Green human resource management in Vietnam's public agricultural sector

Dr. Tran Thi Mai
Academy of Public Administration and Governance

Abstract: *In the context of implementing international commitments to achieve net-zero emissions and promote green growth, green human resource management in the public sector has attracted increasing attention as a key enabler of sustainable development transitions. This article examines the shift from traditional human resource management models toward green human resource management, emphasizing the importance of ecological competencies and mindsets among cadres, civil servants, and public employees in Vietnam's agricultural sector. Drawing on the experiences of the Netherlands, Japan, and Israel, the study identifies several limitations in the current frameworks governing recruitment standards, training programs, and performance evaluation systems. Based on the institutional reform agenda for the 2026 - 2032 period, the article proposes several policy implications to progressively integrate green management principles into the state management system. These recommendations are expected to enhance the effectiveness of public duty enforcement and contribute to the sustainable development of Vietnam's agricultural sector.*

Keywords: *Green human resource management; public sector; state management; sustainable agriculture; green growth; Vietnam.*

1. Introduction

Sustainable agricultural development and green growth have become important priorities for many countries, including Vietnam. Following Vietnam's commitment at the 26th United Nations Climate Change Conference (COP26) in 2021 to achieve net-zero emissions by 2050, the agricultural sector has faced increasing pressure to transform its development model in order to adapt to climate change, mitigate natural resource degradation, and meet the growing environmental standards imposed by international markets. In this transition process, the State plays a pivotal role through policy formulation, regulatory oversight, and the mobilization of social resources.

To achieve the objectives of green agricultural development, human

Received:
March 23, 2026
Revised:
June 11, 2026
Accepted:
June 22, 2026
https://doi.org/
10.59394/JSM.143

resources in the public sector play a critical role in policy implementation, public service delivery, and technical support for citizens and businesses. However, current human resource management practices within state agencies responsible for agriculture in Vietnam continue to rely predominantly on traditional approaches that emphasize administrative competencies and technical expertise. Requirements related to ecological thinking, environmental governance capacity, and sustainable development orientation have not yet been fully integrated into human resource management frameworks. The absence of green criteria in recruitment, training, performance evaluation, and personnel utilization may constrain cadres, civil servants, and public employees' ability to adapt effectively to the emerging demands of the green transition.

Against this backdrop, the study and application of green human resource management in the public agricultural sector are important not only for enriching the theoretical foundations of contemporary human resource management but also for enhancing the effectiveness and efficiency of state management in promoting sustainable agricultural development. The article addresses three key research questions: (1) What are the nature and core characteristics of green human resource management in the public sector, and how does it differ from traditional human resource management? (2) What is the current state of policies and practices related to green human resource management within Vietnam's agricultural management system? (3) What policy orientations and solutions are needed to develop a green workforce in the public sector capable of meeting the requirements of sustainable agricultural development?

2. Theoretical foundations

2.1. The concept of green human resources and green human resource management in the public agricultural sector

The concept of green human resources constitutes an important foundation for developing human resource management systems aligned with sustainable development objectives. In general, green human resources refer to a workforce possessing the knowledge, skills, attitudes, and behaviors that support environmental protection, the efficient use of natural resources, and the promotion of sustainable development. Green human resources can be examined from two fundamental dimensions: (1) The competency dimension, which encompasses professional knowledge of the circular economy, low-emission agriculture, and skills related to environmental management and risk response; and (2) The behavioral and motivational dimension, which reflects individuals' awareness, sense of responsibility, and level of participation in environmental protection activities during the performance of their duties.

In the context of the transition toward a green development model, increasing attention has been paid to enhancing human resource quality by integrating environmental values into public sector management. The differences between traditional human resources and green human resources can be identified through several key criteria, as presented in *Table 1.*

Table 1. Comparison between traditional human resources and green human resources

Criteria	Traditional human resources	Green human resources (public sector context)
Management objective	Maximizing administrative efficiency and labor productivity	Balancing management effectiveness with ecological values and environmental responsibility
Core mindset	Mechanistic thinking focused on addressing short-term and localized issues	Systems thinking emphasizes long-term sustainability and broader ecological impacts
Core competencies	Professional expertise and compliance with administrative procedures	Integration of professional competencies with green competencies and ecological awareness
Value system	Emphasis on hierarchy and administrative command structures	Encouragement of voluntary engagement, green innovation, and commitment to environmental protection

Source: Compiled from Jabbour (2011) and Arulrajah et al. (2015).

