Determinants of Labor Force Participation in the Agricultural Sector: Evidence from Maluku Province, Indonesia

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Abstract
This study examines the key determinants influencing labor force participation in the agricultural sector of Maluku Province during the period 2015–2024. The research focuses on three main variables: agricultural Gross Regional Domestic Product (GRDP), agricultural land area, and provincial minimum wage. The agricultural sector in Maluku plays a vital role in absorbing the labor force, particularly in rural areas, yet it continues to face challenges such as land conversion, mechanization, and price fluctuations. Employing a quantitative approach, this study utilizes multiple linear regression analysis to evaluate the impact of these variables on labor force participation in the agricultural sector. The empirical findings reveal that agricultural GRDP, agricultural land area, and provincial minimum wage have a significant effect—both partially and simultaneously—on the level of labor force participation. These results underscore the strategic importance of strengthening regional economic policies aimed at improving agricultural productivity, labor absorption, and rural welfare in Maluku Province.
Keywords: Labor Force Participation, Agricultural GRDP, Land Area, Minimum Wage, Agricultural Sector, Maluku Province.

1. Introduction

Indonesia continues to face a complex labor market challenge marked by persistent unemployment, structural underemployment, and low labor productivity across key economic sectors (Badan Pusat Statistik [BPS], 2023; Organisation for Economic Co-operation and Development [OECD], 2022). While the industrial and service sectors have expanded rapidly, the agricultural sector continues to serve as the primary employment base for rural populations, especially in the eastern part of Indonesia. Despite this crucial role, agriculture faces structural constraints such as limited access to technology, unstable commodity prices, and declining land availability (Arifin, 2005; Arsyad, 2010; Daryanto, 2012). This situation reflects a dualistic economic structure as described by Boeke (1953) and Lewis (1954), where the traditional agricultural economy coexists with a modern industrial sector that grows disproportionately. This dualism is still evident today in developing economies, where rural productivity lags behind urban industrial expansion (Christiaensen & Martin, 2018; Barrett et al., 2017).

The agricultural sector, traditionally viewed as the backbone of Indonesia's rural economy, still contributes significantly to employment despite its diminishing share in the national Gross Domestic Product (GDP). According to Badan Pusat Statistik (2023), agriculture accounts for over 28% of total employment, yet its contribution to GDP has gradually declined to below 13% in recent years. This asymmetry between its social and economic roles suggests that productivity growth in agriculture has not kept pace with structural transformation in the broader economy. These conditions are consistent with Kuznets (1971) and Chenery and Syrquin (1975) who noted that, in developing nations, economic transformation often precedes proportional labor reallocation. Consequently, there is growing concern about the sustainability of labor absorption within the agricultural sector, particularly in regions where agriculture remains the main livelihood source (Anríquez & Stamoulis, 2007; Hayami & Ruttan, 1985).

The structural shift from agriculture to non-agricultural sectors such as manufacturing and services has been evident since the early 2000s, marking Indonesia's gradual transition toward an urban-industrial economy (Kuncoro, 2013; Barro & Sala-i-Martin, 2004). However, this transformation has not been uniformly distributed. In the eastern part of Indonesia, including Maluku Province, agriculture continues to play a dominant role in employment generation and household income (Effendi, 2000; Mubyarto, 2021). This uneven transition raises critical questions about the determinants that shape labor participation in agriculture at the regional level. Understanding these factors is vital for formulating policies that ensure equitable development and sustainable employment, especially in agrarian provinces (Christiaensen & Martin, 2018; FAO, 2006; ILO, 2023)..

Agricultural employment dynamics in Maluku are influenced by a combination of economic, demographic, and institutional variables (Listyaningsih, 2017; Istiana et al., 2023). Between 2015 and 2024, the number of workers in the agricultural sector fluctuated sharply—from 278,000 in 2015 to 205,500 in 2016, before rebounding to 288,342 in 2024. Such volatility reflects the sector's sensitivity to external shocks, including urban migration, changing wage structures, and labor market reallocation during the COVID-19 pandemic. The temporary return of urban workers to rural areas in 2020 exemplifies how macroeconomic disruptions can reshape sectoral employment patterns (ILO, 2022; Del Carpio et al., 2016; BPS, 2022).

