

# The Strategic Role of Green Human Resource Management in Advancing Climate Action: An Empirical Study towards SDG 13: Climate Action in Industrial Organizations of Vadodara

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## Abstract

This study examines the strategic role of Green Human Resource Management (GHRM) in advancing climate action within organizational contexts. While existing research primarily associates GHRM with environmental performance, limited empirical attention has been directed toward its contribution to climate action outcomes aligned with global sustainability frameworks. Addressing this gap, the present study develops an integrated framework linking GHRM practices with employee engagement, motivation, and organizational environmental performance.

Drawing upon theoretical perspectives such as the Resource-Based View, Ability–Motivation–Opportunity (AMO) framework, and Self-Determination Theory, the study conceptualizes GHRM as a multidimensional system influencing both behavioral and organizational sustainability outcomes. A quantitative research design was adopted, and primary data were collected through a structured questionnaire from employees across industrial sectors in Vadodara.

The findings reveal that GHRM practices significantly enhance employee awareness, engagement, and participation in climate-related initiatives. Furthermore, environmental training and green performance systems positively influence pro-environmental behavior and organizational climate action orientation. The study contributes to the integration of HRM and sustainability literature and offers practical implications for organizations seeking to align HR strategies with climate action goals.

## Keywords

Green HRM, Climate Action, Environmental Sustainability, Employee Engagement, Pro-Environmental Behavior, SDG-13, Industrial Sector

## Introduction

The intensifying global climate crisis has necessitated a fundamental transformation in organizational practices, compelling institutions to integrate environmental sustainability within their operational and strategic frameworks. Climate change, driven largely by anthropogenic activities, has emerged as a systemic challenge impacting economic stability, environmental integrity, and social well-being. In response, global frameworks such as the United Nations Sustainable Development Goals, particularly SDG 13: Climate Action, emphasize the urgent need for organizations to adopt climate-responsive strategies.

Traditionally, environmental sustainability efforts within organizations have been driven by regulatory compliance and technological interventions. However, emerging research highlights the critical role of human capital in achieving sustainability outcomes. Human Resource Management (HRM), therefore, has evolved into a strategic function capable of influencing organizational behavior and promoting environmental responsibility.

Green Human Resource Management (GHRM) represents a paradigm shift in HR practices by embedding environmental considerations into core HR functions such as recruitment, training, performance appraisal, and reward systems. By aligning employee behavior with sustainability goals, GHRM facilitates the internalization of environmental values within organizational culture.

Despite growing scholarly attention, limited research has explored the linkage between GHRM and climate action outcomes, particularly within industrial contexts in emerging economies. This study addresses this gap by examining how GHRM practices influence employee behavior and contribute to organizational climate action initiatives within the industrial ecosystem of Vadodara.

## Literature Review

The evolution of sustainability discourse from an environmental focus to an integrated framework encompassing economic and social dimensions has redefined organizational responsibilities. Within this paradigm, GHRM has emerged as a strategic mechanism for embedding sustainability into organizational processes.

Empirical studies suggest that GHRM practices positively influence employee behavior, particularly in promoting environmental awareness and pro-environmental actions. Training programs, green recruitment, and performance appraisal systems have been identified as key drivers of sustainability outcomes.

From a theoretical perspective, the Resource-Based View emphasizes that human capital and environmental competencies serve as strategic assets contributing to competitive advantage. The AMO framework explains how HR practices enhance employee performance through ability, motivation, and opportunity. Similarly, Self-Determination Theory highlights the role of intrinsic motivation in driving sustainable behavior.

However, existing literature largely focuses on environmental performance outcomes, with limited integration of employee-related variables such as engagement and motivation in relation to climate action. This study seeks to address this gap by developing a comprehensive framework linking GHRM practices with behavioral and sustainability outcomes.

## Research Methodology

### Research Design

The present study adopts a **quantitative, descriptive research design** to examine the relationship between Green Human Resource Management (GHRM) practices and climate action outcomes within organizational settings. A descriptive design is considered appropriate as it enables the systematic analysis of existing organizational practices and employee perceptions without manipulating variables. Such an approach is widely used in Human Resource Management and sustainability research to capture behavioral and attitudinal patterns in workplace environments.