Green human resource management (GHRM) refers to the integration of environmental objectives and sustainable development orientations into the functions and practices of human resource management systems. In the public sector, GHRM encompasses not only internal management activities aimed at improving resource efficiency but also efforts to support the implementation of public policies on environmental protection and sustainable development through the recruitment, training, performance evaluation, and professional development of cadres, civil servants, and public employees.

The identification and development of green human resources should be considered within the specific context of each sector. In the private sector, GHRM practices are typically associated with improving performance effectiveness, reducing operational costs, and enhancing organizations' competitiveness. In contrast, green human resources in the public sector possess distinctive characteristics associated with serving society and executing public duties. Cadres, civil servants, and public employees perform their duties on the basis of public accountability and the pursuit of the public interest. Consequently, beyond improving organizational effectiveness, GHRM in the public sector also seeks to strengthen policy implementation capacity, support institutional development, and promote the participation of various societal actors in the pursuit of sustainable development.

Table 2. Differences in the motivations and objectives of green human resources

Criteria	Private sector	Public sector
Primary objective	Maximizing business performance and competitive advantage through green products and services.	Ensuring the effective implementation of public policies, strengthening institutions, and facilitating society's green transition.
Key drivers	Profit incentives, operational cost reduction, and pressures from markets and consumers.	Public service motivation, public accountability, and national commitments to sustainable development.
Nature of constraints	Influenced by supply chain standards, investor expectations, and customer preferences.	Strongly shaped by legal regulations, institutional norms, and public expectations.
Scope of impact	Internal organizational operations and the firm's immediate supply chain.	Society-wide influence, shaping the behavior of both businesses and citizens.

Source: Compiled by the author (2026).

For the agricultural sector, the development of green human resources has become an increasingly important requirement for promoting green growth and sustainable development. Agriculture is highly dependent on natural resources and is particularly vulnerable to the impacts of climate change. In response to the need to reduce greenhouse gas emissions, promote the circular economy, and fulfill commitments to achieving net-zero emissions, the agricultural sector requires a workforce of cadres, civil servants, and public employees who possess environmental awareness, a sound understanding of sustainable development, and managerial competencies aligned with the green transition. Such personnel must be capable of participating in the formulation, implementation, and monitoring of policies on environmental standards, transformation of the production model, and environmental risk management in agriculture.

From the perspective of state management of the agricultural sector, green human resource management encompasses a set of practices aimed at forming and developing a public-sector workforce capable of supporting sustainable development objectives. These practices include: (1) Green recruitment, which integrates requirements related to environmental awareness, sustainable development, and relevant competencies into recruitment standards, job positions, and personnel selection processes; (2) Green training and development, which equips cadres, civil servants, and public employees in the agricultural sector with knowledge of circular agriculture, climate change adaptation, resource efficiency utilization, and sustainable development models; (3) Green-oriented performance evaluation, which incorporates criteria related to environmental protection, efficient resource utilization, and the achievement of sustainable development goals into performance evaluation systems; and (4) Green compensation and organizational culture, which establishes appropriate incentive mechanisms for environmental initiatives, efficient resource utilization, and the promotion of green workplace environment within public institutions.

2.2. Foundational theories and analytical framework

(1) Foundational theories

This study is grounded in three principal theoretical foundations: resource-based theory, institutional theory, and sustainable development theory. Together, these theories provide a conceptual foundation for explaining the role of green human resource management in the public agricultural sector and for guiding the formulation of appropriate policy recommendations.

Resource-based theory: According to this theory, human resources with relevant knowledge, skills, and attitudes constitute a strategic organizational resource that can enhance operational effectiveness and strengthen adaptability to external environmental changes. Within the public agricultural sector, cadres, civil servants, and public employees with competencies in environmental management and sustainable development can contribute significantly to the formulation, implementation, and monitoring of policies related to green growth and sustainable agricultural development. Such human resources play an important role in improving the quality of public governance and the effectiveness of policy implementation in the agricultural sector.

Institutional theory: Institutional theory provides a foundation for analyzing the behavior of public organizations operating within the constraints of legal systems, social norms, and stakeholder expectations. From this perspective, organizational changes are often shaped by institutional pressures and compliance requirements. The integration of environmental criteria into human resource management practices in the public sector may therefore be understood as a response by state management systems to national orientations, strategies, and commitments concerning green growth, sustainable development, and climate change adaptation.