To illustrate these dynamics more concretely, Table 1 presents the trend of agricultural labor, land area, and provincial minimum wage in Maluku over the 2015–2024 period.

Table 1. Agricultural Labor, Land Area, and Provincial Minimum Wage in Maluku Province, 2015–2024

Year	Agricultural Labor (Persons)	Agricultural Land (ha)	Provincial Minimum Wage (Rp)
2015	278.000	22.470	1.650.000
2016	205.500	22.470	1.775.000
2017	240.829	22.470	1.925.000
2018	257.643	23.320	2.222.220
2019	246.809	25.980	2.400.664
2020	263.544	29.643	2.604.960
2021	261.384	28.668	2.766.573
2022	271.247	23.987	2.676.833
2023	269.604	22.615	2.719.294

| 2024 | 288.342 | 23.947 | 2.865.989 |

Source: Badan Pusat Statistik (BPS) Maluku Province, 2015–2024.

As shown in Table 1, the number of agricultural workers in Maluku has demonstrated a fluctuating pattern, indicating cyclical shifts in sectoral participation. The expansion and contraction of agricultural land also suggest varying levels of land utilization efficiency. Interestingly, while the provincial minimum wage steadily increased throughout the period, labor participation did not follow a linear upward trend. This may imply that rising wages alone do not necessarily attract more labor into agriculture without concurrent improvements in productivity and working conditions.

Furthermore, economic output data provide additional insight into the structural role of agriculture in the regional economy. Table 2 below presents the Gross Regional Domestic Product (GRDP) of the agricultural sector at constant 2010 prices, covering key subsectors such as food crops, horticulture, plantations, livestock, and agricultural services.

Tabel 2. Gross Regional Domestic Product (GRDP) of the Agricultural Sector at Constant 2010 Prices (Billion Rupiah), Maluku Province 2015–2024

Year	2015	2017	2019	2021	2023	2024
Agriculture, Forestry, and Fishing	5,908.36	6,558.60	7,230.24	7,409.16	8,276.74	8,557.58
Agriculture, Livestock & Services	2,546.82	2,952.43	3,228.44	3,237.30	3,542.34	3,659.57
Food Crops	1,417.50	1,660.27	1,751.53	1,648.90	1,782.87	1,781.85
Plantation Crops	791.70	922.76	1,062.14	1,142.40	1,247.17	1,341.69
Livestock	137.33	146.27	165.93	175.20	201.60	212.14

Source: Badan Pusat Statistik (BPS) Maluku Province, 2015–2024.

The data indicate that Maluku's agricultural GRDP experienced steady growth from 2015 to 2024, increasing from IDR 5.9 trillion to IDR 8.5 trillion. Subsector analysis reveals that plantation crops and food crops remain the dominant contributors to agricultural output, accounting for nearly 80% of the sector's value added. However, the relatively modest growth in agricultural services and livestock suggests limited diversification within the sector. When juxtaposed with the fluctuating employment figures, these data highlight a potential productivity effect — where output expansion is not necessarily accompanied by proportional increases in labor absorption.

Overall, these empirical trends underscore the importance of understanding how key economic variables such as GRDP, agricultural land, and provincial minimum wages collectively shape labor force participation in Maluku's agricultural sector. The present study seeks to analyze these interrelationships empirically, providing insights into whether sectoral growth reflects inclusive employment creation or a shift toward capital-intensive productivity gains. The findings will contribute to the broader discourse on rural transformation and sustainable employment within Indonesia's evolving economic landscape.

2. Literature Review

Labor Force

The labor force represents a fundamental component in the structure of an economy, serving as the main driver of production and economic growth. According to Badan Pusat Statistik (BPS, 2023), the labor force comprises individuals of productive age who are either employed or actively seeking work. This aligns with the definition proposed by Todaro and Smith (2015), who highlight that the labor force is a key indicator of a country's labor market performance and overall economic condition. The size and quality of a nation's workforce directly influence its capacity for sustainable development, productivity, and competitiveness in the global economy.

