitment inspired EGB among employees, who reciprocated the investment. The study found EGB as a mechanism to mediate the relationship between HRM policies and organizational effectiveness outcomes. This implies that, in the absence of behavioral alignment at the employee level, any organization, regardless of its structure and sustainability policies, may become insignificant without achieving the desired EGB.

Wang et al. (2025) seek to highlight the human impacts of EGB. Their study asserts that engaging in proenvironmental behavior benefits the environment, enhances employee job satisfaction, and improves employees' overall well-being. The study adds that green practices, such as workplace energy-saving programs or the use of less harmful, more considerate resources (optimized), contribute to healthier work environments, have less stressful or exhausting effects on people, and foster implicit value/meaning for employees. Thus, EGB is a mutually beneficial process that enhances organizational performance and adds value and meaning to employees' work.

Kaur et al. (2025) adopt a more comprehensive systemic perspective by integrating leadership, HRM, and personal values into a single conceptual framework for EGB. They emphasize that, in terms of EGB, it is not only about organizational systems providing structure and leadership inspiring employees, but also about employees engaging with and incorporating environmental values into their daily practices, as this is where they will find long-term benefits. Employees with pro-environmental values see green practices not as a set of options but as a moral imperative, which keeps them engaged longer than any formal, structured reward.

Organizational Effectiveness in The Public Sector

In the public sector, organizational effectiveness has traditionally been viewed through the lens of efficiency, accountability, and service delivery (Handoyo, 2024; Latorcai et al., 2025). Contemporary studies, however, redefine effectiveness as the ability of public administration to respond to complex governance challenges, integrate sustainability, and maintain legitimacy (Latorcai et al., 2025). Scholars increasingly agree that effectiveness should not be measured solely by cost-efficiency, but must also consider a public organization's role in broader societal goals such as innovation, sustainability, and inclusive governance (Handoyo, 2024; Latorcai et al., 2025).

Latorcai et al. (2025) conceptualized organizational effectiveness through a longitudinal review of the implementation of institutional change programs across Europe. They conclude that the programs funded by the European Union built the capacity of public sector organizations by using digital governance (DG) and sustainability frameworks grounded in operational principles of sustainability governance. These programs created value through efficiency and transparency and sought to incorporate environmental and ecological values into policy delivery. However, the authors caution that establishing compliance frameworks can reduce

sustainability governance to mere compliance and bureaucracy, ultimately taking precedence over social value (Latorcai et al., 2025). Their findings recognize that organizational effectiveness in the current age requires an awareness of being both structurally efficient and socially valuable.

Complementing the institutional view, Ismaniar et al. (2025) studied policy implementation in Indonesia's smoke-free zones. They find that organizational effectiveness results from stable funding, effective resource allocation, strategic planning, and rigorous evaluation, with the latter being the strongest predictor of policy effectiveness. While previous frameworks viewed effectiveness as specific and immediate service outputs, Ismaniar et al.'s (2025) study illustrates that the sustained and long-term success of policy relies on organizations maintaining a commitment to programs, adapting to local contexts, and upholding organizational transparency with key stakeholders.

Savira et al. (2025) contribute to the discussion of public service innovation, stating that the key elements for sustaining organizational effectiveness are leadership commitment, collaboration beyond the organization, and ecosystem support. Their findings suggest that new ideas cannot co-exist in a vacuum; they need to be enabled through networks of collaboration, the vision of a committed leader, and a culture of innovation and continuous improvement. These findings shift the focus of effectiveness to a dynamic capability that enables continuous adaptation and change in how organizations interact with citizens, address emerging technologies, and fulfill sustainability mandates.