Sustainable development theory: It emphasizes balancing economic, social, and environmental objectives throughout the development process. This perspective is particularly relevant to the agricultural sector, given its heavy dependence on natural resources and its vulnerability to climate change impacts. In this context, green human resource management is an important mechanism for advancing sustainable development goals by cultivating cadres, civil servants, and public employees with environmental competencies. Such capacities can facilitate the transition toward agricultural production systems that are more circular, resource-efficient, and low-emission.

(2) Analytical framework for green public-service behavior transformation

The relationship between human resource management and the effectiveness of sustainable agricultural development can be explained by a causal chain linking human resource management practices to public service performance outcomes. The implementation of green human resource management practices - including recruitment, utilization, training, performance evaluation, and compensation - can contribute to the development of green competencies among cadres, civil servants, and public employees. These competencies serve as a foundation for promoting environmentally responsible public-service behaviors in policy formulation and implementation, thereby enhancing the effectiveness of state management and supporting sustainable agricultural development objectives.

To clarify the mechanisms through which green human resource management influences public-service behavior, this study adopts the MOTA analytical framework (Motivation - Opportunity - Technology - Ability). In the context of digital transformation associated with green transition, changes in the behavior and competencies of cadres, civil servants, and

public employees are influenced not only by individual factors but also by technological conditions and the organizational environment. Accordingly, the framework consists of four key dimensions:

Ability (A): Ability forms the foundation of professional knowledge and practical skills in sustainable development and environmental protection. Through recruitment, training, and professional development programs, public agencies can equip cadres, civil servants, and public employees with knowledge of the circular economy, low-emission agriculture, climate change adaptation, and environmental risk management. These competencies support policy advice, formulation, and implementation processes aimed at promoting sustainable agricultural development.

Motivation (M): Competencies can only be fully utilized when public personnel possess appropriate motivation. Integrating environmental objectives into performance evaluation systems, combined with mechanisms for recognition, incentives, and career development, can encourage active engagement in sustainable development initiatives among cadres, civil servants, and public employees. Such measures also help strengthen awareness of public-duty responsibilities related to environmental protection and the public interest.

Technology (T): Technology serves as an enabling factor, facilitating the translation of knowledge and policy orientations into practical action. This factor reflects the capacity to utilize digital technologies, information systems, databases, and environmental monitoring tools in the performance of public duties. Strengthening technological capabilities can improve administrative efficiency, support environmental monitoring, and enhance the quality of advisory and extension services for citizens and businesses in the agricultural sector.

Opportunity (O): The organizational and institutional conditions that enable cadres, civil servants, and public employees to apply their competencies and motivation in practice. Creating a working environment that encourages innovation, promotes inter-agency collaboration, and facilitates participation in the development and implementation of initiatives can foster green-oriented public service behaviors.

The interaction among the four dimensions - ability, motivation, technology, and opportunity - within the MOTA framework provides a useful basis for explaining the emergence and maintenance of green public service behaviors in the public sector. By enhancing individual competencies, strengthening appropriate motivation, improving technological conditions, and enhancing institutional environments, cadres, civil servants, and public employees can improve the effectiveness of policy implementation and contribute to achieving sustainable agricultural development goals.

3. Literature review

Over the past several decades, green human resource management (GHRM) has emerged as a subject of growing interest among scholars worldwide. Based on their thematic focus and research orientation, existing studies can be broadly classified into three main streams.

Research stream 1: Conceptualization and theoretical foundations. Early studies by Wehrmeyer (1996) emphasized the importance of human factors in achieving organizational environmental management objectives. Subsequently, Jackson et al. (2011) and Jabbour (2011) contributed significantly to clarifying the conceptual foundations and scope of GHRM. Notably, Renwick et al. (2013) systematized green human resource management practices through the Ability-Motivation-Opportunity (AMO) framework, providing an analytical model that has been widely adopted in studies examining employees' environmental behaviors.

Research stream 2: The impacts of GHRM. Studies within this stream have primarily

employed quantitative methods and structural equation modeling (SEM) to investigate the relationship between GHRM practices and organizational outcomes. Tang et al. (2018) developed measurement scales that have become widely used in empirical research on GHRM. Studies by Dumont et al. (2017) and Pham et al. (2019) found that GHRM is positively associated with employees' pro-environmental behaviors through mediating mechanisms such as organizational identity and employee empowerment. More recently, Ren et al. (2020) extended this line of inquiry by examining the combined influence of GHRM and ethical leadership on organizational environmental performance. Nevertheless, the majority of studies in this stream have been conducted within private-sector organizations.