A sufficient and skilled labor force plays a decisive role in accelerating economic development. Mankiw (2020) emphasized that high labor participation, coupled with strong productivity, significantly contributes to national output growth. This underscores the need for governments to focus on improving labor quality through education, vocational training, and human capital investment. A well-developed labor force not only supports industrial and service expansion but also enhances resilience during economic downturns.

In this regard, Becker (1993) introduced the theory of human capital, asserting that education and skill development represent forms of investment that increase worker productivity and earnings. This argument is supported by Barro and Sala-i-Martin (2004), who found that long-term economic growth is closely tied to the accumulation of quality human capital. Hence, improving labor competence through training and education remains essential in enhancing productivity and achieving equitable economic progress..

Labor Force Participation

Labor force participation is a crucial measure that reflects the proportion of the working-age population actively engaged in the labor market. The International Labour Organization (ILO, 2023) defines it as the share of individuals aged 15 and above who are employed or actively seeking employment. A high participation rate indicates an active and dynamic labor market, while a low rate may suggest underutilization of potential human resources. Labor participation is often influenced by demographic composition, economic conditions, and cultural norms that shape people's willingness to work.

According to OECD (2022), several determinants affect labor force participation, such as education level, gender roles, public policies, and macroeconomic stability. Higher education tends to increase participation rates because educated individuals are more motivated to engage in formal employment. However, in many developing regions, social norms may restrict women's participation, limiting the potential of the labor market (World Economic Forum, 2023). These gender-based disparities can impede productivity and overall growth if not addressed through inclusive policies.

Furthermore, digitalization and technological innovation have reshaped global labor dynamics. ILO (2023) noted that the digital economy demands adaptable and skilled workers who can navigate new technologies and flexible work arrangements. At the same time, demographic shifts such as population aging, as highlighted by United Nations (2022), can lower participation rates and strain economic output. Therefore, effective labor market management is vital to balance labor availability and job creation, ensuring inclusive and sustainable employment opportunities.

Employment Absorption

Employment absorption refers to the capacity of an economy to create job opportunities in response to labor supply growth. Boediono (1992) defined labor demand as the quantity of labor that employers are willing to hire at various wage levels. In this framework, employment is determined by the interaction of wage rates, productivity, and

economic growth. Skilled and trained workers are more likely to be absorbed effectively in sectors that utilize capital efficiently.

Human resources are the central element in economic production. Simanjuntak (2002) described human resources as both a factor of labor supply and the embodiment of individuals capable of performing economically valuable activities. The working-age population constitutes the labor force, consisting of both employed and unemployed individuals, while non-labor force members include students, homemakers, and retirees. A healthy and well-educated workforce improves productivity, as supported by Samuelson and Nordhaus (2001), who emphasized that literacy, health, and digital competence are key productivity drivers.

According to Subri (2003), individuals aged 10 years and older who engage in productive activities or seek employment form part of the labor force. The effective absorption of this labor force depends on economic growth, industrial expansion, and the availability of job opportunities. Thus, policies that stimulate sectoral growth—particularly in agriculture, manufacturing, and services—are essential to enhance employment absorption and reduce unemployment.

Classical Employment Theory

Classical employment theory provides the foundational framework for understanding the relationship between wages, employment, and output. Emerging in the 18th and 19th centuries, with thinkers such as Adam Smith, David Ricardo, and Thomas Malthus, this theory posits that the labor market naturally moves toward equilibrium through wage adjustments (Mankiw, 2012; Sukirno, 2010). It assumes flexible labor markets where unemployment is only temporary, and equilibrium employment is determined by supply and demand interactions. In this model, rising wages attract more workers into the labor force but simultaneously reduce

labor demand due to higher production costs. Consequently, equilibrium is reached when the amount of labor supplied equals the amount demanded (Sukirno, 2010). Within the agricultural sector, labor absorption depends on crop prices, technology, and scale of operation. As Dornbusch, Fischer, and Startz (2004) noted, higher agricultural prices tend to increase labor demand, whereas mechanization may reduce it by improving productivity.

