Sustainable Development Goals and Employee Performance: Evidence from PT Perkebunan Nusantara I Regional

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Abstract

This study examines the relationship between Sustainable Development Goal (SDG) 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), and employee performance at PT Perkebunan Nusantara I Regional I. A quantitative associative approach with a cross-sectional research design was employed. Data were collected from 54 employees selected from a population of 115 using the Slovin formula. A five-point Likert-scale questionnaire was administered, and multiple linear regression analysis was conducted using SPSS version 27. The findings revealed that SDG 8 ($B = 0.543$, $\beta = 0.566$, $t = 5.929$, $p < 0.001$) and SDG 12 ($B = 0.311$, $\beta = 0.376$, $t = 3.934$, $p < 0.001$) were positively and significantly associated with employee performance, with SDG 8 demonstrating a stronger relationship. The regression model was statistically significant ($F = 78.101$, $p < 0.001$) and explained 75.4% of the variance in employee performance ($R^2 = 0.754$), reflecting statistical association rather than causation. These findings indicate that decent work and responsible production practices are associated with higher employee performance. However, the relatively small sample and cross-sectional design limit generalizability and causal interpretation. This study contributes empirical evidence on the relationship between sustainable employment practices, responsible production, and employee performance within a state-owned plantation enterprise.

Keywords: *Corporate Sustainability, Employee Performance, SDG 8, SDG 12, State-Owned Plantation Enterprise*

1. INTRODUCTION

The plantation sector plays a crucial role in supporting sustainable development by contributing to economic growth, creating employment opportunities, and improving community welfare (Situmeang, Lina, Hisan, & Vaulina, 2024). According to reported data, the plantation subsector employed approximately 12.59 million workers in 2022, accounting for 34.66% of the total workforce in the agricultural sector (Kementan, 2025). This substantial contribution underscores the strategic importance of sustainability in the plantation sector, not only for supporting national economic growth but also for advancing the achievement of the Sustainable Development Goals (SDGs) and improving workers' welfare.

Presidential Regulation No. 59 of 2017 on the Implementation of the Achievement of the Sustainable Development Goals establishes the Sustainable Development Goals (SDGs) as a national priority. The achievement of the SDGs is not solely the responsibility of the government but also requires companies to incorporate sustainability principles into their operational activities, including Human Resource (HR) management. Human resources represent one of the most important assets of an organization, as organizational performance depends not only on capital and technology but also on the quality of its workforce. Hasanah, Rodiah, and Jannah (2025) demonstrate that corporate image, organizational attractiveness, and job expectations influence individuals' decisions when choosing an organization to work for. Their findings indicate that effective HR management practices can increase the attractiveness of an organization to individuals and contribute to the development of a high-quality workforce. Similarly, Leal, Olivas-Luján, and Yusliza (2023) found that sustainability-oriented work practices can improve employee well-being, engagement, and productivity while strengthening organizational sustainability as a whole. These findings are particularly relevant to the plantation sector, which is characterized by its labor-intensive nature.

SDG 8 (Decent Work and Economic Growth) has a direct connection with human resource management in the plantation sector. As an integral component of inclusive economic development, SDG 8 emphasizes the creation of decent employment, the protection of workers' rights, and the

improvement of workers' well-being (UN, 2015). Theoretically, the implementation of SDG 8 within organizations can contribute to the creation of a safer and more productive work environment, thereby encouraging higher employee motivation and performance (Elsawy, 2022). In addition to SDG 8, SDG 12 (Responsible Consumption and Production) has strategic relevance to the plantation sector. SDG 12 encourages organizations to adopt efficient production patterns through sustainable resource utilization and responsible waste management (Mensah, Wieck, & Rudloff, 2024). Such practices can foster greater employee discipline and engagement, ultimately contributing to improved employee performance (Mamun, Uddin, Rana, Biswas, & Dey, 2024). For the plantation sector, which relies heavily on the management of natural resources, the integrated implementation of SDG 8 and SDG 12 can theoretically create a work environment that supports business sustainability while simultaneously improving workforce quality (Kreinin & Aigner, 2022).

Although SDG 8 and SDG 12 are theoretically expected to have positive effects on employee performance, the existing literature reveals unresolved conceptual tensions. Kreinin and Aigner (2022) identify a tension between the productivity-enhancing logic and the decent labor logic, which may constrain the establishment of employment relationships that consistently generate long-term performance benefits. This suggests that the relationship between decent work principles (SDG 8) and employee performance may not always be direct or linear, as commonly assumed within the sustainable human resource management (sustainable HRM) framework. Meanwhile, the relationship between SDG 12 and employee performance in the existing literature also tends to be indirect, as SDG 12 is more frequently conceptualized at the operational and environmental governance levels, as discussed by Rahman and Hossain (2024), rather than explicitly as an antecedent of individual work behavior. This conceptual tension highlights the need for empirical investigation to determine whether these two SDGs significantly influence employee performance within a specific organizational context or whether their effects are interconnected.

Numerous studies have examined SDG implementation in Indonesia; however, several limitations remain. Existing research has predominantly focused on companies listed on the Indonesia Stock Exchange, with financial performance serving as the primary outcome measure (Arifianti & Widianingsih, 2022). Moreover, SDG implementation has generally been assessed based on the extent of disclosure in sustainability reports rather than on actual operational practices (Kuswantoro, Sholihin, & Djajadikerta, 2023). Several studies have specifically examined the relationship between individual SDGs and employee performance, although such research remains limited and tends to address the SDGs separately. Regarding SDG 8, Januarta and Karnawijaya (2026), who examined employee performance at the *LAZIS Jateng Sragen* philanthropic institution in supporting the achievement of SDG 8, found that effective employee performance was supported by stakeholder collaboration and the adoption of digital technology. However, their study employed a qualitative approach and did not statistically examine the effect of SDG 8 on employee performance. In relation to SDG 12, Nurmadani and Waskito (2025) demonstrated that green human resource management, which emphasizes the principles of responsible production and consumption, significantly influences employee performance. Nevertheless, empirical studies specifically examining the relationship between SDG 8 and SDG 12 and employee performance, rather than financial performance, in state-owned plantation enterprises remain scarce.