Research stream 3: Green human resources in the public sector, agriculture, and the Vietnamese context. In recent years, an increasing number of studies have expanded the scope of analysis to include public-sector organizations and sector-specific contexts, highlighting the role of government agencies in facilitating green transitions. Unlike private-sector organizations, GHRM in the public sector is strongly influenced by institutional factors, public service responsibilities, and the obligation to pursue sustainable development objectives. Several recent studies have proposed assessment frameworks and human resource management approaches designed to enhance sustainability within public organizations. In the agricultural sector, Setyanti et al. (2024) argue that GHRM practices can improve organizational performance while supporting innovation processes aligned with sustainable development goals.

In Vietnam, the green transition has been promoted through a range of important guidelines, strategies, and important policies issued by the Prime Minister, including the National green growth strategy for the 2021 - 2030 period, with a vision to 2050 (Decision No. 1658/QD-TTg dated October 1, 2021) and the Strategy for sustainable agriculture and rural development for the 2021 - 2030 period, with a vision to 2050 (Decision No. 150/QD-TTg dated January 28, 2022). Existing domestic studies on GHRM have primarily focused on the business sector, particularly in service industries, hospitality, and aviation (Nga & Hau, 2021; Quyen, 2024; Cuong, 2024; Vuong, 2025). These studies generally examine factors influencing employees' behavior and job performance, whereas research on GHRM in the public sector remains relatively limited.

A review of the literature indicates that, although existing studies have contributed significantly to understanding the role and impacts of GHRM within organizations, several important research gaps remain.

First, studies on GHRM in the public sector remain relatively scarce. While many studies have focused on the business sector, the role of cadres, civil servants, and public employees in advancing sustainable development and supporting the green transition has not yet received sufficient scholarly attention.

Second, research on green human resources within the agricultural sector remains limited. Most existing studies concentrate on enterprises or agricultural supply chains, whereas the role of state management agencies and the green competencies of cadres, civil servants, and public employees working in the agricultural sector have received comparatively little attention.

Third, in the Vietnamese context, existing studies have largely adopted organizational- or individual-level perspectives within the business sector. Research addressing GHRM from the perspectives of public policy, institutional design, and human resource management in the public sector remains underdeveloped.

Fourth, there is currently a lack of studies devoted to developing competency frameworks and solutions for green human

resource development, specifically for cadres, civil servants, and public employees in the agricultural sector, within the context of green growth and sustainable development objectives.

In light of these research gaps, this article focuses on GHRM in Vietnam's public agricultural sector. Based on this analysis, it proposes several policy implications to enhance the quality of cadres, civil servants, and public employees while supporting the sustainable development of Vietnam's agricultural sector.

4. International experiences in GHRM in the public agricultural sector

(1) *The Netherlands.* The Dutch government places considerable emphasis on developing a public-sector agricultural workforce with interdisciplinary expertise that combines agricultural knowledge, natural resource management, environmental protection, and sustainable development. In addition to technical competencies, this workforce is encouraged to acquire knowledge related to the circular economy, emissions management, and climate change adaptation (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2018). The Netherlands also maintains strong linkages among state management agencies, research institutes, universities, and production sectors to facilitate knowledge transfer and agricultural innovation. Within this framework, public-sector personnel play an important role in connecting research institutions with farmers and agribusinesses and in disseminating research outcomes (OECD, 2019; World Bank, 2020). The Dutch experience demonstrates that investment in the quality of human resources and strengthening connections between research and practice can effectively support the transition toward sustainable agriculture.

(2) *Japan.* Human resource development in Japan's agricultural sector has been closely integrated with digital transformation and the promotion of sustainable production models. Through the MIDORI Strategy for Sustainable Food Systems, introduced by the Ministry of Agriculture, Forestry and Fisheries (MAFF) in 2021, Japan has prioritized enhancing the capabilities of managerial personnel and agricultural extension officers in areas related to environmental protection, emissions reduction, and the application of technology in agricultural production. Alongside technological innovation, Japan has expanded training, advisory, and technical support programs to assist producers in adopting sustainable farming practices and adapting to climate change (OECD, 2019; EU-ASEAN Business Council & CropLife Asia, 2024). Japan's experience highlights the critical role of professional personnel in bridging policy orientations and implementation processes at the local level.