Despite its influence, the classical model has limitations. It overlooks structural unemployment, wage rigidity, and government intervention, which are common in developing economies. Todaro and Smith (2020) argue that real-world labor markets often experience mismatches between available skills and job requirements. Hence, Keynesian and structuralist perspectives offer complementary insights by considering institutional and cyclical factors influencing employment, particularly in agriculture where informality and seasonality prevail (Boediono, 1999).

Concept of Gross Regional Domestic Product

Gross Regional Domestic Product (GRDP) measures the total value of goods and services produced within a specific region and serves as a primary indicator of regional economic performance (BPS, 2020). It reflects value added across all sectors, including agriculture, industry, trade, and services, and is crucial for evaluating economic development and formulating policy. Sukirno (2011) defines GRDP as the net output from production activities after deducting intermediate costs, while Mankiw (2012) distinguishes between current prices (nominal growth) and constant prices (real growth adjusted for inflation). GRDP analysis thus enables a comprehensive understanding of sectoral dynamics and economic resilience.

Furthermore, Kuncoro (2013) highlights that GRDP provides insight into the structural composition of regional economies. GRDP per capita, obtained by dividing GRDP by total population, is often used to measure living standards and welfare. In agrarian regions such as Maluku, GRDP analysis helps identify dominant economic sectors, assess agricultural

contributions, and formulate targeted strategies to stimulate regional development and reduce disparities.

Land Area Concept

Land area serves as a fundamental production factor in agricultural economics, influencing productivity, efficiency, and income distribution. Soekartawi (2003) explains that larger agricultural landholdings tend to yield higher output, especially when supported by adequate labor, capital, and technology. Land availability is directly correlated with food security, employment, and rural welfare, making it a central element in economic planning. However, disparities in land ownership often lead to social inequality and limited access to resources.

Mubyarto (1987) emphasizes that the structure of land tenure significantly affects farmers' livelihoods, where smallholders or petani gurem face challenges in adopting technological innovations or accessing credit. Arifin (2005) further asserts that the extent of cultivated land influences employment absorption, as larger farms require more labor. Hence, effective land use management and agrarian reform policies are essential to enhance productivity, create jobs, and promote equitable economic development in agricultural regions.

Figure 1. Conceptual Framework
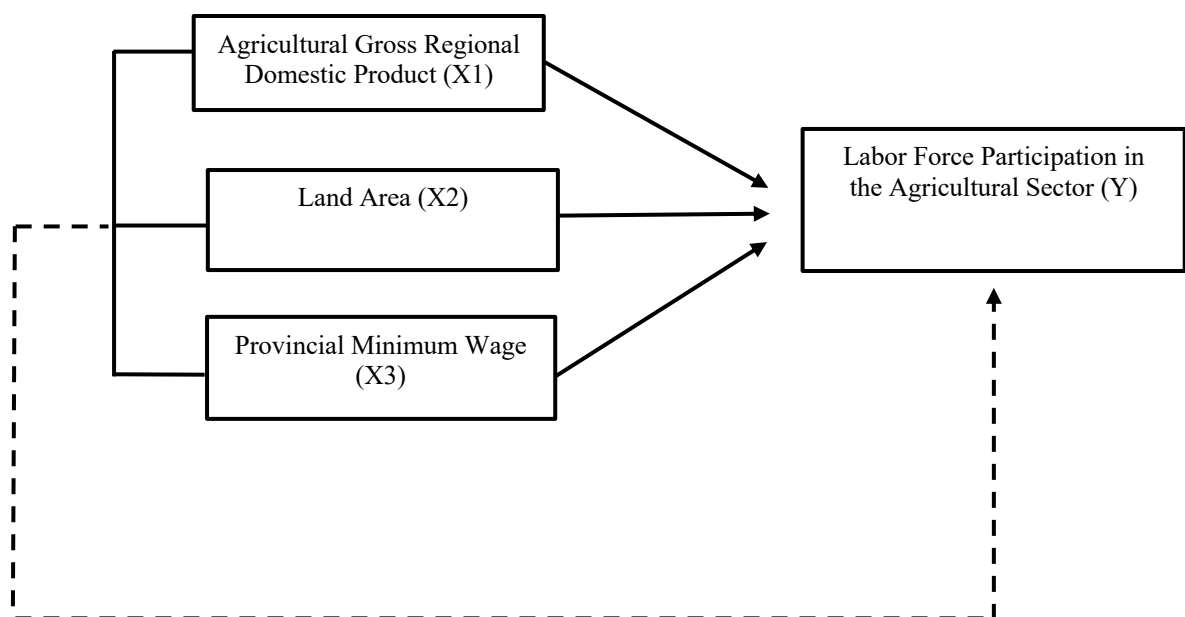
3. Research Methode