At the organizational level, Djunaedi et al. (2025) identified employee empowerment and job authority as key factors in embedding organizational effectiveness. They found that employees with decision-making authority and who feel empowered to make meaningful contributions are more committed, loyal, and engaged. These employee dynamics lead to improved organizational performance and adaptability. Rather than organizational effectiveness being a passive factor of employee engagement, the study envisions employees as active agents of institutional effectiveness, connecting internal dynamics to the broader processes of governance.
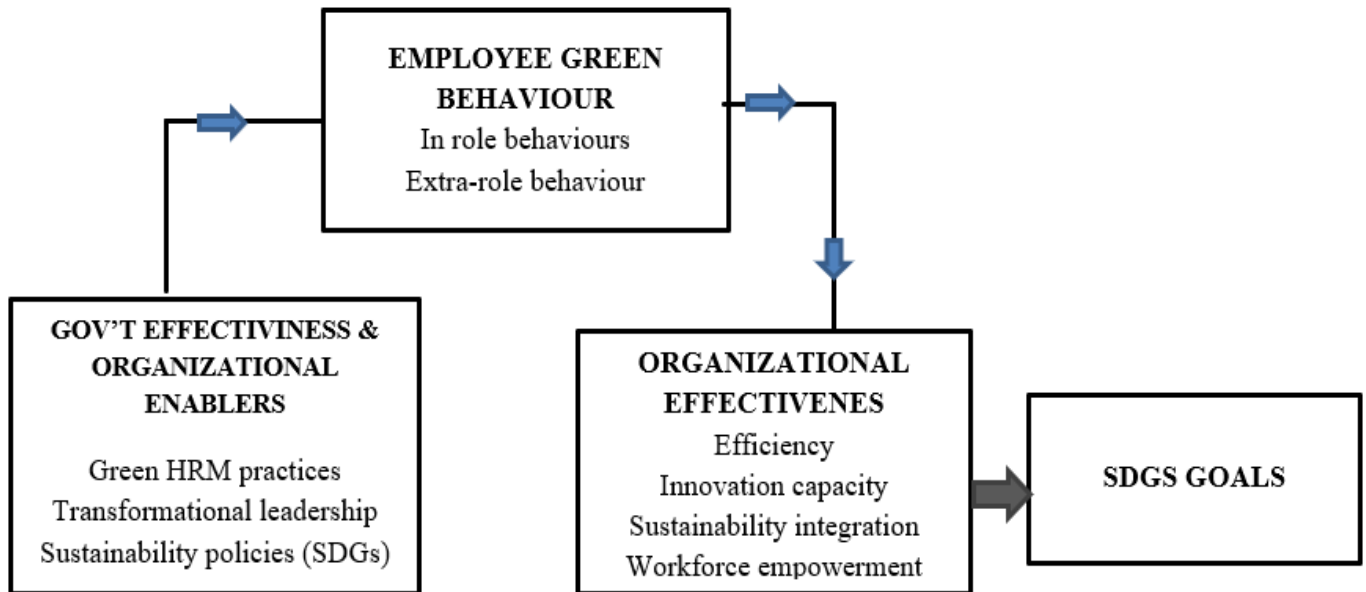
The literature shows that organizational effectiveness depends on structural capacity, human resources, and institutional adaptability. It includes both operational efficacy—producing immediate service outcomes—and strategic sustainability, supporting governance aligned with long-term societal and environmental priorities. In the sustainability era, workplace effectiveness is vital and provides a rational framework for efficacy. In the public sector, effectiveness is measured not just by service quality, but by how well institutions enable green transitions, adapt through digital innovation, and foster inclusive engagement among public service workers.

CONCEPTUAL FRAMEWORK

With climate change accelerating and the United Nations adopting the 2030 Agenda for Sustainable Development, public sector organizations are increasingly required to shift their traditional service-delivery roles to become agents of sustainability transformation. In this regard, Employee Green Behaviour (EGB) acts as a mediating variable. EGB consists of micro-level behaviours, which include: (1) in-role behaviours (wasting fewer resources, increasing energy efficiencies, increasing digitalization to support less paper use); and (2) extrarole behaviours. (engaging in green creativity or cultivating ecological values amongst peers). These collectively contribute to organizational sustainability performance (Kaur et al., 2025; Yu et al., 2025; Hùng et al., 2025).

Organizational effectiveness (OE) in the public sector is typically evaluated through conventional means of efficiency, accountability, and responsiveness. However, without accounting for the degree to which institutions can facilitate environmental sustainability, the concept of organizational effectiveness is incomplete. Meanwhile, organizational effectiveness refers to the capacity of institutions, at both the macro and micro levels, to achieve long-term societal goals. This consists of: (1) Structural efficiency, which refers to the effective distribution or allocation of resources and accountability; (2) sustainability integration, which represents the ability to sustain policies over time through planning, stable funding, and monitoring; (3) innovation capacity, which refers to leadership, cooperation, and fostering conditions that lead to an ecosystem of adaptive governance; and (4) workforce empowerment, which promotes employee discretion and employee legitimacy (Latorcai et al., 2025; Ismaniar et al., 2025; Savira et al., 2025; Djunaedi et al., 2025).