(3) *Israel.* Faced with constraints related to land and water resources, Israel has prioritized developing innovation capacity within the public sector to improve the effectiveness of natural resource management and utilization. In the agricultural sector, public managers perform not only regulatory functions but also facilitate collaboration among state management agencies, research institutions, and production stakeholders. Encouraging innovation, promoting the application of science and technology, and facilitating knowledge transfer are regarded as central components of agricultural human resource development. In addition, mechanisms supporting research, innovation, and technological adoption have enhanced the country's capacity to address resource constraints and climate-related challenges (Israel Innovation Authority, 2019; OECD, 2023). The Israeli experience demonstrates that close integration among state management, scientific research, and innovation can significantly improve agricultural development outcomes under resource constraints.

The experiences of the Netherlands, Japan, and Israel suggest that the development of green human resources in the public agricultural sector is commonly pursued through integrated approaches that encompass recruitment, training, mentoring, and professional development for cadres, civil servants, and public employees. These countries also place a strong emphasis on collaboration among state management agencies, research institutions, training institutions, and production sectors to continuously update knowledge, skills, and technologies that support sustainable agricultural development. Furthermore, building workplace environments that encourage innovation, continuous learning, and knowledge sharing is widely regarded as an important factor in enhancing the effectiveness of policy implementation and strengthening adaptability to the demands of the green transition.

5. Discussion of research findings and policy implications

5.1. Discussion of research findings

The findings indicate that elements of GHRM in Vietnam's public agricultural sector have gradually been reflected in guidelines and policies related to green growth and sustainable development. However, the integration of green competency requirements into key human resource management functions - including recruitment, training, performance evaluation, and the development of cadres, civil servants, and public employees - has not yet been implemented in a systematic and comprehensive manner. This observation is consistent with several domestic studies on green transition and public-sector human resource development, which highlight limitations in professional capacity, training mechanisms, and the linkage between policy objectives and human resource management practices within public institutions.

Compared with studies on GHRM in the private sector (Quyen, 2024; Cuong, 2024), the findings suggest that the public sector exhibits distinctive characteristics in implementation mechanisms, public duty responsibilities, and institutional compliance requirements. While private enterprises can adjust their human resource policies relatively flexibly in response to organizational development goals, state agencies are generally required to operate within existing legal frameworks, job title standards, and human resource management mechanisms. As a result, the integration of green growth and sustainable development criteria into human resource management practices tends to proceed more slowly than the pace demanded by the green transition.

A comparison with the experiences of the Netherlands, Japan, and Israel reveals several common features. These countries place strong emphasis on developing green competencies through continuous training, strengthening collaboration between state management agencies and research institutions, and promoting the application of science and technology in agricultural management. Nevertheless, it is important to recognize that these international experiences have evolved within different institutional settings, levels of economic development, financial resources, and scientific and technological conditions. Therefore, international experiences should be adapted selectively and appropriately to Vietnam's specific context rather than adopted it as a template. In particular, differences in governance capacity, budgetary resources, and levels of development across localities require flexible and context-sensitive approaches to implementing green human resource development policies.

The findings further suggest that developing green human resources in the public agricultural sector is not merely a matter of training or raising awareness. It also requires improvements to human resource management institutions. In this regard,

developing green competency frameworks, incorporating environmental criteria into public performance evaluation systems, reforming training content, and strengthening incentive mechanisms for sustainability-oriented initiatives are likely to play important roles in enhancing the quality of cadres, civil servants, and public employees in the coming years.

Despite providing an overview of GHRM in Vietnam's public agricultural sector, the study has several limitations. Methodologically, the research primarily relies on document analysis, synthesis, and comparison of secondary data sources. Consequently, the findings may not fully capture differences in competencies, perceptions, and implementation conditions across localities, administrative levels, and stakeholder groups within the agricultural sector. In addition, the study does not include quantitative measurements of the components of green competencies and therefore cannot assess the relative influence of each element of green human resource management on public service performance.

Given these limitations, future studies could employ mixed-method approaches that combine qualitative and quantitative techniques to provide a more comprehensive assessment of green human resources in the public sector. The development of green competency assessment frameworks, large-scale surveys, and the application of multi-criteria analysis methods such as the Analytic Hierarchy Process (AHP) and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) could contribute to the measurement of green competency requirements for cadres, civil servants, and public employees in the agricultural sector. Such empirical evidence would provide a stronger scientific foundation for improving the effectiveness of GHRM in Vietnam's public sector.