This research utilized both quantitative and qualitative data. Quantitative data were obtained from respondents' statements in questionnaires and converted into measurable scores, while qualitative data consisted of descriptive explanations that could not be numerically measured. The data sources were divided into two types: primary data, gathered directly from the original sources through observation, interviews, and questionnaires; and secondary data, obtained indirectly through literature, reference books, and previous research findings. To ensure reliable data collection, several techniques were employed, including structured interviews with skincare consumers in Kelapa Dua, Depok; distribution of questionnaires using a Likert scale to measure levels of agreement; direct observation of

company conditions and activities; and documentation of supporting information such as employee records and attendance lists.

To validate the research model, several statistical assumption tests were conducted, focusing on normality testing of residuals in the regression model. The normality test aimed to determine whether standardized residual values followed a normal distribution, using graphical analysis (histograms and normal probability plots) and the Kolmogorov-Smirnov test. A bell-shaped histogram or data points following the diagonal line in a normal P-P plot would indicate normally distributed data. Additionally, the Kolmogorov-Smirnov test confirmed normality when the significance value (Sig.) exceeded the alpha level (α), ensuring that the regression model met statistical assumptions. These methodological approaches strengthened the accuracy, validity, and reliability of the findings.

4. **Results**

Tabel. 3 Multiple Linear Regression Analysis Test

Dependent Variable: Y
Method: Least Squares
Date: 07/13/25   Time: 20:22
Sample: 2010M01 2024M12
Included observations: 180

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.327034	0.638237	3.646037	0.0004
X1	-0.504192	0.103827	-4.856095	0.0000
X2	0.540606	0.187238	2.887275	0.0044
X3	0.388707	0.103528	3.754600	0.0002

R-squared	0.152729	Mean dependent var		5.411496
Adjusted R-squared	0.138287	S.D. dependent var		0.098921
S.E. of regression	0.091827	Akaike info criterion		-1.915854
Sum squared resid	1.484060	Schwarz criterion		-1.844899
Log likelihood	176.4268	Hannan-Quinn criter.		-1.887085
F-statistic	10.57523	Durbin-Watson stat		0.068251
Prob(F-statistic)	0.000002			

Source : Eviews 13

Based on Table 3, the results of the multiple linear regression analysis can be expressed through the following equation: $Y = 2.327034 - 0.504192X_1 + 0.540606X_2 + 0.388707X_3 + e$. The constant value of 2.327034 indicates that when all independent variables—Agricultural Sector GRDP, Land Area, and Provincial Minimum Wage—experience a simultaneous increase of 1%, the Labor Force Participation in the Agricultural Sector in Maluku Province is expected to increase by 2.327034 units. This suggests that the baseline participation rate remains positive even when the influencing factors vary, emphasizing the underlying significance of the agricultural sector in the region's labor dynamics.