Figure 1: Conceptual framework

Source: author's construct (2025)

The model indicates that organizational effectiveness and sustainability require employee involvement in adopting green behavior as part of their daily work lives. On the other hand, employees' actions will remain disparate unless institutions and leadership convert them into formal, measurable outcomes. At this point, institutional capacity and social exchange begin to intersect. Institutional Theory, as previously noted, holds that the effectiveness of government and institutional forms in the public sector helps construct the structures, rules, and norms necessary for sustainability. SET, on the other hand, describes how employees respond to institutions through reciprocal actions, whereby the support systems provided by the organization (e.g., training, empowerment, and leadership) prompt employees to engage in green practices in their everyday work lives. When macro-level institutional systems align with employees' micro-level behaviors, it can lead to organizational effectiveness, which, in turn, achieves legitimacy and measurable advances in sustainability outcomes. The model highlights that without employee active engagement, the organization cannot function effectively.

RESEARCH METHODOLOGY

Research Design

This study uses a systematic literature review (SLR) to examine research on Employee Green Behavior (EGB) and its relationship with organizational effectiveness. The review followed PRISMA guidelines, a structured approach that ensures transparency, replicability, and completeness in locating, screening, and including studies. The review included empirical studies (quantitative, qualitative, and mixed methods) and theoretical or conceptual papers from sources such as Springer, DOAJ, Emerald, Taylor and Francis, Oxford University Press, SAGE, Wiley, and African Journals Online (AJO). This allowed the review to consider both empirical findings and theoretical frameworks, such as Social Exchange Theory and Institutional Theory, for understanding employee green behavior in organizations.

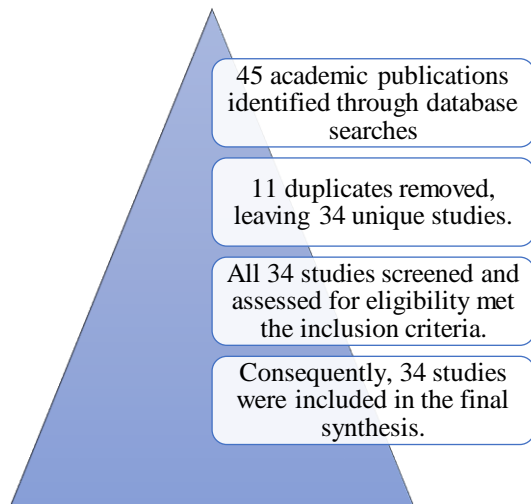## Inclusion Criteria and Exclusion Criteria

The criteria for inclusion in this review were topically relevant studies on Green Human Resource Management (GHRM), Employee Green Behavior (EGB), green leadership, or organizational sustainability practices. They were published as a peer-reviewed journal article, systematic review, or empirical research using qualitative, quantitative, or mixed methods. Secondly, eligible works were restricted to articles that applied relevant organizational or behavioral theories, such as Social Exchange Theory or Institutional Theory,

to ensure theoretical rigor. Thirdly, works published between 2020 and 2025, developed in English, and full-text (via academic database) versions were eligible for inclusion.

On the contrary, studies were excluded if their scope was irrelevant, failed to include a clear theoretical basis, were a duplicate publication, or were written in a language other than English.

PRISMA framework

The search and selection process is presented following PRISMA guidelines:

Review of Sources

The 34 studies reviewed include qualitative studies (such as survey-based moderated mediation) from China, Pakistan, India, Vietnam, and Saudi Arabia, as well as quantitative studies, systematic reviews, conceptual or theoretical papers (e.g., Blau, 1964; Cropanzano & Mitchell, 2005), and policy studies (e.g., United Nations, 2023). Table 1 summarizes the reviewed studies, listing author(s), method, article title, and geographic context. The literature covers regions in Asia (China, India, Vietnam, Pakistan, Indonesia, Saudi Arabia), Africa (Ghana, Nigeria), Bangladesh, Europe, and global or cross-regional contexts.

Table 1: Reviewed Sources

No.	Authors (Year)	Title	Research Method	Region/Context
1	Adugu (2023)	Correlates of Trust and Engagement in Environmental Activism	Quantitative (survey-based)	Europe
2	Afedzie, Asante & Aller (2021)	Employee Green Behaviour in Ghanaian Public Sector Organisations	Case study / Mixed methods	Ghana
3	Alfadel & Nalband (2025)	Green creativity as a mediator between GHRM practices and sustainable development	Quantitative (SEM)	Saudi Arabia
4	Alreahi et al. (2023)	Green Human Resources Management in the Hotel Industry: A Systematic Review	Systematic Review	Global
5	Blau (1964)	Exchange and Power in Social Life	Theoretical	USA