Furthermore, previous studies have predominantly examined SDG 8 and SDG 12 independently, indicating the need for research that investigates both goals simultaneously in relation to employee performance (Mensah et al., 2024). This is particularly important because the two goals are closely interconnected in human resource management, especially in labor-intensive sectors such as plantations. Based on the reviewed literature, empirical evidence examining the simultaneous relationships between SDG 8, SDG 12, and employee performance in Indonesian state-owned plantation enterprises remains limited. Existing studies have primarily examined sustainability practices through financial performance, organizational outcomes, or individual sustainability dimensions, leaving the combined relevance of decent work and responsible production practices to employee performance insufficiently explored.

This research gap is particularly relevant to PT Perkebunan Nusantara I Regional I, a state-owned plantation enterprise which also serves as an agent of national development. In addition to achieving economic objectives, the company is expected to fulfill social responsibilities and promote environmental sustainability. The sustainability report of PT Perkebunan Nusantara I Regional I demonstrates the company's commitment to sustainability principles encompassing economic, social, and environmental dimensions (PTPN, 2024). Nevertheless, challenges remain in translating sustainability principles into operational practices. This situation was reflected in a demonstration organized by the Plantation Workers' Union (*Serikat Pekerja Perkebunan Nusantara/ SPBun*) at PTPN I Regional I in April 2026. Workers raised concerns regarding differences in remuneration systems between contract and permanent employees, disparities in holiday allowance payments, and inequalities in bonus schemes within the company's business operations (Napitupulu & Sembiring, 2026).

These organizational concerns are directly related to the measurement of SDG 8 in this study, particularly employees' perceptions of wage fairness, employment conditions, occupational safety, professional development opportunities, and the protection of workers' rights. Examining these dimensions alongside employee performance provides an empirical basis for understanding how decent work practices are associated with individual work outcomes within the company. As an empirical illustration of the remuneration context within the company's operational area, the Governor of North Sumatra established the 2026 Regency Minimum Wage for Deli Serdang, one of the major operational areas of PTPN I Regional I, at IDR 4,041,543, while the North Sumatra Provincial Minimum Wage (*Upah Minimum Provinsi/UMP*) was set at IDR 2,992,559. These differences illustrate the variation in wage standards that may arise across the operational areas of a nationally operating company. Complementing this contextual evidence, a preliminary survey conducted by the researchers among 54 employees of PTPN I Regional I found that 48.1% of respondents considered that their current wages or salaries could be improved. This finding indicates that remuneration, as one of the dimensions of decent work under SDG 8, remains an area that warrants further strengthening at the operational level. Accordingly, this issue provides a relevant context for the present study.

Based on the aforementioned phenomenon and theoretical and research gaps, this study contributes new evidence by simultaneously integrating SDG 8 and SDG 12 as predictors of employee performance, rather than financial performance, within a state-owned plantation enterprise that has not previously been examined in this context, namely PT Perkebunan Nusantara I Regional I. Unlike previous studies that have examined SDG 8 and SDG 12 separately or focused on service and philanthropic sectors, this study investigates their simultaneous effects within the labor-intensive plantation sector. This sector faces substantial challenges in translating sustainability principles into operational practices, as evidenced by issues related to wage disparities. Therefore, this study aims to examine the influence of SDG 8 and SDG 12 on employee performance at PT Perkebunan Nusantara I Regional I.

In addition to employment-related concerns, the company's reliance on natural resources makes responsible consumption and production practices relevant to its daily operations. Accordingly, SDG 12 is examined through employees' perceptions of resource efficiency, waste management, energy conservation, and environmentally responsible work procedures. These operational dimensions are considered alongside SDG 8 to examine their relationships with employee performance. Beyond its organizational context, this study contributes to the theoretical understanding of sustainability-oriented human resource management by examining decent work and responsible consumption and production as two distinct but complementary dimensions of workplace sustainability. Drawing on stakeholder theory, the simultaneous examination of SDG 8 and SDG 12 provides an empirical basis for comparing how employee-oriented and environmentally responsible operational practices relate to individual performance. This approach extends existing discussions of corporate sustainability beyond financial and organizational outcomes by highlighting the relative importance of social and operational sustainability dimensions at the employee level.

2. LITERATURE REVIEW

2.1 Teori Stakeholder

The book strategic management: A stakeholder approach introduced stakeholder theory as a critique of the conventional view that a firm's primary responsibility is limited to its shareholders. Freeman (2010) argued that business sustainability depends substantially on a firm's ability to manage relationships with all groups that have an interest in its operations, including employees, consumers, government, communities, and investors. Stakeholder theory serves as the overarching theoretical framework and provides an overarching framework for explaining why organizations should consider the interests of multiple stakeholders, including employees as internal stakeholders whose well-being is closely associated with organizational outcomes. Organizations that are able to maintain constructive relationships with their stakeholders tend to demonstrate a stronger commitment to sustainability principles, which can enhance stakeholder trust, corporate reputation, and social performance (Adomako & Tran, 2022).

In the context of this study, stakeholder theory provides a theoretical basis for understanding the relationship between sustainability-oriented workplace practices and employee performance. Employees represent internal stakeholders whose interests and well-being should be considered in organizational decision-making. The implementation of decent work principles under SDG 8 may strengthen employees' perceptions of organizational fairness, safety, and support, thereby encouraging motivation, commitment, and productive work behavior. Meanwhile, responsible consumption and production practices associated with SDG 12 may promote employee involvement in resource efficiency, environmental responsibility, and operational discipline. These mechanisms suggest that sustainability-related workplace practices may be associated with individual employee performance through both employee welfare and responsible organizational operations.