Furthermore, the regression coefficients show varying directions of influence among the independent variables. The Agricultural Sector GRDP (X_1) has a coefficient of –0.504192, indicating a negative relationship with labor force participation. This means that as the GRDP of the agricultural sector increases by 1%, labor participation in the sector is predicted to decrease by 0.504192%, possibly due to technological efficiency reducing the need for manual labor. Conversely, the Land Area (X_2) variable shows a positive coefficient of 0.540606, implying that a 1% increase in agricultural land area tends to raise labor participation by 0.540606%. Similarly, the Provincial Minimum Wage (X_3) also exerts a positive influence with

a coefficient of 0.388707, indicating that higher minimum wages encourage greater participation in the agricultural workforce.

Table 4. Normality Test

	Y	X1	X2	X3
Mean	5.411496	3.378587	4.355547	6.259941
Median	5.423783	3.470806	4.352998	6.283332
Maximum	5.828168	3.568591	4.478075	6.472413
Minimum	5.120876	3.082522	4.244717	5.908648
Std. Dev.	0.098921	0.175529	0.062092	0.179640
Skewness	-0.503919	-0.598068	0.138294	-0.716709
Kurtosis	6.798705	1.568350	2.561365	2.204382
Jarque-Bera	115.8442	26.10272	2.016756	20.15772
Probability	0.000000	0.000002	0.364810	0.000042
Sum	974.0693	608.1456	783.9984	1126.789
Sum Sq. Dev.	1.751576	5.515062	0.690113	5.776416
Observations	180	180	180	180

Source : Eviews 13

Based on the table above, it can be observed that the normality test results for all variables show relatively consistent patterns. The dependent variable (Y) has a skewness value of –0.503919, which lies within the normal range, indicating a symmetric distribution; however, its kurtosis value of 6.798705, which is significantly above +2, suggests a leptokurtic or sharply peaked distribution, implying that the data for Y are not perfectly normally distributed. For the independent variable X_1 (Agricultural Sector GRDP), the skewness value of –0.598068 and kurtosis of 1.568350 both fall within the normal limits, indicating that X_1 follows a near-normal distribution. The variable X_2 (Land Area) shows a skewness of 0.138294 and kurtosis of 2.561365, implying that its distribution is approximately normal, though slightly sharper than ideal. Lastly, X_3 (Provincial Minimum Wage) has a skewness of –0.716709, indicating a mild leftward asymmetry, and a kurtosis of 2.204382, which is slightly above the normal threshold, suggesting that the data distribution for X_3 is nearly normal but somewhat peaked. Overall, the normality analysis indicates that all variables meet acceptable statistical assumptions for further regression analysis.

T- test

Based on the t-test results presented in Table 3, the analysis was conducted to determine the partial effect of each independent variable on the dependent variable. The findings indicate that the Agricultural Sector GRDP (X_1) has a coefficient value of –0.504192 with a probability of 0.0000. Since the probability value is less than the 0.05 significance level, it can be concluded that X_1 has a negative and significant effect on the Labor Force Participation in the Agricultural Sector (Y). This result implies that an increase in agricultural GRDP is associated with a decrease in labor participation, which may occur due to higher productivity levels and mechanization that reduce the need for manual labor in the sector.

Furthermore, the Land Area (X_2) variable has a coefficient of 0.540606 with a probability value of 0.0044, while the Provincial Minimum Wage (X_3) variable shows a coefficient of 0.388707 with a probability of 0.0002. Both variables have probability values below 0.05, indicating that they have a positive and significant effect on Y. Therefore, it can be inferred that an expansion of agricultural land and an increase in the minimum wage lead to a higher rate of labor force participation in the agricultural sector. These findings reinforce the

notion that the availability of arable land and economic incentives through wages play a crucial role in attracting and retaining labor in the agricultural sector in Maluku Province.

F-test

The F-test in this study was used to determine whether the independent variables collectively have a significant effect on the dependent variable. Based on the F-statistic results presented in Table 5, the calculated F-value is 10.57523, with a probability value (Prob. F-statistic) of 0.000002. Since the probability value is far below the 0.05 significance threshold, it can be concluded that all independent variables—agricultural sector GRDP, land area, and provincial minimum wage—jointly have a significant effect on the labor force participation rate in the agricultural sector.