6	Cropanzano & Mitchell (2005)	Social Exchange Theory: An Interdisciplinary Review	Theoretical Review	USA
7	Davino et al. (2019)	An Attitude Model of Environmental Action	Quantitative crosscountry survey	Developing & Developed countries
8	DiMaggio & Powell (1983)	The Iron Cage Revisited: Institutional Isomorphism	Theoretical / Conceptual	USA
9	Djunaedi et al. (2025)	Role of Job Authority & Employee Empowerment on Employee Commitment	Quantitative (survey)	Indonesia
10	Hameed et al. (2021).	How is GHRM related to green creativity?	Moderated mediation model (quantitative)	Pakistan
11	Hùng et al. (2025)	Social Exchange Theory & GHRM to Explain In-role Green Performance	Quantitative	Vietnam
12	Ismaniar et al. (2025)	Implementation of Smoke-Free Area Policy in Health Facilities	Path analysis (quantitative)	Indonesia (Makassar)
13	Kaur, Arora & Mittal (2025)	Nurturing Green Employee Behaviour	Empirical study (survey)	India
14	Latorcai, Strausz & Csedő (2025)	Institutional Change & Sustainable Public Governance	Policy evaluation	Europe
15	Li et al. (2025)	Does GHRM Stimulate Employees' Green Behavior?	Quantitative	Africa (Ghana)
16	Li, Gao, Li & Xing (2025)	Green Organizational Culture & Commitment	Quantitative (moderated mediation)	China
17	Liu & Yu (2023)	Green Transformational Leadership & Employee OCB for Environment	Quantitative	China
18	Mehrajunnisa et al. (2022)	Influence of GHRM Practices & EGB on Business Performance	Quantitative	UAE
19	Murdiono, Hamidah & Sariwulan (2025)	Green Training, Engagement & Sustainability	Quantitative	Indonesia
20	Nur'ain et al. (2022)	Pathways Towards Green Management Policies in the Public Sector	Case study	Malaysia
21	Rafiq & Duan (2025)	Green Inclusive Leadership & Environmental Strategy	Empirical	China

22	Rahaman et al. (2023)	Organizational Factors Fostering EGB in the Leather Industry	Empirical (survey)	Bangladesh
23	Saifulina & Carballo-Penela (2017)	Drivers of Workplace Environmentally Friendly Behaviour	Quantitative	Spain
24	Savira et al. (2025)	Key Success Factors for Sustainability in Regional Innovation	Policy analysis	Indonesia
25	Shi & Liang (2025)	Linking Green Transformational Leadership to EGB	Quantitative	China
26	Siraj et al. (2022)	Role of Sustainable Labelling in Shaping Purchase Behaviour	Quantitative	India
27	United Nations (2023)	Sustainable Development Goals	Policy framework	Global
28	Unsworth et al. (2020)	Employee Green Behaviour: How Organizations Can Help	Conceptual Review	Global
29	Wang et al. (2025)	Employee Sustainability: Green Practices & Well-Being	Quantitative	China
30	Wu, Awang & Ahmad (2025)	Leadership Styles & EGB: Systematic Review	Systematic Literature Review	Global
31	Xu et al. (2022)	Environmental Leadership & Green Innovation	Moderated mediation (quantitative)	China
32	Yu & Su (2025)	Leadership Style & Employee Over-Qualification Perception	Quantitative	China
33	Yu, Zong, Wang & Ma (2024)	Green Talent Management & Pro-Environmental Behaviors	Empirical survey	China
34	Zacher, Rudolph & Katz (2022)	Employee Green Behaviour as the Core of Sustainability	Annual Review (Conceptual)	Global

Data Analysis

The studies outlined in this review were subsequently analyzed thematically. Following this, themes that emerged were grouped to respond to the research questions (i) What mechanisms link employee green behavior to organizational effectiveness and sustainability of public sector organizations? (ii) What role does organizational effectiveness have on fostering the sustainability of employee green behavior and (iii) How do leadership style, organizational climate, and training moderate or mediate the degree of relationship between employee green behavior and organizational effectiveness outcomes?

Ethical Considerations

Given that this study involved only a review of secondary literature, ethical considerations regarding source attribution were upheld, and academic rigor was maintained in the use of the referencing style.

FINDINGS AND DISCUSSIONS

This study's session addresses the research questions that underpin it.