The study is **cross-sectional in nature**, wherein data are collected at a single point in time to assess the extent of GHRM implementation and its perceived influence on employee engagement, motivation, and

climate-oriented behavior. Although cross-sectional designs limit causal inferences, they are effective in identifying patterns and associations within organizational contexts.

## Research Approach

A **deductive research approach** is employed, grounded in established theoretical frameworks such as the Resource-Based View, the Ability–Motivation–Opportunity (AMO) framework, and Self-Determination Theory. These frameworks provide a conceptual basis for examining how sustainability-oriented HR practices influence employee attitudes and behaviors.

The deductive approach facilitates the translation of theoretical constructs into measurable variables, thereby enabling empirical validation of the relationship between GHRM practices and climate action outcomes.

## Study Area and Context

The empirical investigation is conducted within the industrial ecosystem of Vadodara, a region characterized by a high concentration of manufacturing, chemical, pharmaceutical, and engineering industries. The selection of this area is justified by its industrial diversity, environmental sensitivity, and increasing emphasis on sustainability and regulatory compliance.

Organizations operating in such environments face the dual challenge of maintaining operational efficiency while adhering to environmental standards, making them suitable contexts for examining the effectiveness of GHRM practices in supporting SDG 13: Climate Action.

## Population and Sampling

The target population comprises employees working in industrial organizations within Vadodara, particularly in sectors such as manufacturing, chemicals, and engineering. These sectors are selected due to their environmental impact and reliance on human capital.

A **non-probability sampling technique**, specifically convenience sampling, is used to collect data from respondents. This approach is commonly adopted in organizational research due to constraints related to accessibility and time. The sample includes employees from different hierarchical levels and functional roles to capture diverse perspectives on HR practices and environmental initiatives.

## Data Collection Method

The study is based on **primary data**, collected through a structured questionnaire administered to employees. The questionnaire method is widely recognized for its effectiveness in capturing perceptions, attitudes, and behavioral responses in HR research.

The instrument is divided into multiple sections covering:

- Green HRM practices (recruitment, training, appraisal, rewards)
- Employee engagement
- Employee motivation
- Climate action and environmental behavior

Responses are recorded using a **Likert-scale format**, enabling the quantification of subjective perceptions and facilitating comparative analysis.

## Measurement of Variables

The study operationalizes key constructs based on established theoretical frameworks:

- **Green HRM:** Measured through dimensions such as green recruitment, environmental training, performance appraisal, and reward systems
- **Employee Engagement:** Assessed through indicators such as participation, involvement, and commitment to environmental initiatives
- **Employee Motivation:** Includes both intrinsic and extrinsic motivational factors influencing pro-environmental behavior
- **Climate Action Outcomes:** Measured through employee participation in sustainability initiatives, environmental awareness, and perceived organizational impact

These constructs are translated into measurable questionnaire items to ensure alignment with existing literature and theoretical foundations.

## Data Analysis Techniques

Given the descriptive nature of the study, data analysis is conducted using basic statistical techniques, including:

- Frequency distribution
- Percentage analysis
- Comparative interpretation

These techniques are used to identify patterns in responses and evaluate the level of agreement among employees regarding GHRM practices and their role in climate action. Descriptive analysis is appropriate for perception-based studies aimed at understanding trends rather than establishing causality.

## Validity and Reliability

To ensure **content validity**, the questionnaire is developed based on established constructs and prior research in GHRM and organizational behavior. The items are designed to reflect theoretical definitions and maintain conceptual clarity.

Reliability is maintained through consistency in measurement scales and standardized data collection procedures. The use of previously validated constructs enhances the overall robustness and credibility of the research instrument.

