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The Influence of the Education Index, Health Index, and Expenditure Index on Poverty Level Reduction: A Study of Papua Province

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Abstract: Poverty remains a major challenge in Papua Province, despite receiving Special Autonomy Funds for more than two decades. According to data from Statistics Indonesia (BPS) in 2024, Papua recorded the highest poverty rate in Indonesia at 26.03% and the lowest Human Development Index (HDI) score of 63.01. This fact indicates that the substantial budget allocation has not been fully effective in reducing poverty and improving community welfare. This study aims to analyze the influence of the Education Index, Health Index, and Expenditure Index on the Poverty Rate in Papua Province, both partially and simultaneously. The research adopts a quantitative approach using multiple linear regression analysis. Secondary data were obtained from BPS, covering 29 districts and cities in Papua from 2012 to 2023. The variables analyzed include the Education Index, Health Index, Expenditure Index, and Poverty Rate. The results show that all three variables significantly influence the poverty rate. Partially, the Education Index and Expenditure Index have a negative effect, meaning that higher levels of education and purchasing power are associated with lower poverty rates. Meanwhile, the Health Index shows a positive relationship, indicating that improvements in health outcomes have not been fully effective in reducing poverty possibly due to disparities in access and other socioeconomic conditions. Simultaneously, the three variables explain 67.3% of the variance in poverty levels in Papua. Policy recommendations include strengthening skills-based education, enhancing equitable and inclusive healthcare systems, and boosting purchasing power through local economic development and price stabilization. A locally tailored approach is necessary to ensure that poverty reduction efforts in Papua are more effective and sustainable.

Keyword: Poverty, Education Index, Health Index, Expenditure Index, Papua Province

INTRODUCTION

Indonesia implements a decentralized system of government. According to Law Number 23 of 2014 concerning Regional Government, decentralization is defined as "the delegation of governmental affairs by the central government to autonomous regions based on the principle of autonomy." Decentralization in Indonesia has been implemented since 1999, marked by the enactment of Law Number 22 of 1999 on Regional Government. Through decentralization, the state grants authority to regions to manage their own administrative affairs, except for six areas: foreign affairs, defense and national security, monetary policy and national currency, state finance, religion, and other sovereign matters. Additional authorities as stated in Law Number 22 of 1999 include:

> "Policies on national planning and macroeconomic development control, fiscal balance funds, national administrative systems and state-owned enterprises, human resource development and empowerment, strategic utilization of natural and high technology resources, conservation, and national standardization."

The implementation of decentralization is expected to make local governments more transparent, participatory, and accountable. This system allows the central government to grant regional autonomy to local governments. A regional government is an autonomous institution responsible for managing and regulating the interests of the local community based on their own initiative and aspirations, in accordance with the laws and regulations (Law No. 22, 1999).