RQ1: Mechanisms Linking EGB to Public Organizational Effectiveness

Public organizations are designed to deliver services and be accountable to the public, and professionals are responsible for implementing the government-wide sustainability policy. In public organizations, employees become change agents who collectively shape their environmental footprint through their behaviours, decisions, and routines. As highlighted in the collective cited literature, the linking mechanisms are outlined below.

Behavioral Alignment with Organizational Objectives

One of the most apparent ways EGB contributes to organizational effectiveness is through aligning employee behavior with institutional sustainability objectives. Organizations frequently articulate sustainability objectives through strategic planning documents, codes of conduct, and reportable criteria. However, the extent to which those objectives materialize depends on how widely employees adopt and implement them. Yu et al. (2024) found that specific green talent management practices, such as sustainability in recruitment, providing sustainability-based learning, and embedding sustainability in the performance evaluation process, strengthened employees' environmental goal-behaviors (EGB). This connection supports the notion of sustainability as a lived, working experience rather than a spoken commitment. Employees who view sustainability as an organizational value are more likely to demonstrate discretionary behaviors, such as turning off unused machines, reducing paper use, or implementing a recycling system within their unit.

Empowerment and Commitment

The second mechanism linking environmental governance behavior to sustainability performance is employee empowerment and organizational commitment. A study by Djunaedi et al. (2025) suggests that employees with greater job authority and discretion are more likely to internalize ownership of the sustainability agenda. In other words, when employees feel empowered in their roles, they are more likely to engage in sustainability practices and feel supported in developing additional eco-innovative practices beyond formal sustainability governance policies.

Furthermore, employees with high organizational commitment have been shown to lead to improved sustainability outcomes in organizations (Djunaedi et al.,2025). More specifically, employees who are committed and engaged are more likely to take meaningful action to support sustainability, despite obstacles such as bureaucratic inertia and resource scarcity (Djunaedi et al., 2025). Committed employees would act as change agents within an organization, typically working alongside their peers and management to maintain momentum during the implementation stages of green initiatives.

Green Human Resource Practices

EGB should not be perceived as a distinct practice, as it is nested within broader human resource systems that shape incentives, opportunities, and organizational objectives. GHRM provides the institutional framework for developing and maintaining pro-environmental behavior among employees. Mehrajunnisa et al. (2022) demonstrated that organizations applying GHRM reasoning (green recruitment, green training, and environmental rewards) were significantly more likely to experience strong EGB and subsequent organizational effectiveness.

Thus, the value of GHRM lies in its role in institutionalizing sustainability throughout all stages of the employee life cycle. Recruiting candidates who share environmental values ensures they are a good cultural fit. Training helps to build the knowledge and skills necessary to engage in sustainable work practices. Performance management systems that offer recognition for environmentally friendly behavior release a green behavior standard for career advancement (Mehrajunnisa et al., 2022). In the context of the public sector and

bureaucratic processes that can slow organizational change, GHRM provides the systematic push necessary to satisfy proenvironmental behavior (Afedzie et al., 2021; Mehrajunnisa et al., 2022).

Culture and Context

Culture and context are key factors that influence the link between EGB and organizational sustainability performance. Afedzie et al. (2021) studied public sector workplaces in Ghana and reported that employees' environmentally responsible practices and behaviors were not solely contingent on formal policies, but also on informal workplace culture and social norms. When sustainability and associated values become part of the organizational community's values, employees are more likely to engage in pro-environmental behaviors (or green behaviors) through their own identity rather than as a perceived obligation imposed by external forces.

Culture fosters the collective engagement in green behavior through peer pressure, shared values, and symbolic representations. If recycling practices and energy conservation practices become a workplace norm in organizations, it would be easier to recruit employees to engage in environmentally friendly behaviors and actions (EGB) towards sustainable practices. Context can be an important factor; for instance, in some SubSaharan African organizations operating with limited resources, there may be structural barriers to EGB due to funding constraints, inadequate infrastructure, or weak enforcement. On the other hand, when established cultural norms promote sustainability, organizations can implement low-cost, high-gain actions that are easy to implement (e.g., waste reduction, energy saving, etc.) (Afedzie et al., 2021).

Policy Integration Pathways

The last mechanism linking EGB to organizational performance concerns a company's ability to integrate green policies into its systems. Nur'ain et al. (2022) suggest that, with well-established green management policies, a formalized context is created that encourages individuals to behave in ways that enhance collective sustainability performance. Policies outline the roles and responsibilities of employees, performance measures, and accountability mechanisms that will ensure EGB is not occasional but becomes a more systematic transformation of behavior.