2.2 Sustainable Development Goals (SDGs)

The member states of the United Nations (UN) adopted the Sustainable Development Goals (SDGs) in 2015 through the document Transforming Our World: The 2030 Agenda for Sustainable Development. The SDGs represent an extension of the Millennium Development Goals (MDGs) and comprise 17 goals and 169 targets covering economic, social, and environmental dimensions (UN, 2015). The concept of sustainable development emphasizes that development efforts should integrate economic, social, and environmental dimensions in a balanced manner. Accordingly, companies are expected to uphold sustainability principles by managing resources responsibly and adopting a long-term perspective in their business operations. Nurbaiti, Hasibuan, and Siregar (2024) argue that the achievement of sustainable development can no longer be regarded as the sole responsibility of governments. Consistent with the United Nations' official framework, the successful implementation of the SDGs requires the active involvement and collaboration of multiple stakeholders, including governments, businesses, civil society, communities, and individuals.

Achieving the SDGs requires the involvement of governments, international institutions, businesses, civil society organizations, other non-governmental groups, and individuals. All stakeholders are expected to work collectively to transform unsustainable patterns of production and consumption (Whittingham, Earle, Leyva-de la Hiz, & Argiolas, 2023). The successful implementation of sustainability principles is also influenced by a company's ability to manage information and business processes effectively. Fahri and Nasution (2025) explain that integrated management information systems can improve operational efficiency, corporate transparency, and accountability, while enabling companies to optimize resource utilization and support the achievement of the Sustainable Development Goals (SDGs). Sustainability is not limited to large corporations but has become increasingly important across various business sectors. Hutasoit, Atika, and Harahap (2025) demonstrate that the implementation of sustainability principles is supported by resource management and economic practices oriented toward long-term value creation. These findings reinforce the view that sustainability constitutes a foundation for developing economic activities that generate lasting benefits for organizations, society, and the environment.

2.3 SDG 8 (Decent Work and Economic Growth)

SDG 8 comprises 12 targets assessed using 17 official indicators and aims to promote sustained and inclusive economic growth, as well as full and productive employment and decent work for all. Several key targets are particularly relevant to the corporate context, including achieving full and decent employment with equal pay for work of equal value (Target 8.5), the protection of workers' rights and the promotion of safe and secure working environments (Target 8.8), and the promotion of policies that support productivity and workforce development (Target 8.3) (UN, 2015).

Kreinin and Aigner (2022) emphasize that the creation of decent work is at the core of SDG 8, requiring companies to establish safe working environments while improving employee well-being. Bilek-Steindl, Kettner, and Mayrhuber (2022) further argue that, at the operational level, the implementation of these principles is reflected in the provision of fair employment opportunities and improvements in labor productivity as part of corporate sustainability strategies. Because the official UN indicators are primarily designed to assess SDG achievement at the national level, this study operationalizes SDG 8 at the individual organizational level by examining employees' perceptions of the implementation of decent work principles in their workplace. These principles encompass several dimensions, including wage and employment fairness, workplace health and safety, opportunities for professional development, and work–life balance. (Fatihah & Fu, 2025) found that the work environment and innovative behavior were significantly related to sustainable performance, with job satisfaction serving as a mediating factor.

From the perspective of stakeholder theory, decent work practices reflect organizational efforts to address employees' interests as internal stakeholders. Fair remuneration, occupational health and safety, professional development opportunities, and the protection of workers' rights may contribute to a supportive work environment. Employees who perceive these conditions positively may demonstrate stronger motivation, organizational commitment, and willingness to perform their responsibilities effectively. Accordingly, the relationship between SDG 8-related workplace practices and employee performance is understood through employees' perceptions of employment conditions rather than through direct measurement of organizational achievement of SDG 8.

2.4 Sustainable Development Goal 12: Responsible Consumption and Production

SDG 12 comprises 11 targets and is measured through official indicators aimed at ensuring sustainable consumption and production patterns. These targets include the efficient and sustainable management and use of natural resources (Target 12.2), the reduction of waste generation through prevention, reduction, recycling, and reuse (Target 12.5), and the encouragement of companies to adopt sustainable practices and integrate sustainability information into their reporting cycles (Target 12.6) (UN, 2015). Rahman and Hossain (2024) argue that the implementation of SDG 12 at the organizational level is associated with more efficient resource utilization and the reduction of environmental impacts arising from production activities. Mensah, Wieck, and Rudloff (2024) further emphasize that responsible consumption and production practices can strengthen organizational sustainability by encouraging more efficient resource management and environmentally responsible operational practices. These practices are particularly relevant to organizations whose activities depend heavily on natural resources and generate substantial operational waste.

Similar to SDG 8, this study operationalizes SDG 12 through employees' perceptions of the implementation of responsible consumption and production principles within their workplace. The measurement encompasses employees' perceptions of resource-efficiency policies, waste-management practices, and the organization's commitment to sustainable operational practices. Responsible consumption and production practices may also be associated with employee performance through operational and behavioral mechanisms. Efficient resource utilization, appropriate waste management, energy conservation, and environmentally responsible work procedures may encourage employees to develop greater awareness of resource use, workplace discipline, and operational efficiency. From a stakeholder perspective, these practices reflect organizational responsibilities toward employees and other stakeholders who are affected by production activities. In this study, SDG 12 is therefore examined through employees' perceptions of responsible production practices within their workplace,

rather than through objective indicators of organizational SDG achievement. This distinction provides a consistent basis for examining the relationship between perceived sustainability practices and individual employee performance.