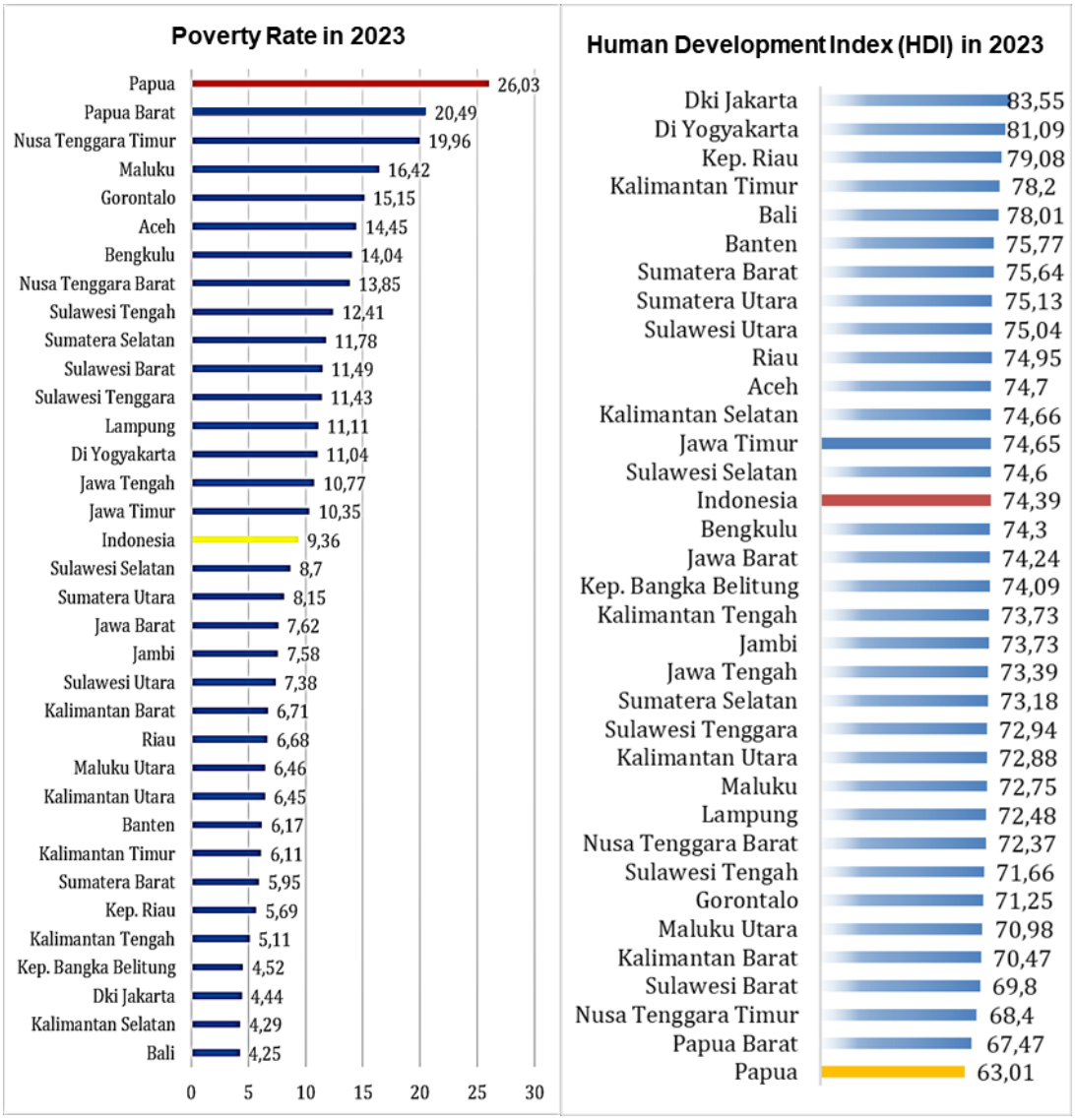
This understanding implies that regional autonomy enables regions to adapt policies to their specific conditions and community needs. It also encourages healthy competition among regions in Indonesia to achieve development goals. As stated by Suryono (2004), development can be defined as:

> "a continuous effort aimed at positioning human beings appropriately in both their roles and statuses as subjects and objects of development, enabling them to develop and empower themselves. Externally, this fosters harmonious, balanced, and dynamic relationships, while internally, it cultivates equilibrium."

individuals as both subjects and objects who can grow and possess the capacity for change. Accordingly, every region in Indonesia undertakes development to improve local welfare, reduce poverty, and transform communities. Suryono (2010) affirms that development "will lead to changes in the structure of human life." Similarly, the Central Bureau of Statistics (2009) states that development aims to create an environment that supports a long, healthy, and productive life.

Regional autonomy is also realized through the allocation of special autonomy funds to specific regions in Indonesia, including Papua Province. The Papua Special Autonomy Fund was established under Law Number 35 of 2008, which ratified Government Regulation in Lieu of Law Number 1 of 2008. It allocates 2 percent of the national budget ceiling over a 20-year period. Pattinasarany et al. (2021) noted that after nearly 18 years of implementing the Papua Special Autonomy Law, its results are deemed suboptimal by various stakeholders including the central government, local governments, and development actors, including Indigenous Papuans (OAP). The central government views the progress in Papua and West Papua as disproportionate to the substantial funds disbursed for autonomy. Local governments argue that the implementation remains ineffective due to unclear authority structures, while Indigenous Papuans feel that the policy has yet to bring meaningful improvements to their lives.

Moreover, data consistently show that Papua Province records the highest poverty rate and the lowest Human Development Index (HDI) in the country, far below the national average.



Source: BPS, 2024

Figure 1. Human Development Index and Poverty Rate

Papua remains the province with the highest poverty rate in Indonesia. It ranks first with a poverty level of 26.03 percent. This data indicates that despite the allocation of special autonomy funds, the poverty rate in both Papua provinces remains high.

In addition, based on the Human Development Index (HDI) data, Papua also ranks at the bottom among all provinces in Indonesia. The province is positioned 34th, the lowest nationally, with an HDI score of 63.01. This condition reflects that, although receiving special autonomy funds, Papua has not yet achieved optimal development outcomes, as evidenced by its persistent low ranking in both poverty and HDI indicators. These circumstances have motivated the researcher to conduct a study entitled *The Influence of Education Index, Health Index, and Expenditure Index on Poverty Reduction: A Study in Papua Province*.