5.2. Challenges in GHRM in the public agricultural sector

Although the policy framework for green growth, sustainable development, and green transformation in the agricultural sector has gradually been strengthened, green human resource management in the public sector continues to face numerous challenges. When assessed against the requirements of the green transition and the experiences of leading countries, existing limitations are primarily concentrated in recruitment, training, performance evaluation, and the development of organizational culture.

First, regarding recruitment and personnel utilization. Green competency requirements have not yet been clearly incorporated into job title standards, job positions, and recruitment criteria for cadres, civil servants, and public employees in the agricultural sector. Current recruitment processes continue to focus largely on state management knowledge, professional expertise, and traditional administrative skills. Meanwhile, competencies related to the circular economy, greenhouse gas emissions management, climate change adaptation, environmental impact assessment, and data analytics for natural resource management have not been adequately integrated into recruitment standards. This situation may limit the capacity of newly recruited personnel to meet the emerging demands of the green transition.

Second, regarding training and capacity development. Existing training and fostering programs have not fully kept pace with the rapid evolution of green development policies and sustainability standards. Many training programs continue to emphasize productivity improvement, production efficiency, and traditional management skills, whereas topics such as the circular economy, greenhouse gas inventories, environmental governance, low-emission agriculture, and climate change adaptation have not yet been widely incorporated. In particular, grassroots-level

personnel, agricultural extension officers, and local managers - who are directly involved in implementing green transition initiatives - often encounter difficulties in accessing specialized training programs and updated knowledge.

Third, regarding performance evaluation and career development systems. Current evaluation criteria for cadres, civil servants, and public employees primarily focus on task completion, compliance with administrative discipline, and the fulfillment of public duties in accordance with general regulations. Indicators reflecting individual contributions to environmental protection, efficient resource utilization, support for sustainable development programs, or the promotion of green innovation are not yet clearly integrated into performance appraisal systems. As a result, the existing evaluation framework provides limited incentives for personnel to actively engage in green transition initiatives.

Fourth, regarding the development of a green organizational culture. Various environmental protection and resource conservation initiatives have been implemented across state management agencies to differing degrees. However, values and behaviors related to sustainable development have not yet become an integral component of organizational culture in many public institutions. In numerous cases, efforts to establish green workplaces remain largely campaign-oriented or symbolic, while mechanisms that encourage behavioral change, knowledge sharing, innovation, and green-oriented public service practices remain insufficiently developed.

Overall, GHRM in Vietnam's public agricultural sector remains in its early stages of development. Although the requirements of sustainable development and green growth have been increasingly incorporated into national strategies and policies, significant challenges remain in translating these requirements into competency standards, training programs, performance evaluation systems, and organizational culture. The gap between policy requirements and actual implementation capacity is one of the most critical challenges that must be addressed to enhance the effectiveness of state management and support sustainable agricultural development in the years ahead.

5.3. Policy implications

In the context of Vietnam's commitments to green growth, sustainable development, and greenhouse gas emissions reduction, improving the quality of human resources in the public agricultural sector is essential to enhancing the effectiveness of policy implementation. Drawing on the research findings and international experiences discussed above, this study proposes several policy implications to gradually strengthen GHRM in the public agricultural sector. These recommendations are designed to clarify the responsibilities of relevant stakeholders while accounting for differences in resource availability and implementation capacity across localities.

First, for state management agencies at the central level, efforts should focus on progressively improving the institutional framework and competency standards for green human resources in the public sector. Priority should be given to reviewing and updating job title standards, job positions, and training programs to incorporate the requirements of sustainable development, the circular economy, greenhouse gas emissions management, and climate change adaptation. In addition, a green competency framework tailored to the agricultural sector's specific characteristics should be developed to guide the recruitment, training, utilization, and professional development of cadres, civil servants, and public employees. Environmental protection and sustainable development criteria should also be gradually

integrated into public-service performance evaluation systems to encourage the green transition within the public sector.

With regard to performance evaluation, the development of assessment criteria and measurement indicators should ensure feasibility and alignment with the operational characteristics of public administrative agencies. During the design and refinement of evaluation systems, multi-criteria analysis methods such as the Analytic Hierarchy Process (AHP) and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) may be considered to support the prioritization of green competency indicators. However, the application of these methods should be validated through empirical studies before being incorporated into management practice.

Second, for local governments, priority should be given to strengthening implementation capacity and establishing incentive mechanisms suited to local conditions. Green human resource development programs should be implemented in a phased approach, with priority given to localities undergoing significant transitions toward ecological agriculture, circular agriculture, and low-emission agricultural production. At the same time, greater emphasis should be placed on on-site training programs, thematic professional development activities, and continuous knowledge updating for cadres, civil servants, and public employees directly involved in agricultural and environmental state management.