2.5 Employee Performance Theory

According to Robbins and Judge (2022), employee performance, or job performance, is an important aspect of organizational behavior that reflects an individual's contribution to the achievement of organizational objectives. Employee performance is influenced by various organizational and behavioral factors, including motivation, job satisfaction, individual ability, leadership, and a supportive work environment (Nurdiana, 2026). In addition to organizational factors, employee performance is also shaped by individual characteristics. Agung, Marliyah, and Aisyah (2024) found that emotional intelligence, motivation, and self-efficacy influence individual behavior in achieving expected goals. These findings indicate that psychological factors and individual capabilities play an important role in strengthening human resource quality, which ultimately contributes to improved employee performance. Therefore, the improvement of organizational practices can foster higher-performing employees while simultaneously improving overall organizational effectiveness.

In relation to SDG 8, the provision of decent work, including occupational safety, equal employment opportunities, and the protection of workers' rights, may serve as a contextual factor that supports favorable working conditions. Such conditions may contribute to the quality and timeliness of employees' task completion (Bilek-Steindl et al., 2022; Kreinin & Aigner, 2022). Meanwhile, the relationship between SDG 12 and employee performance is less direct. The implementation of responsible consumption and production practices reflects orderly and efficient operational governance, which may theoretically support employees' effectiveness in utilizing organizational resources and carrying out their work responsibilities (Rahman & Hossain, 2024).

2.6 Conceptual Framework

Based on the literature review and findings from previous studies, the Sustainable Development Goals (SDGs), particularly SDG 8 and SDG 12, are expected to influence employee performance. Implementing SDG principles in business activities is expected to foster decent and supportive working environments while improving the efficiency of sustainable production and consumption practices. These conditions may, in turn, contribute positively to employee performance. The conceptual framework is presented in Figure 1.

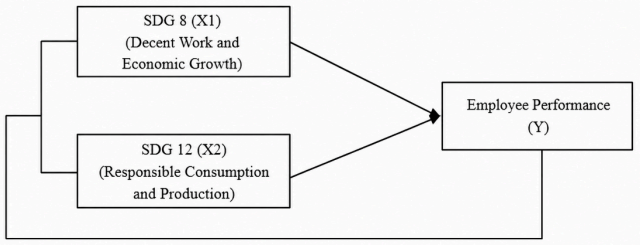


Figure 1. Conceptual framework

Based on the foregoing discussion, the conceptual framework of this study leads to the following hypotheses:

H_1: SDG 8 and SDG 12 have a significant effect on employee performance at PT Perkebunan Nusantara I Regional I

H_2: SDG 8 has a significant effect on employee performance at PT Perkebunan Nusantara I Regional I

H_3: SDG 12 has a significant effect on employee performance at PT Perkebunan Nusantara I Regional I

3. RESEARCH METHODOLOGY

To examine the effects of SDGs on employee performance at PT Perkebunan Nusantara I Regional I, this study employs a quantitative approach with an associative research design. The study population comprises all 115 employees of PT Perkebunan Nusantara I Regional I. A sample of 54 employees was determined using the Slovin formula with a 10% margin of error (Sugiyono, 2017). Data were collected using a five-point Likert-scale questionnaire, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire items were developed based on the indicators of SDG 8, SDG 12, and employee performance.

Table 1. Research variable indicators

Variables	Sub-variable	Indicator	Source
SDGs	SDG 8: Decent Work and Economic Growth	Fair and adequate wages/salaries	(UN, 2015)
	SDG 8: Decent Work and Economic Growth	Occupational health and safety	(UN, 2015)
	SDG 8: Decent Work and Economic Growth	Training and professional development opportunities	(UN, 2015)
	SDG 8: Decent Work and Economic Growth	Protection of workers' rights	(UN, 2015)
	SDG 8: Decent Work and Economic Growth	Opportunities for productive and decent employment	(UN, 2015)
SDGs	SDG 12: Responsible Consumption and Production	Efficient use of materials and work equipment in daily activities	(UN, 2015)
	SDG 12: Responsible Consumption and Production	Waste management in the workplace	(UN, 2015)
	SDG 12: Responsible Consumption and Production	Awareness of energy conservation	(UN, 2015)
	SDG 12: Responsible Consumption and Production	Implementation of environmentally friendly work procedures	(UN, 2015)
	SDG 12: Responsible Consumption and Production	Environmental sustainability awareness	(UN, 2015)
Employee Performance		Quality of work	(Robbins & Judge, 2022)
		Quantity of work/productivity	(Robbins & Judge, 2022)
		Timeliness of task completion	(Robbins & Judge, 2022)
		Work effectiveness	(Robbins & Judge, 2022)
		Work independence	(Robbins & Judge, 2022)

SDG 8 was measured through indicators related to fair remuneration, occupational health and safety, professional development opportunities, and the protection of workers' rights. SDG 12 was assessed through responsible resource utilization, waste management, energy conservation, and

environmentally responsible workplace practices. Employee performance was measured using indicators of work quality, productivity, timeliness, effectiveness, and independence. These measurements reflect employees' perceptions of sustainability-related workplace practices and their relationships with individual performance. Prior to conducting multiple linear regression analysis, the data were subjected to validity and reliability tests as well as classical assumption tests. Multiple linear regression was subsequently employed to examine the partial and simultaneous effects of SDG 8 and SDG 12 on employee performance. The research variables and their indicators are presented in Table 1.