This finding suggests that the model has a good level of reliability in explaining the relationship among the variables. Conceptually, a combination of improved agricultural economic value, expansion of productive land, and increased minimum wage collectively encourages higher labor participation in agriculture. In other words, regional agricultural development policies that emphasize productivity enhancement, land expansion, and labor welfare improvement can serve as effective strategies to strengthen the agricultural sector in Maluku Province.

5. Discussion

Effect of Agricultural GRDP on Agricultural Labor Force Participation in Maluku Province

The results of the analysis reveal that the growth of the agricultural sector's Gross Regional Domestic Product (GRDP) has a negative effect on the labor force participation rate in Maluku's agricultural sector. This suggests that an increase in the sector's economic value does not necessarily translate into higher labor engagement. The finding aligns with the structural transformation theory, which posits that as an economy develops, productivity improvements and technological progress in agriculture often lead to labor displacement rather than absorption (Todaro & Smith, 2020; Timmer, 1988). The transition from labor-intensive to capital-intensive production reduces dependence on human labor, especially in areas adopting mechanized farming systems.

In Maluku Province, despite the continuous increase in agricultural GRDP from 2015 to 2024, the agricultural labor force participation rate has not shown proportional growth. Instead, a stagnating or even declining trend is observed, particularly in rural districts. This condition may stem from multiple factors, including land conversion, rural-to-urban migration, limited youth interest in farming, and insufficient incentives for small-scale farmers. The mismatch between productivity gains and employment growth indicates that economic progress in the agricultural sector has not been labor-inclusive, reflecting a form of structural imbalance in regional development.

These findings are consistent with Sakdiyah and Taufiq (2023), who observed that agricultural GRDP can exert a negative impact on labor absorption when growth emphasizes production efficiency over job creation. In this context, agricultural modernization in Maluku seems to prioritize intensification rather than extensification, thereby limiting employment opportunities. As a result, while the sector becomes more productive, it fails to generate adequate employment, especially in rural communities heavily dependent on agriculture as their main livelihood source.

Effect of Land Area on Agricultural Labor Force Participation in Maluku Province

The study demonstrates that agricultural land area exerts a positive and significant effect on labor force participation in Maluku's agricultural sector. The regression coefficient of 0.540606 implies that a 1% increase in cultivated land corresponds to a 0.54% rise in labor participation. This relationship reflects the traditional and labor-intensive nature of Maluku's

agricultural system, where an expansion of arable land increases labor demand across various stages of production, from planting to harvesting and distribution. Furthermore, government initiatives aimed at revitalizing underutilized land have contributed to expanding rural employment opportunities.

Empirically, the findings support the classical employment theory, which posits that the expansion of production factors such as land tends to increase labor demand (Sukirno, 2011). Within the framework of structural transformation theory, agriculture remains the primary absorber of labor in developing regions before industrialization takes full effect (Chenery & Syrquin, 1975; Todaro & Smith, 2015). In this sense, maintaining and expanding agricultural land becomes critical to ensuring employment stability, particularly in rural Maluku, where farming remains the dominant source of livelihood and economic activity.

This finding aligns with the empirical evidence from Istiana et al. (2023) in South Kalimantan and Dewi et al. (2016) in Tanjung Jabung Barat, both of whom found that larger agricultural land areas significantly increase labor absorption. Conversely, Sakdiyah and Taufiq (2023) observed that land area may lose significance when agricultural technology and management systems become more efficient, indicating a context-dependent relationship. Therefore, ensuring equitable access to land and optimizing land utilization in Maluku are crucial not only for boosting productivity but also for sustaining employment in the agricultural sector.

Effect of Provincial Minimum Wage on Agricultural Labor Force Participation in Maluku Province

The findings indicate that the Provincial Minimum Wage (PMW) has a positive and significant effect on agricultural labor participation in Maluku. With a regression coefficient of 0.388707, the results suggest that higher PMW levels encourage greater engagement in the agricultural workforce. In a region dominated by traditional and informal farming activities, wage policy serves as a crucial determinant of workers' economic decisions. A rise in minimum wage improves income expectations, increases household purchasing power, and provides stronger motivation for rural residents to remain employed in agricultural activities.