The presence of policies increases EGB's visibility and legitimacy within organizations. The formalization of sustainability within a policy context clarifies expectations of performance and provides a structure that fosters consistency (Nur'ain et al., 2022). When people have a strong, consistent disposition towards individual EGBs, the individual behaviors create an additive effect that contributes to organizational effectiveness.

In many cases, without institutional frameworks, individuals may act green within their roles in isolation, which could be a positive step, but will not evolve into meaningful organizational change. Policies become even more crucial for the public sector, where legitimacy and accountability are central, in driving the conversion of EGB into sustainable performance outcomes.

RQ 2: Roles Organizational Effectiveness Plays in Fostering Employee Green Behavior

An organization's capacity to foster Employee Green Behavior (EGB) depends largely on its overall effectiveness. In the public sector, effectiveness is measured not only by service performance and efficiency, but also by the organization's response to societal demands and expectations. Effective organizations establish systems, norms, and climates that support regular green behaviors among employees.

Leadership

Leadership is a crucial element of organizational effectiveness because it enables the development and sustenance of EGB. Wu, Awang, and Ahmad (2025) illustrated in a systematic review of literature that leadership styles have a considerable impact on EGB through the formal and informal organizational environment. For example, transformational leaders motivate employees to go beyond self-interest to embrace sustainability objectives as an organization, while participative leaders nurture trust and collaboration, which leads to environmentally responsible actions.

In both instances, organizational effectiveness, as it relates to green behavior, is connected to leaders using a combination of organizational resources to create a clear sustainability vision and model green behavior. Ineffective leadership creates a gap between a stated organizational aim and employee action, resulting in a symbolic green effort rather than a substantive one. Therefore, leadership serves a dual purpose: it promotes organizational effectiveness and directly influences EGB.

Green Organizational Culture

Another way organizational effectiveness affects EGB is through organizational culture. Li et al. (2025) examined the role of green organizational culture, finding that it enhances employees' green organizational commitment, defined as the psychological connection between employees and sustainability objectives that have been internalized. More importantly, this was mediated through green self-efficacy (the belief in one's ability to perform environmentally friendly behaviors) and organizational identity (the sense of belonging to an organization focused on sustainability).

Furthermore, effective organizations cultivate cultures in which sustainability underpins daily actions and decision-making. Such cultures reduce the psychological distance between employees and organizational sustainability objectives, leading employees to believe that EGB is not just desirable but also normative. By embedding green values in organizational culture, organizations can sustain EGB over time without relying on short-term incentives or leadership changes.

Green Psychological Climate through HRM Practices

Li, Abredu, Sampene, and Agyeman (2025) argue that a green psychological climate mediates the relationship between organizational practices and environmental green behavior (EGB). Green Human Resource Management (GHRM) practices, when perceived as sincere and trustworthy, convey to employees that sustainability is an integral part of the organization's core values. This matters because employee perceptions dictate how they engage with their jobs and emphasize pro-environmental behaviors and values. Here, it can be considered that organizational effectiveness connects to the organization's ability to transform firm policies for the work environment into psychological climates that propel pro-environmental engagement.

For instance, an organization that provides environmental training, celebrates green behavior, or includes sustainability as a part of job descriptions conveys the fidelity that green behavior and values are part and parcel of actual wellness and performance. The grounding employee can translate this into EGB and sustainability engagement behavior by framing it as an organizational value that extends beyond mere green behavior or incorporates it as a standard part of occupational performance. This way, employees can feel that it is an integral part of the organization's purpose or identity.

Structural and Processual Effectiveness

In addition to culture and leadership, organizational effectiveness is also linked to structures and processes that enable employees to enact EGB. Rahaman et al. (2023) argue that organizational factors, including environmental policies, green training, and management support, play a crucial role in facilitating EGB. Effective organizations provide the necessary resources, such as recycling infrastructure, energy-efficient technologies, or digital workflows, that enable employees to act in an environmentally responsible manner.

On the other hand, ineffective structures can become barriers to such behaviors. For instance, an organization may espouse paperless operations but not provide enthusiastic digital support, so employees refrain from actions the organization promotes.

Organizational Citizenship Behavior for the Environment (OCBE)

Supporting Organizational Citizenship Behavior for the Environment (OCBE), where employees voluntarily go beyond formally required work behaviors to support sustainability, is another way. Unsworth, Davis, Russell, and Bretter (2020) argue that those organizations that "enable" OCBE provide factors such as autonomy, recognition, and an enabling climate. These organizations will not only have policies in place but also encourage their employees to innovate, share, and take initiative in their environmental work.