## Ethical Considerations

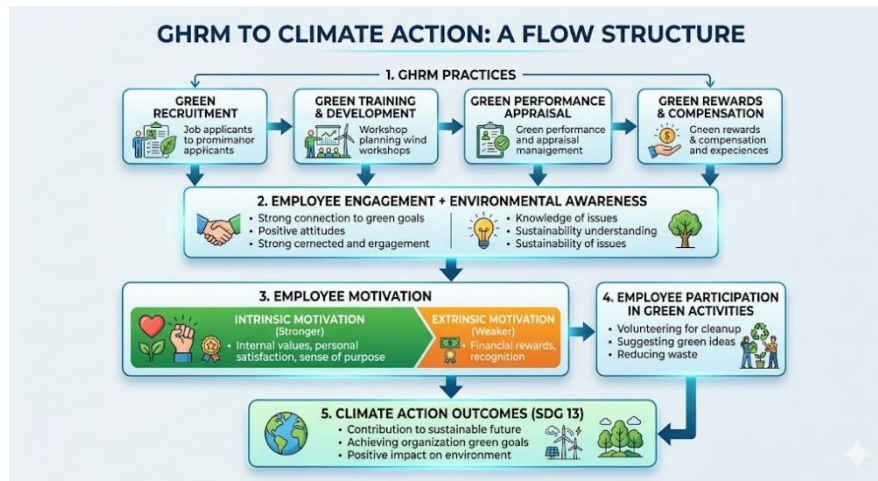
The study adheres to established ethical standards for academic research. Participation is voluntary, and respondents are informed about the purpose of the study prior to data collection. Confidentiality and anonymity are strictly maintained to ensure unbiased and honest responses.

## Data Analysis & Findings

The analysis reveals that Green Human Resource Management (GHRM) practices are **partially implemented** across the studied organizations. While certain functions such as green recruitment and environmental training exhibit relatively higher levels of adoption, other critical areas—particularly

performance appraisal and reward systems—remain underdeveloped. This indicates that organizations are in a **transitional phase**, where sustainability practices have been initiated but not yet fully institutionalized across the HR framework.

Furthermore, employees demonstrate **moderate to high levels of engagement and environmental awareness**, reflecting the positive influence of sustainability-oriented HR practices. Environmental training programs, in particular, play a significant role in enhancing employees' participation in climate-related initiatives such as energy conservation, waste reduction, and eco-friendly workplace behavior. This suggests that structured learning interventions are effective in promoting pro-environmental attitudes.



The findings also indicate that **intrinsic motivation is more strongly influenced than extrinsic motivation**. Employees derive a sense of personal satisfaction, purpose, and fulfillment from contributing to environmental sustainability. This highlights the importance of value-driven organizational cultures in fostering meaningful employee behavior, rather than relying solely on external rewards.

Overall, the study establishes a **positive and significant relationship between GHRM practices and organizational climate action outcomes**. The results suggest that effective implementation of GHRM not only enhances employee-related outcomes such as engagement and motivation but also contributes to broader environmental sustainability goals aligned with SDG 13: Climate Action.

## Conclusion

The present study highlights the growing significance of Green Human Resource Management (GHRM) as a strategic approach to addressing environmental sustainability within organizational contexts. The findings indicate that while GHRM practices are being adopted by organizations, their implementation remains partial and uneven across different HR functions. Practices such as green recruitment and environmental training have gained relatively higher acceptance, whereas performance appraisal and reward systems require further integration.

The study reveals that GHRM practices positively influence employee engagement, environmental awareness, and participation in sustainability initiatives. Employees exhibit a strong inclination toward environmentally responsible behavior, particularly when organizations provide structured training and supportive work environments. Furthermore, the dominance of intrinsic motivation over extrinsic motivation suggests that employees are driven by internal values and a sense of purpose when contributing to environmental sustainability.

Importantly, the study establishes a positive relationship between GHRM practices and climate action outcomes, demonstrating that HR functions can play a pivotal role in advancing organizational contributions toward SDG 13: Climate Action. By fostering a sustainability-oriented organizational

culture, GHRM not only enhances employee-related outcomes such as engagement and retention but also supports broader environmental goals.

In conclusion, the study affirms that GHRM serves as a critical link between human resource practices and climate action, enabling organizations to align their internal processes with global sustainability frameworks.