Based on the background described above, the objectives of this study are as follows:

1. To analyze the effect of the Education Index on the Poverty Rate in Papua Province;
2. To analyze the effect of the Health Index on the Poverty Rate in Papua Province;
3. To analyze the effect of the Expenditure Index on the Poverty Rate in Papua Province;
4. To analyze the simultaneous effects of the Education Index, Health Index, and Expenditure Index on the Poverty Rate in Papua Province.

Human Development

According to the United Nations Development Programme (UNDP, 2023), human development is measured through three main dimensions: health and longevity, access to education, and a decent standard of living. These dimensions are integrated into the Human Development Index (HDI), which is calculated using the geometric mean of life expectancy, educational attainment (mean years of schooling and expected years of schooling), and income measured by Gross National Income (GNI) per capita adjusted for purchasing power parity (PPP). In Indonesia, due to the unavailability of regional GNI per capita data, HDI is measured using adjusted real per capita expenditure, which is considered more representative of community welfare through the consumption of food and non-food items (BPS, 2023).

The components of the HDI are detailed as follows:

1. Education Index: Based on expected years of schooling and mean years of schooling. Education is considered essential for improving individual capacity and economic prospects. Barro (2001) and Psacharopoulos & Patrinos (2004) emphasize that improved education quality significantly contributes to economic growth and the reduction of inequality.
2. Health Index: Measured through life expectancy at birth as an indicator of population health quality. Bloom and Canning (2008) argue that each additional year of life expectancy can raise GDP per capita by 4–5%.
3. Expenditure Index: Represents the economic capacity of individuals to access resources. Deaton and Heston (2010) highlight a strong correlation between per capita income and social well-being. At the regional level, real per capita expenditure is used as a more accurate proxy for welfare (BPS, 2023).

Although the HDI is widely used, it has been subject to criticism. Hickel (2016) argues that HDI remains overly reliant on income-related indicators, thereby neglecting inequality and sustainability dimensions. In response, the UNDP (2020) has developed supplementary metrics such as the Inequality-adjusted HDI, the Multidimensional Poverty Index (MPI), and environmental indicators to enrich the understanding of human development.

Poverty

The World Bank defines poverty primarily through income-based approaches, using a global poverty line of USD 1.90 per day and an annual GNI per capita threshold of less than USD 1,025. Additionally, poverty is also understood as a lack of access to basic needs such as food, clean water, sanitation, education, and healthcare (World Bank, 2015). However, Benatar (2016) criticizes this approach as too narrow, stressing the importance of inequality indicators such as the Gini coefficient, along with social and environmental impacts.

Wolff (2020), in *Beyond Poverty*, adopts Amartya Sen's capability approach (1999), which views poverty as a deprivation of basic functioning rather than merely a lack of income. Factors such as personal resources, structural conditions, and life opportunities are key determinants in understanding poverty. The United Nations (1995) also emphasizes that poverty is not solely an economic issue but includes the inability to live a dignified life.

Two general approaches to poverty are commonly used: Absolute poverty, defined as income below the threshold for meeting basic needs; and Relative poverty, defined as living below the average social standard of society.

Poverty measurement now includes various indicators, such as:

1. Income and consumption: Refers to the international poverty line (USD 1.90/day), reflecting the ability to meet basic needs (World Bank, 2015).
2. Multidimensional Poverty Index (MPI): Assesses deprivation in health, education, and living standards (Alkire & Santos, 2014).
3. Access to basic services: Includes clean water, sanitation, education, and healthcare.

4. Unemployment rate: Often correlates with household economic instability.
5. Crisis resilience: Economically vulnerable households are more susceptible to falling into poverty during shocks.

The understanding of poverty continues to evolve in response to criticisms of conventional approaches. Sen (1999) advocates a multidimensional approach encompassing social, political, and cultural aspects to ensure that poverty alleviation policies are more inclusive and responsive to complex realities.

The Influence of HDI Components on Poverty Levels

The Human Development Index (HDI) serves as an essential tool to understand the relationship between education, health, and expenditure with poverty levels. These three components directly contribute to shaping individuals' quality of life and economic capacity.

The Influence of the Education Index on Poverty Levels

Education enhances individuals' skills and competitiveness in the labor market. Access to quality education opens better economic opportunities and fosters upward social mobility. Psacharopoulos & Patrinos (2004) demonstrated that each additional year of schooling is associated with approximately a 10% increase in income. Moreover, education raises awareness and decision-making capabilities that support improved household economic conditions.

The Influence of the Health Index on Poverty Levels

Good health enables individuals to work productively and reduces household spending on illness-related costs. Access to adequate healthcare services strengthens economic resilience. Bloom, Canning, and Sevilla (2004) found that increased life expectancy is positively correlated with economic growth and poverty reduction.