OCBE suggests that organizational effectiveness is closely tied to the "soft" dynamics of trust, recognition, discretionary effort, and other factors, as well as to practice and policy. Effective organizations provide employees with a psychologically safe (not fearful) environment in which to experiment with improvement, fostering a culture of ongoing improvement.

RQ 3: Moderating and Mediating Roles of Leadership, Climate, and Training for EGB and OE

More often than not, organizational effectiveness outcomes rely not just on formal policies but also on how employee behaviors are nurtured, sustained, and leveraged through leadership styles, organizational climates, and training. Employee Green Behavior (EGB) has been shown to improve not only environmental but also organizational performance directly. However, the extent to which EGB is effective varies with contextual moderators and mediators that shape the pathways linking individual behaviors to the collective organization's overall outcome.

Leadership as a Mediator and Moderator

Transformational Leadership and Mediation

Leadership is considered a dominant mediating variable in the relationship between EGB and sustainability. Xu et al. (2022) showed that environmental leadership mediated the relationship between green values and green innovation behaviors. Leaders who took a pro-environmental stance positively impacted employees' attitudes toward engaging in creative, sustainable practices, thereby affecting organizational sustainability outcomes. The mediating role occurs through leaders' ability to translate values and attitudes into applied behaviors, generating harmony within the organization between individual initiative and organizational sustainability intention.

In a similar vein, Liu and Yu (2023) note that green transformational leadership mediated the relationship between EGB and organizational citizenship behavior for the environment (OCBE) in a manufacturing context. Leaders serve as processing cues for information and shape how employees interpret organizational priorities. When leaders build trust and signal sustainability as a strategic priority, they increase the likelihood that discretionary EGB will drive higher organizational performance.

Moderating Effects of Leadership Style

Beyond mediation, leadership style would also moderate the size of EGB's impact on sustainability outcomes. Wu, Awang, and Ahmad's (2025) study confirms that transformational and participative leadership styles enhance the positive influence of employee green behaviors on organizational effectiveness, whereas authoritarian or laissez-faire styles diminish it. That is, leadership sets boundary conditions on whether employee actions are restricted to discrete acts or integrated into systemic sustainability outcomes.

Hameed et al. (2021) also illustrate this in a moderated mediation model, where green HRM practices influence green creativity through employees' perceptions of organizational support. However, this effect is significantly more substantial when green transformational leadership serves as the mediator. Leaders are thus viewed as amplifiers, such that HRM practices are internalized and enacted by employees to the extent that they deliver maximum sustainable performance.

Organizational Climate as Mediator and Moderator

Green Climate as a Mediator

Organizational climate defines employees' shared perceptions of expectations, policies, and norms. A green organizational climate bridges the gap between organizational sustainability and individual pro-environmental behaviors by providing the interpretive lens through which actions gain meaning. Alfadel and Nalband (2025) found that green creativity serves as a mediating variable for the link between GHRM practices and organizational effectiveness outcomes, but only in sustainability-supportive climates. Without a favorable climate, worker creativity did not translate into systemic sustainability gains.

Climate as a moderate

Organizational climate can also mediate the effectiveness of employee behavior. Kaur, Arora, and Mittal (2025) note that employees' green values only led to long-term pro-environmental behavior when accompanied by facilitative HRM practices and a supportive climate. Even in an unsupportive climate, strong individual values did not achieve organizational-level sustainability performance.

These findings confirm that climate determines the scalability and persistence of EGB. In strong green climates, actions are encouraged and magnified by people, whereas in weak climates, actions are isolated and ineffective.

Training and Capability Development

Training as a Mediator

Training serves as a mediator by enabling employees to acquire the skills and knowledge necessary for sustainable practices. Alfadel and Nalband (2025) suggest that green training enhances employees' green creativity, thereby stimulating sustainable development outcomes. The mediation process shows that employees will be motivated if training is not provided, but lack the competence to suggest or implement effective solutions.

Training as a Moderator

Training also strengthens the EGB-sustainability link. Xu et al. (2022) argue that environmental leadership has a greater influence on employee innovation when employees have received environmental training. Training provides the technical foundation that enables employees to respond to leadership cues with actionable behavior, thereby supporting the entire pathway.