Before conducting the data analysis, the research instrument was evaluated to ensure that the collected data were valid and reliable (Ghozali, 2021). Prior to performing multiple linear regression analysis, classical assumption tests were conducted, including normality, heteroscedasticity, and multicollinearity tests. Meeting these classical assumptions is necessary to ensure that the regression model produces reliable and unbiased estimates. The primary analytical method used to examine the effects of SDG 8 and SDG 12 on employee performance at PT Perkebunan Nusantara I Regional I was multiple linear regression analysis. Hypothesis testing consisted of the *t*-test, F-test, and coefficient of determination (R^2). The F-test was used to examine the simultaneous effect of the independent variables on employee performance, while the *t*-test was employed to assess the partial effect of each independent variable. The coefficient of determination (R^2) was used to determine the extent to which SDG 8 and SDG 12 explain the variation in employee performance. Data processing and statistical analysis were performed using SPSS software.

4. RESULTS AND DISCUSSION

4.1 Data Quality Test

4.1.1 Validity Test

Table 2. Validity test results

Variables	Item	*r*-table	*r*-count	Sig.	Result
SDG 8 (Decent Work and Economic Growth)	X_1.1	0.268	0.491	0.001	Valid
	X_1.2		0.743		Valid
	X_1.3		0.754		Valid
	X_1.4		0.592		Valid
	X_1.5		0.835		Valid
	X_1.6		0.718		Valid
	X_1.7		0.763		Valid
	X_1.8		0.734		Valid
	X_1.9		0.878		Valid
	X_1.10		0.494		Valid
SDG 12 (Responsible Consumption and Production)	X_2.1	0.268	0.599	0.001	Valid
	X_2.2		0.859		Valid
	X_2.3		0.901		Valid
	X_2.4		0.676		Valid
	X_2.5		0.731		Valid
	X_2.6		0.816		Valid
	X_2.7		0.900		Valid
	X_2.8		0.707		Valid
	X_2.9		0.779		Valid
	X_2.10		0.599		Valid
Employee Performance	Y.1	0.268	0.883	0.001	Valid
	Y.2		0.550		Valid
	Y.3		0.836		Valid
	Y.4		0.596		Valid
	Y.5		0.852		Valid
	Y.6		0.806		Valid

Variables	Item	*r*-table	*r*-count	Sig.	Result
Employee Performance	*Y*.7	0.268	0.779	0.001	Valid
	Y.8		0.343		Valid
	Y.9		0.880		Valid
	Y.10		0.846		Valid

Based on the validity testing criteria in Table 2, an item is considered valid when its calculated *r*-value (*r*-count) exceeds the critical *r*-value (*r*-table) of 0.268 and its significance level is below 0.05. The results indicate that all questionnaire items meet these criteria, with the calculated *r*-values exceeding the *r*-table value and significance levels of 0.01. Therefore, all questionnaire items are considered valid and suitable for use in subsequent data analysis.

4.1.2 Reliability Test
Table 3. Reliability test

Variables	Cronbach Alpha	Standard	N of Items
SDG 8	0.882	0.60	10
SDG 12	0.914	0.60	10
Employee Performance	0.909	0.60	10

The reliability test results in Table 3 indicate that all variables meet the established reliability criterion, with Cronbach alpha values exceeding the threshold of 0.60. The Cronbach alpha coefficients were 0.915 for SDG 8, 0.956 for SDG 12, and 0.964 for employee performance. Therefore, the items associated with each variable are considered reliable, indicating that the research instrument demonstrates high internal consistency and is suitable for subsequent analysis.

4.2 Classical Assumption Test

4.2.1 Normality Test (Kolmogorov-Smirnov)
Table 4. Normality test results

One-Sample Kolmogorov–Smirnov Test			
			Unstandardized Residual
N			54
Normal Parametersa,b	Mean		.0000000
	Std. Deviation		2.42888050
Most Extreme Differences	Absolute		.092
	Positive		.092
	Negative		-.073
Test Statistic	Test Statistic		.092
Asymp. Sig. (2-tailed)	Asymp. Sig. (2-tailed)		.200[d]
Monte Carlo Sig. (2-tailed)	Sig.		.292
	99% Confidence Interval	Lower Bound	.281
		Upper Bound	.304
Notes: a. Test distribution is normal b. Calculated from data c. Lilliefors significance correction d. This is a lower bound of the true significance e. Lilliefors' method based on 10,000 Monte Carlo samples with a starting seed of 2,000,000.			

The normality test in Table 4 using the One-Sample Kolmogorov–Smirnov test yielded an Asymp. Sig. (2-tailed) value of 0.200, which is above the 0.05 significance threshold. Therefore, the residuals are considered to be normally distributed and meet the normality assumption required for

regression analysis. This result indicates that there is insufficient statistical evidence to reject the assumption of normality, supporting the appropriateness of subsequent parametric regression analysis.

4.2.2 Multicollinearity Test (VIF and Tolerance)
Table 5. Multicollinearity test result (VIF and tolerance)

Coefficients								
Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.158	3.026		2.366	.022		
	X_1	.543	.092	.566	5.929	<.001	.529	1.890
	X_2	.311	.079	.376	3.934	<.001	.529	1.890
Dependent variable: Y (Employee Performance)								

Table 5 indicates that the regression model does not exhibit multicollinearity problems, as all independent variables have olerance values greater than 0.10 and Variance Inflation Factor (VIF) values below 10. These results indicate that the independent variables do not have excessive linear relationships with one another, allowing the regression model to proceed to further analysis. Furthermore, the absence of problematic multicollinearity supports the stability of the regression coefficient estimates and facilitates a more reliable interpretation of each independent variable's relationship with the dependent variable.