## **Recommendations**

Based on the findings of the study, the following recommendations are proposed to strengthen the implementation of GHRM practices and enhance organizational contributions toward climate action:

### **1. Integration of Sustainability into HR Policies**

Organizations should formally integrate environmental sustainability into HR policies and strategies to ensure a systematic and organization-wide adoption of GHRM practices.

### **2. Strengthening Environmental Training Programs**

Regular and structured training programs should be conducted to enhance employees' environmental awareness and equip them with the necessary skills to engage in climate-friendly practices.

### **3. Inclusion of Green Performance Indicators**

Environmental performance metrics should be incorporated into employee appraisal systems to ensure accountability and encourage environmentally responsible behavior.

### **4. Development of Reward and Recognition Systems**

Organizations should design incentive structures that recognize and reward employees for their contribution to sustainability initiatives, thereby reinforcing positive behavior.

### **5. Encouraging Employee Participation**

Active participation of employees in environmental initiatives such as energy conservation, waste management, and green campaigns should be encouraged to foster a culture of sustainability.

### **6. Enhancing Top Management Commitment**

Strong commitment and involvement from top management are essential for the successful implementation of GHRM practices and the achievement of long-term sustainability goals.

### **7. Continuous Monitoring and Evaluation**

Organizations should regularly assess the effectiveness of GHRM practices through feedback mechanisms and performance reviews to ensure continuous improvement.

## **Plan of Action with Social Work and HR Interventions**

To effectively strengthen the role of Green Human Resource Management (GHRM) in achieving climate action, a comprehensive plan integrating both Human Resource strategies and Social Work interventions is essential. This integrated framework ensures not only organizational sustainability but also active employee participation and behavioral transformation toward environmental responsibility.

## 1. Environmental Awareness and Capacity Building

### HR Intervention:

Organizations should design and implement structured environmental training programs aimed at enhancing employees' knowledge of climate change, sustainability practices, and resource conservation. These programs should be integrated into regular training and development initiatives.

### Social Work Intervention:

Social work professionals can facilitate awareness campaigns, workshops, and group discussions that promote environmental sensitivity. Participatory learning approaches, such as experiential activities and community-based education, can be used to encourage behavioral change.

## 2. Green Recruitment and Value-Based Orientation

### HR Intervention:

Environmental values should be incorporated into recruitment and selection processes. Job descriptions can emphasize sustainability roles and responsibilities, ensuring the selection of environmentally conscious candidates.

### Social Work Intervention:

Orientation programs should focus on value-based learning, emphasizing environmental ethics, social responsibility, and collective accountability. Social workers can support employees in internalizing these values through interactive sessions.

## 3. Employee Engagement and Participation

### HR Intervention:

Organizations should establish green teams or sustainability committees to encourage employee involvement in environmental initiatives such as energy conservation, waste reduction, and green workplace practices.

### Social Work Intervention:

Community-based activities such as tree plantation drives, environmental campaigns, and awareness programs can be organized to enhance collective participation. Social workers can facilitate group processes and promote inclusive engagement.

## 4. Performance Management and Motivation Systems

### HR Intervention:

Environmental performance indicators should be integrated into appraisal systems. Organizations should also introduce reward and recognition mechanisms to encourage sustainable behavior.

### Social Work Intervention:

Social work approaches can be used to strengthen intrinsic motivation by linking employee contributions to broader social and environmental impacts. Positive reinforcement and motivational techniques can enhance long-term behavioral change.

## 5. Policy Development and Organizational Commitment

### HR Intervention:

Organizations should develop clear and structured Green HRM policies aligned with sustainability goals and climate action strategies. Strong leadership commitment is necessary for effective implementation.

### Social Work Intervention:

Social workers can advocate for inclusive and participatory policy development, ensuring that employee voices are considered. Ethical practices and transparency should be promoted throughout the organization.

## 6. Monitoring, Evaluation, and Continuous Improvement

### HR Intervention:

Regular monitoring and evaluation of GHRM practices should be conducted using performance indicators and feedback mechanisms to assess effectiveness and identify areas for improvement.

### Social Work Intervention:

Social audits and impact assessments can be carried out to evaluate the social and environmental outcomes of organizational practices. Continuous stakeholder engagement can ensure accountability and transparency.

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