In addition, Wu et al. (2025) suggest that routine training demonstrates an organization's long-term commitment to sustainability, thereby enhancing leadership communication and organizational culture. Employees in organizations that provide routine training view sustainability as a strategic focus rather than a symbolic initiative. Hence, they are more likely to sustain green habits.

CONCLUSION AND RECOMMENDATION

The study examined the relationship between Employee Green Behavior and Organizational Effectiveness in Public Organizations. Based on the study's findings, H1 is supported: evidence consistently shows that EGB has a direct, positive effect on the sustainability performance of public organizations. Employees who engage in ecofriendly behavior, whether in-role (e.g., reducing resource consumption) or extra-role (e.g., green advocacy), are crucial for waste reduction, environmental regulatory compliance, and the overall success of sustainability programs. Evidence from different contexts (Yu et al., 2024; Afedzie et al., 2021; Mehrajunnisa et al., 2022) corroborates that individual behaviors accumulate to become measurable organizational outcomes when aligned with institutional sustainability objectives.

Second, H2 is partially supported: organizational effectiveness mediates the EGB-sustainability performance relationship, reinforcing or undermining the extent to which employee behavior is translated into system-level performance. Effective organizations with sound organizational structures, good accountability, and enabling governance systems are better placed to capitalize on individual EGB for collective results. In ineffective organizations, even high levels of EGB can be fragmented and incoherent, resulting in limited contributions to sustainability performance.

Lastly, H3 is highly supported: leadership style and organizational climate serve as mediators in the relationship between organizational effectiveness and EGB. Transformational and participative leadership styles offer vision, role modeling, and motivation, enabling employees to develop a pro-environmental attitude that becomes a long lasting behavior (Liu & Yu, 2023; Xu et al., 2022). Similarly, green organizational climates create a collective schema for pro-environmental behavior, reinforcing individual actions and institutionalizing them within the organization's culture. These mediators help explain "why some effective organizations mobilize these resources into a strong EGB and some others do not."

In reality, it is not a linear but a systemic relationship. That is, while GHRM practices might create an environment conducive to EGB, without enabling support from leaders, employees may lack the psychological empowerment to act, thereby reducing organizational effectiveness. Similarly, without training, they may lack the technical skills needed to be effective, even with strong leadership. The mechanism for connecting these two is organizational climate, which provides coherence and meaning.

Recommendations for Sub-Saharan Africa (SSA)

Although the majority of the evidence is produced in Asian and Middle Eastern contexts, the lessons offer insight for Sub-Saharan Africa (SSA), where public sector organizations face challenges of scarce resources, weak institutions, and cultural plurality. These suggestions are specific to SSA, despite derived global findings, and adapted to local realities:

1. Institutionalize Green Behaviors through Light Resource Strategies: Most public organizations in the SSA are resource-starved. As Yu et al. (2024) and Mehrajunnisa et al. (2022) argue, adopting green HRM practices, such as incorporating sustainability into hiring procedures, employee training, and performance reviews, does not entail high costs. Instead, SSA governments can implement cost-effective measures, such as peer-to-peer training, sustainability pledges, and non-cash awards and incentives for green initiatives.

2. Embed Policy Integration into National Development Frameworks: Governing bodies under SSA can take an example from Malaysia (Nur'ain et al., 2022), which has institutionalized green management policies within the public sector. To prevent an EGB that is piecemealed, SSA policymakers should ensure that commitments to sustainability also translate into national development strategies and subsequently into departmental performance metrics. Policies could also be aligned with the African Union's Agenda 2063 and the UN's 2030 Agenda for Sustainable Development to create coherence and a sense of long-term direction.

3. Leverage Transformational and Participative Leadership: Hierarchy in public institutions in SSA is often associated with a lack of creativity and innovation, and in many government institutions, the lack of a leader is also the norm. According to Xu et al. (2022) and Liu & Yu (2023), when green transformational leadership is exhibited by green role models and motivators, employees feel empowered to make discretionary green contributions. Instead of pushing only significant policies from the top of government, SSA governments should develop leadership that promotes participatory management and focuses on sustainability.

4. Build Green Organizational Climates through Cultural Norms: According to Afedzie et al. (2021), EGB in Ghanaian public institutions is heavily influenced by cultural norms. This highlights the promise of SSA states in utilizing local cultural values of stewardship, community, and resource conservation as foundations for green organizational climates. Sustainability can still be part of workplace identity in the absence of formal policies through informal programming such as "green weeks", office sustainability competitions, and community clean-up days.

The key global lesson for Sub-Saharan Africa is that EGB should be systemically supported to enhance organizational efficiency.

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