4.2.3 Heteroskedasticity Test (Glejser Test)
Table 6. Heteroscedasticity test results (Glejser Test)

Coefficients						
Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.422	1.933		3.322	.002
	X_1	-.109	.072	-.357	-1.509	.138
	X_2	.029	.055	.112	.538	.593
	Y	-.025	.085	-.078	-.294	.770
Dependent variable: ABS_RES						

The heteroscedasticity test presented in Table 6, using the Glejser method, produced significance values of 0.138 for X_1, 0.593 for X_2, and 0.770 for Y, all of which are greater than the 0.05 significance threshold. Therefore, the regression model does not exhibit heteroscedasticity, indicating that the homoscedasticity assumption is satisfied. Furthermore, these findings suggest that the residual variance remains relatively constant across the observed values, supporting the reliability of the regression model's standard errors and statistical inferences.

4.3 Multiple Linear Regression Analysis

Table 7. Multiple linear regression results

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.158	3.026		2.366	.022		
	X_1	.543	.092	.566	5.929	<.001	.529	1.890
	X_2	.311	.079	.376	3.934	<.001	.529	1.890
Dependent variable: Y (Employee Performance)								

Table 7 indicates that SDG 8 and SDG 12 are positively and significantly associated with employee performance. The unstandardized regression coefficient (B) for SDG 8 is 0.543, indicating that a one-unit increase in the SDG 8 composite score is associated with a 0.543-unit increase in the employee performance score, holding SDG 12 constant. Similarly, the unstandardized coefficient for SDG 12 is 0.311, indicating a corresponding increase of 0.311 units in employee performance when SDG 8 is held constant. The standardized beta coefficients (β) are 0.566 for SDG 8 and 0.376 for SDG

12, indicating that SDG 8 has a stronger standardized association with employee performance. Both relationships are statistically significant ($p < 0.001$). These findings reflect statistical associations and should not be interpreted as evidence of causal effects.

4.3.1 T-Test
Table 8. T-test results

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.158	3.026		2.366	.022		
	X_1	.543	.092	.566	5.929	<.001	.529	1.890
	X_2	.311	.079	.376	3.934	<.001	.529	1.890
Dependent variable: Y (Employee Performance)								

Table 8 indicates that the calculated *t*-value for SDG 8 is 5.929, exceeding the critical *t*-value of 2.007 at the 5% significance level with 51 degrees of freedom, with a significance value below 0.001. This result indicates that SDG 8 has a positive and statistically significant association on employee performance. A similar result is observed for SDG 12, which has a calculated *t*-value of 3.934, exceeding the critical *t*-value of 2.007, with a significance value of < 0.001. Thus, SDG 12 also has a positive and statistically significant association on employee performance. Overall, the individual t-test results indicate that both SDG 8 and SDG 12 have positive and statistically significant effects on employee performance at PT Perkebunan Nusantara I Regional I.

4.3.2 F-Test
Table 9. F-test results

ANOVAa						
Model		Sum of Squares	*df*	Mean Square	F	Sig.
1	Regression	957.643	2	478.822	78.101	<.001b
	Residual	312.671	51	6.131		
	Total	1270.315	53			
a. Dependent Variable: *Y* (Employee Performance) b. Predictors: (Constant), X_2 (SDG 12), X_1 (SDG 8)						

Based on the simultaneous F-test presented in Table 9, the null hypothesis (H_0) is rejected in favor of the alternative hypothesis (H_1). With 54 respondents and two independent variables, the critical F-value at the 5% significance level is 3.18. The calculated F-value is 78.101, with a significance value below 0.001. The simultaneous F-test results indicate that the overall regression model is statistically significant ($F(2, 51) = 78.101$, $p < 0.001$). This finding demonstrates that SDG 8 and SDG 12, when considered jointly, are significantly associated with employee performance at PT Perkebunan Nusantara I Regional I. However, the F-test evaluates the overall significance of the regression model and does not independently establish the direction or statistical significance of each predictor. The positive and statistically significant associations of SDG 8 and SDG 12 with employee performance are supported by their respective regression coefficients and individual t-tests. Given the cross-sectional research design, these findings should be interpreted as statistical associations rather than causal relationships.

4.3.3 Coefficient of Determination Test
Table 10. Coefficient of determination test results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868[a]	.754	.744	2.47605
a. Predictors: (Constant), X_2 (SDG 12), X_1 (SDG 8) b. Dependent Variable: *Y* (Employee Performance)				

The regression model in Table 10 produced an R value of 0.868 and a coefficient of determination (R^2) of 0.754, indicating that SDG 8 and SDG 12 jointly accounted for 75.4% of the observed variance in employee performance. The remaining 24.6% of the variance was not explained by the variables included in the model. The adjusted R^2 value of 0.744 indicates that the model accounted for 74.4% of the variance after adjustment for the number of predictors and sample size. These results demonstrate substantial explanatory power within the observed sample but do not establish that the independent variables causally determine employee performance. The relatively small difference between the R Square and Adjusted R Square values suggests that the regression model is relatively stable and is not substantially affected by the inclusion of the independent variables. Overall, the model demonstrates substantial explanatory power in accounting for variations in employee performance, while the remaining variation is explained by factors beyond the scope of the model.

4.3.4 Correlation Test

Table 11. Pearson correlation test results

Correlations				
Variables		X_1	X_2	Y
X_1	Pearson Correlation	1	.686**	.824**
	Sig. (2-tailed)		<.001	<.001
	N	54	54	54
X_2	Pearson Correlation	.686**	1	.764**
	Sig. (2-tailed)	<.001		<.001
	N	54	54	54
Y	Pearson Correlation	.824**	.764**	1
	Sig. (2-tailed)	<.001	<.001	
	N	54	54	54
** Correlation is significant at the 0.01 level (2-tailed)				

Based on Table 11, all variables exhibit positive and statistically significant correlations with one another. SDG 8 (X_1) and SDG 12 (X_2) show a strong positive correlation, with a correlation coefficient of 0.686 and a significance value of < 0.001. Furthermore, SDG 8 demonstrates the strongest positive correlation with employee performance (Y), with a coefficient of 0.824 and a significance value of < 0.001. Meanwhile, SDG 12 also exhibits a strong positive correlation with employee performance, with a coefficient of 0.764 and a significance value of < 0.001. Since all significance values are below 0.05, the correlations among the variables are statistically significant. Therefore, the findings indicate that higher levels of SDG 8 and SDG 12 implementation are associated with higher levels of employee performance.