In practical terms, an increase in PMW helps retain rural labor and reduce rural-to-urban migration, particularly among younger workers seeking alternative employment in the informal urban sector. This aligns with the classical labor market theory, which asserts that wage levels influence both the supply and demand for labor. Furthermore, the efficiency wage theory proposed by Shapiro and Stiglitz (1984) posits that higher wages lead to increased worker productivity and job loyalty, as workers are motivated to maintain better-paying jobs. Within agricultural settings, higher minimum wages may also mitigate turnover and strengthen productivity through enhanced worker morale and commitment.

Empirical findings from Listyaningsih (2017) in Central Java and Istiana et al. (2023) in South Kalimantan corroborate this study's results, confirming that minimum wage policies significantly affect agricultural labor absorption. However, Sakdiyah and Taufiq (2023) found that excessive wage increases may have adverse effects when not accompanied by proportional productivity gains, suggesting the importance of balance between wage policy and output efficiency. Hence, for regions like Maluku, contextual wage regulation supported by productivity enhancement and rural training programs can foster more sustainable agricultural employment growth.

Combined Effect of Agricultural GRDP, Land Area, and Provincial Minimum Wage on Agricultural Labor Force Participation

The multiple regression analysis shows that agricultural GRDP, land area, and provincial minimum wage jointly exert a significant influence on agricultural labor force participation in Maluku Province. This implies a structural interdependence between economic

value, resource availability, and labor incentives in shaping agricultural employment dynamics. While the increase in GRDP indicates economic progress, it does not automatically lead to more job creation if accompanied by mechanization and efficiency-oriented production systems (Christiaensen & Martin, 2018). Therefore, the quality and inclusiveness of growth matter more than its magnitude in determining labor participation outcomes.

Land area remains a fundamental factor influencing agricultural employment. In predominantly rural regions like Maluku, larger cultivated areas directly translate into higher labor absorption, especially in traditional farming systems. Anríquez and Stamoulis (2007) emphasize that land access remains a key determinant of rural participation in agricultural activities across developing economies. Fluctuations in land use and ownership thus significantly impact employment opportunities, underlining the necessity of land reform and sustainable land management to preserve rural livelihoods.

Meanwhile, the provincial minimum wage acts as an economic signal affecting labor supply decisions. According to Del Carpio et al. (2016), when minimum wage increases are not aligned with productivity growth, employers in low-margin sectors such as agriculture may reduce hiring, leading to labor displacement. In contrast, a balanced approach that synchronizes wage policies with improvements in productivity and access to land can promote sustainable agricultural employment. Therefore, achieving an optimal synergy among economic growth, resource management, and labor incentives is essential for fostering an inclusive and resilient agricultural labor market in Maluku Province..

6. Conclusion

Based on the findings and analysis presented in this study, it can be concluded that the Gross Regional Domestic Product (GRDP) of the agricultural sector has a negative and significant effect on the agricultural labor force participation rate in Maluku Province. This indicates that the growth of economic output in the agricultural sector does not necessarily lead to higher employment absorption, likely due to technological advancements and structural changes that reduce labor demand. Conversely, the agricultural land area shows a positive and significant effect, suggesting that land expansion remains a key driver of rural employment and labor engagement in traditional farming systems. Similarly, the Provincial Minimum Wage (PMW) exerts a positive and significant influence, implying that higher wage policies can enhance agricultural labor participation by improving income expectations and retaining rural workers.

Furthermore, the simultaneous influence of all three variables—agricultural GRDP, land area, and PMW—demonstrates that the agricultural labor market in Maluku is shaped by an interplay between economic growth, resource availability, and wage incentives. These findings highlight the importance of integrative policy approaches that balance economic efficiency with employment inclusivity. Strengthening agricultural productivity while expanding land utilization and ensuring fair wage regulation could promote sustainable and equitable labor participation in Maluku's agricultural sector, supporting both economic growth and social welfare.

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