Furthermore, local authorities should foster working environments that encourage innovation and green practices in public duties. In addition to financial incentives, non-monetary mechanisms such as recognition programs, awards, and preferential access to training and professional development opportunities may be introduced for individuals and organizations that advance initiatives to improve the effectiveness of resource management, environmental protection, and sustainable agricultural development.

Third, for training institutions and policy implementation agencies, human resource development content and methods should be reformed to meet the demands of the green transition.

Training institutions, academies, universities, and political schools should integrate topics such as sustainable development, the circular economy, greenhouse gas emissions management, agricultural digital transformation, and climate change adaptation into training and fostering programs for cadres, civil servants, and public employees. At the same time, greater emphasis should be placed on practice-oriented training and on collaboration with state management agencies, research institutions, and enterprises to enhance the practical relevance of training programs.

For policy implementation agencies, particularly the agricultural extension system, responsibilities should be expanded beyond technical production support to include advisory, guidance, and facilitation services that assist farmers, cooperatives, and agribusinesses in adopting sustainable agricultural production models. To fulfill these expanded responsibilities, agricultural extension officers should be equipped with the knowledge and skills needed for green development, resource management, emissions reduction, and climate change adaptation. Thus, the agricultural extension system can serve more effectively as a bridge connecting policies, science and technology, and agricultural production practices to support sustainable agricultural development.

Overall, the development of green human resources in the public agricultural sector is a long-term process that requires close coordination among state management agencies, local authorities, training institutions, and policy implementation organizations.

Improving institutional frameworks, strengthening capacities, and fostering workplace environments oriented toward sustainable development will enhance the quality of cadres, civil servants, and public employees, thereby providing stronger support for Vietnam's green transition and sustainable agricultural development objectives.

6. Conclusion

Based on an analysis of the theoretical foundations, the current state of GHRM in the public agricultural sector, and lessons drawn from international experiences, this study demonstrates that human resources play a critical role in achieving green growth and sustainable agricultural development objectives. In addition to technological, financial, and institutional factors, the competencies, awareness, and adaptive capacities of cadres, civil servants, and public employees directly influence the effectiveness of policy implementation in the agricultural sector.

The findings indicate that although Vietnam has gradually strengthened its policy framework on green growth, sustainable development, and climate change adaptation, the integration of green competency requirements into public-sector human resource management remains limited. Existing practices related to recruitment, training, performance evaluation, and personnel development have not yet fully reflected the emerging requirements of the green transition, particularly in areas such as the circular economy, greenhouse gas emissions management, climate change adaptation, and sustainable resource management. These limitations may affect the effectiveness of implementing green-oriented agricultural policies and development programs in some localities.

The study suggests that the development of green human resources in the public agricultural sector should be regarded as a key component of efforts to improve state management of agriculture and sustainable development. In the coming years, further attention should be devoted to developing green competency frameworks, reforming training programs, improving performance evaluation systems, and designing human resource development policies aligned with green growth and sustainable development objectives. At the same time, stronger collaboration among state management agencies, training institutions, research organizations, and policy implementation bodies is required to enhance the quality of cadres, civil servants, and public employees to meet the demands of the green transition.

Given the scope and methodological limitations of this study, the analysis primarily relies on document review, policy synthesis, and references to international experiences. Future research could focus on developing green competency assessment frameworks, conducting large-scale empirical surveys, and applying quantitative analytical methods to examine more clearly the relationship between GHRM and policy implementation effectiveness in the agricultural sector. Such studies would provide a stronger evidence base to inform policy improvements and enhance the effectiveness of GHRM in Vietnam's public sector.

References:

Arulrajah, A. A., Opatha, H. H. D. P., & Nawaratne, N. N. J. (2015). *Green Human Resource Management Practices: A Review.* Sri Lankan Journal of Human Resource Management, 5(1), 1-16.

Bakos, E. et al. (2025). *An international framework for human resource management indicators in public administration.* OECD Working Paper.

Cuong, T. Q. (2024). *Green Human Resource Management and Employees' Pro-Environmental Behavior: The Roles of Green Organizational Identity, Green Knowledge Sharing, Green Vision Sharing, and Green Values (Doctoral dissertation). Ho Chi Minh City Open University, Vietnam.*

Dumont, J., Shen, J., & Deng, X. (2017). *Effects of green HRM practices on employee workplace outcomes: The role of self-identity and*

psychological empowerment. Journal of Business Ethics, 141(3), 513-527.