4.4 Discussion

The F-test results show a calculated F-value of 78.101 with a significance value below 0.001, indicating that SDG 8 and SDG 12 are jointly and significantly associated with employee performance at PT Perkebunan Nusantara I Regional I, thereby supporting H_1. In addition, the coefficient of determination (R^2) of 0.754 indicates that the two variables jointly explain 75.4% of the variance in employee performance, while the remaining 24.6% is unexplained by the research model, such as motivation, job satisfaction, leadership, and individual ability (Robbins & Judge, 2022). These findings are consistent with stakeholder theory as discussed by Freeman (2010), which emphasizes that organizational sustainability depends on the ability to manage the interests of various stakeholders, including employees as internal stakeholders. When companies implement decent work principles alongside responsible production practices, employees may experience fairer working conditions and a more orderly operational environment, which can contribute to improved performance. The findings are consistent with Madero-Gómez et al. (2023), who found that sustainability-oriented work practices improve employee well-being, engagement, and productivity. They also reinforce the findings of Hutasoit et al. (2025) and Fahri and Nasution (2025), which

indicate that sustainability-oriented resource management and business processes can contribute to organizational effectiveness. Furthermore, the simultaneous findings address a research gap in which SDG 8 and SDG 12 have generally been examined separately, as discussed by Mensah et al. (2024), by demonstrating that both dimensions make a substantial contribution when considered as an integrated set of sustainability practices.

Individually, SDG 8 has a positive and statistically significant association on employee performance, supporting H_2. This is indicated by a calculated *t*-value of 5.929, which exceeds the critical *t*-value of 2.007, with a significance value of < 0.001. The regression coefficient of 0.543 indicates that a one-unit increase in employees' perceptions of the implementation of decent work principles is associated with a 0.543-unit increase in employee performance, assuming SDG 12 remains constant. This finding is consistent with Januarta and Karnawijaya (2026), who reported that the achievement of SDG 8 at LAZIS Jateng Sragen was associated with favorable employee performance. The present study extends these findings by providing statistical evidence from a labor-intensive plantation sector, whereas the previous study employed a qualitative approach. The finding is also consistent with Elsawy (2022), who argues that a safe and productive work environment can foster employee motivation and performance, as well as with Bilek-Steindl et al. (2022) and Kreinin and Aigner (2022), who emphasize that fair employment opportunities, worker protection, and productivity enhancement constitute important elements of SDG 8 implementation at the operational level.

Although the findings indicate a positive association between perceived decent work practices and employee performance, they do not establish whether the theoretical tension between productivity-oriented objectives and decent work principles identified by Kreinin and Aigner (2022) has been resolved. This tension was not directly measured in the present study. Therefore, the findings should be interpreted as evidence of a positive statistical relationship within the observed organizational context rather than as confirmation that decent work and productivity objectives are always compatible. This finding is also consistent with the organizational conditions described in the introduction. The SPBun demonstration concerning differences in wage and benefit systems, as reported by Napitupulu and Sembiring (2026), together with the preliminary survey finding that 48.1% of respondents perceived that wage adequacy could still be improved, indicates that decent-work conditions are an important concern among employees. Therefore, perceptions of wage fairness, occupational safety, training opportunities, and protection of workers' rights are associated with employee performance, suggesting that improvements in these aspects may contribute to further performance enhancement.

The findings also provide an opportunity to compare different perspectives in the existing literature. While Elsawy (2022) emphasizes the potential contribution of sustainable human resource management to employee performance, Kreinin and Aigner (2022) highlight the possible tension between decent work principles and productivity-oriented objectives. The present findings are consistent with the positive relationship proposed by Elsawy (2022), as employees' perceptions of SDG 8-related workplace practices were significantly associated with their performance. However, the concerns raised by Kreinin and Aigner (2022) remain relevant because favorable statistical associations do not necessarily indicate that employment conditions and productivity objectives are consistently aligned. The findings therefore contribute context-specific evidence to this discussion without resolving the broader theoretical debate.

Furthermore, SDG 12 also has a positive and statistically significant association on employee performance, supporting H_3. This is indicated by a calculated *t*-value of 3.934, which exceeds the critical *t*-value of 2.007, with a significance value below 0.001. The regression coefficient of 0.311 indicates that a one-unit increase in employees' perceptions of the implementation of responsible consumption and production practices is associated with a 0.311-unit increase in employee performance, assuming SDG 8 remains constant. This finding reinforces the results of Nurmadani and Waskito (2025), who found that the implementation of green human resource management, which reflects principles related to responsible consumption and production, has a positive and statistically

significant effect on employee performance. This finding is also consistent with Mamun et al. (2024), who explain that a responsible and efficiency-oriented work culture can improve employee discipline, engagement, and performance. It is further consistent with Mensah et al. (2024) and Rahman and Hossain (2024), who associate SDG 12 with efficient resource utilization, waste management, and more transparent operational practices. Although the relationship between SDG 12 and employee performance is generally viewed in the literature as relatively indirect because SDG 12 primarily concerns operational governance, as discussed by Rahman and Hossain (2024), this study demonstrates that when these principles are perceived by employees in their day-to-day work activities, such as the efficient use of materials and work equipment, waste management, and environmentally responsible work procedures, their relationship with employee performance remains statistically significant.

Based on the standardized regression coefficients (Beta), SDG 8 (0.566) has a stronger relative association with employee performance than SDG 12 (0.376). This is further supported by the correlation results, in which SDG 8 demonstrates a stronger correlation with employee performance (r = 0.824) than SDG 12 (r = 0.764). Although the two independent variables are moderately to strongly correlated (r = 0.686), the tolerance value of 0.529 and VIF value of 1.890 indicate that multicollinearity is not a substantial concern, allowing the relative contributions of the two predictors to be distinguished. The relatively stronger role of SDG 8 may be related to the labor-intensive characteristics of the plantation sector, where conditions directly affecting employee welfare, such as wages, occupational safety, and protection of workers' rights, may be more closely associated with employee performance than environmentally oriented operational practices.

This difference may be explained by the distinct ways in which decent work and responsible production practices relate to employees' daily responsibilities. In labor-intensive plantation enterprises, employee performance depends substantially on human effort, physical working conditions, and the ability to maintain consistent productivity. Consequently, employment-related factors such as fair remuneration, occupational safety, and access to professional development may be more immediately relevant to employees' motivation and work effectiveness (Desriani, Yuliansyah, & Evana, 2026). This interpretation is particularly relevant to PTPN I Regional I, where concerns regarding wage disparities and employment benefits have been identified (Napitupulu & Sembiring, 2026). In contrast, SDG 12-related practices, including efficient resource utilization, waste management, and environmental responsibility, may be more closely associated with operational procedures and organizational resource management. Although these practices remain important for employee performance, their relationship with individual work outcomes may be less direct than that of employment-related conditions. The stronger standardized coefficient of SDG 8 (β = 0.566) compared with SDG 12 (β = 0.376) is consistent with this interpretation. Nevertheless, these proposed mechanisms were not directly tested and should be regarded as plausible explanations rather than established causal pathways.

Theoretically, these findings contribute to the literature on the role of SDGs in employee performance by demonstrating that, within a state-owned plantation enterprise, both the employment dimension (SDG 8) and the operational dimension (SDG 12) are significantly associated with employee performance, with the labor dimension showing a stronger relative contribution. From a practical perspective, PT Perkebunan Nusantara I Regional I may consider strengthening wage fairness, occupational safety, and worker protection while continuing to improve resource efficiency and waste management as integral components of its broader sustainability commitment.

5. CONCLUSIONS

5.1 Conclusion

Based on the findings and discussion, the implementation of SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production) is positively and significantly associated with employee performance at PT Perkebunan Nusantara I Regional I, both jointly and individually. The two variables jointly explain a substantial proportion of the variance in employee performance, while the remaining variation is not explained by the research model. These

findings indicate that more effective implementation of decent work principles and responsible consumption and production practices is associated with higher levels of employee performance. Accordingly, H_1, H_2, and H_3 are supported. Among the two variables, SDG 8 demonstrates a stronger relative contribution to employee performance than SDG 12.

Given the relatively stronger contribution of SDG 8, PT Perkebunan Nusantara I Regional I is encouraged to strengthen the implementation of decent work principles, particularly in terms of fair wages and benefits, occupational safety, and opportunities for employee development, while maintaining efforts to improve resource efficiency and waste management. For future research, the inclusion of additional variables, such as employee motivation, job satisfaction, and leadership, as well as the expansion of the research setting to other plantation companies, may provide broader insights and enrich the empirical literature on the relationship between sustainability practices and employee performance.

5.2 Research Limitations

This study has several limitations that provide opportunities for further research. First, the sample was limited to 54 employees at PT Perkebunan Nusantara I Regional I, therefore, the findings are primarily relevant to this specific organizational context and warrant further examination in other regional offices or sectors. Second, the data were based on employees' perceptions collected through a questionnaire at a single point in time. Future studies could complement these data with supervisor assessments, organizational performance data, or longitudinal research designs to provide a more comprehensive understanding of the relationships examined. Third, the present model focuses on SDG 8 and SDG 12, which jointly explain 75.4% of the variance in employee performance, while the remaining 24.6% may be further investigated by incorporating additional variables, such as employee motivation, job satisfaction, and leadership.

Furthermore, the use of the same self-reported questionnaire to measure both independent variables (SDG 8 and SDG 12) and the dependent variable (employee performance) introduces the possibility of common method bias. Because all variables were assessed using employees' perceptions, the observed relationships may have been influenced by shared response tendencies, social desirability, or respondents' subjective evaluations. Consequently, the strength of the reported associations should be interpreted with caution. Future research could minimize this potential bias by collecting data from multiple sources, including supervisor-rated employee performance and independently documented organizational sustainability practices.

5.3 Suggestions and Directions for Future Research

Future research could consider expanding the research setting to other PTPN regional offices, private plantation companies, or other labor-intensive sectors to examine the generalizability of the findings. Additional variables, such as employee motivation, job satisfaction, leadership, and organizational commitment, could also be incorporated to investigate the remaining 24.6% of the variance in employee performance that is not accounted for by the current model. Furthermore, future studies could examine mediation or moderation effects, such as job satisfaction as a mediating variable or employment status as a moderating variable. The use of mixed-methods or longitudinal research designs, including interviews with employees and management, could provide deeper insights into why SDG 8 demonstrates a stronger relative contribution and how its relationship with employee performance may change over time. Future studies could also examine other SDGs, such as SDG 3 (Good Health and Well-Being), SDG 4 (Quality Education), SDG 5 (Gender Equality), and SDG 10 (Reduced Inequalities), which may also be relevant to employee performance.

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AUTHOR CONTRIBUTIONS

SMN contributed to conceptualization, methodology, investigation, data collection, formal analysis, and writing the original draft. MIPN contributed to conceptualization, methodology, supervision, validation, and writing review and editing. NI contributed to supervision, validation, interpretation of findings, and writing review and editing. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

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