EU-ASEAN Business Council & CropLife Asia. (2024). *Report on the sustainability of ASEAN food systems.* Vietnamese edition published June 2024.

Giang, N. T. H. (2025). *Human Resource Development for the Green Economy: Challenges and Solutions.* Retrieved from https://tapchicongthuong.vn/phat-trien-nguon-nhan-luc-phuc-vu-kinh-te-xanh--thach-thuc-va-giai-phap-143247.htm

Israel Innovation Authority. (2019). *Innovation in Israel 2018-19 Overview.* Israel: Israel Innovation Authority.

Jabbour, C. J. C. (2011). *How green are HRM practices, organizational culture, learning and environmental management?* A Brazilian study. Industrial Management & Data Systems, 111(4), 473-495.

Jackson, S. E., Renwick, D. W., Jabbour, C. J., & Muller-Camen, M. (2011). *State-of-the-art and future directions for green human resource management: Introduction to the special issue.* German Journal of Research in Human Resource Management, 25(2), 99-116.)

Ministerie van Landbouw, Natuur en Voedselkwaliteit [LNV]. (2018). *Agriculture, Nature and Food: Valuable and Connected - The Netherlands as a leader in circular agriculture.* The Hague: Ministry of Agriculture, Nature and Food Quality.

Nga, H. T. T., & Hau, L. N. (2021). *The impact of green human resource management on employees' green motivation and green behavior: Evidence from hotels in Da Nang. Hue University* Journal of Science: Economics and Development, 130(5C), 153-170.

OECD. (2019). *Making Innovation Benefit Agriculture.* Paris: OECD Publishing.

OECD. (2023). *Agricultural Policy Monitoring and Evaluation 2023: Adapting Agriculture to Climate Change.* Paris: OECD Publishing.

Pham, N. T., Tučková, Z., & Phan, Q. P. T. (2019). *The role of self-efficacy and psychological empowerment in the relationship between green human resource management and employee's green behavior.* Journal of Hospitality and Tourism Management.

Prime Minister. (2021). *Decision No. 1658/QD-TTg approving the National Green Growth Strategy for the 2021 - 2030 Period, with a Vision to 2050.*

Prime Minister. (2022). *Decision No. 150/QD-TTg approving the Strategy for Sustainable Agriculture and Rural Development for the 2021 - 2030 Period, with a Vision to 2050.*

Prime Minister. (2025). *Decision No. 21/2025/QD-TTg on Environmental Criteria and Certification of Investment Projects Included in the Green Classification List.*

Quyen, N. T. T. (2024). *Green Human Resource Management in Hotels in Hanoi (Doctoral dissertation).* Thuongmai University, Vietnam.

Renwick, D. W. S., Redman, T., & Maguire, S. (2013). *Green Human Resource Management: A Review and Research Agenda.* International Journal of Management Reviews, 15(1), 1-14.

Ren, S., Tang, G., & Jackson, S. E. (2020). *Effects of green HRM and CEO ethical leadership on organizations environmental performance.* International Journal of Manpower, 42(6), 961-983.

Setyanti, S. W. L. H., et al. (2024). *Fostering Sustainable Agricultural Performance: The Mediating Role of Green Innovation in the Relationship between Green HRM Practices and Sustainability under the Pentahelix Model. Journal of System and Management Sciences.*

Tang, G., Chen, Y., van Knippenberg, D., & Yu, J. (2018). *Green human resource management practices: scale development and validity.* Asia Pacific Journal of Management, 35(3), 769-803.

Vuong, B. N., Hieu, V. T., & Vi, N. N. T. (2025). *The impact of green human resource management practices on employees' green behavior: Empirical evidence from Vietnam's aviation industry.* Retrieved from https://tapchicongthuong.vn/tac-dong-cua-thuc-tien-quan-tri-nguon-nhan-luc-xanh-den-hanh-vi-xanh-cua-nhan-vien--bang-chung-thuc-nghiem-tu-nganh-hang-khong-viet-nam-138954.htm

Wehrmeyer, W. (Ed.). (1996). *Greening People: Human Resources and Environmental Management.* Sheffield, UK: Greenleaf Publishing, p. 7.

World Bank. (2020). *Vietnam Development Report 2020: Transforming Vietnam's Agriculture.* Washington, DC: World Bank.