The Influence of the Expenditure Index on Poverty Levels

Adjusted real per capita expenditure reflects a household's economic ability to meet basic needs. Dollar & Kraay (2002) emphasized that national income growth also benefits the bottom 20% income group, indicating that income growth contributes to poverty alleviation. In Indonesia, due to the unavailability of GNI per capita data at the regional level, BPS (2023) uses adjusted real per capita expenditure as a more representative proxy for actual community welfare.

The conceptual framework is a structure or model used to understand, describe, and analyze specific phenomena. In this study, the conceptual framework serves as a guide that links the research variables and the proposed hypotheses.

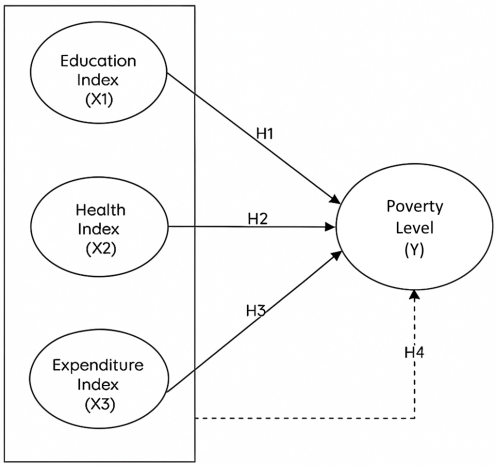


Figure 2. Conceptual Framework

According to Sugiyono (2022), a hypothesis is a provisional answer to the research problem that is based on theoretical foundations rather than empirical data. Thus, a hypothesis serves as a theoretical answer that will be tested through research. Based on the conceptual framework, the hypotheses in this study are:

H_1 : The Education Index has a positive and significant effect on the Poverty Rate.
H_2 : The Health Index has a positive and significant effect on the Poverty Rate.
H_3 : The Expenditure Index has a positive and significant effect on the Poverty Rate.
H_4 : The Education Index, Health Index, and Expenditure Index simultaneously influence the Poverty Rate.

METHOD

This study adopts a quantitative approach with a correlational method aimed at measuring the relationship between the Education Index, Health Index, and Expenditure Index and the Poverty Rate in Papua. According to Sugiyono (2022), quantitative methods are rooted in positivist philosophy and rely on statistical analysis to test hypotheses, while the correlational method is used to assess the relationship between variables without establishing causality (Kuncoro, 2013).

The data used in this study are secondary data obtained from Statistics Indonesia (BPS), covering variables such as the Education Index (Mean Years of Schooling and Expected Years of Schooling), Health Index (Life Expectancy), Expenditure Index (Per Capita Expenditure), and Poverty Rate (Percentage of Poor Population) over the period of 2012–2023. The dataset comprises data from districts and municipalities in Papua Province prior to regional expansion. While the population of the study encompasses all provinces in Indonesia, this research specifically focuses on Papua due to its high poverty rate and unique socio-economic characteristics.

The data collection technique used is documentation, which involves utilizing datasets compiled by other institutions (Martins et al., 2018). Validity and reliability tests were not conducted, as the BPS data are already validated and verified. The analysis techniques employed include descriptive statistics and multiple linear regression. Descriptive analysis helps illustrate the characteristics of the data, while multiple linear regression is used to examine the influence of the independent variables on poverty, both partially and simultaneously, in order to gain deeper insights into the factors affecting poverty in Papua Province.

RESULTS AND DISCUSSION

Descriptive Analysis

Descriptive analysis was conducted to understand the conditions of human development and community welfare in Papua Province, using four variables: Education Index (X_1), Health Index (X_2), Expenditure Index (X_3), and Poverty Rate (Y). The objective is to identify data distribution, regional variation, and emerging socio-economic patterns. The Education Index reflects access to and quality of educational services; the Health Index illustrates the state of public health and healthcare services; while the Expenditure Index indicates the population's purchasing power. The Poverty Rate represents the proportion of the population still facing economic hardship in meeting basic needs.

The dataset comprises 348 observations from 29 districts/municipalities in Papua for the period 2012–2023. Descriptive statistics such as minimum, maximum, mean, and standard deviation were used to describe data distribution. Minimum and maximum values illustrate the extreme conditions of each variable, the mean provides an overview of the general condition, and the standard deviation reflects the degree of variation across regions.

Table 1. Descriptive Analysis of Papua Province

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
X1Papua	348	6.41	81.86	47.0972	17.71797
X2Papua	348	51.42	81.28	68.7725	6.04355
X3Papua	348	9.38	55.80	22.4645	9.90375
YPapua	348	10.01	47.52	29.5855	9.75489
Valid N (listwise)	348				

Source: Research Results, 2024

a. Education Index Analysis (X_1)
   The Education Index in Papua ranges from 6.41 to 81.86, with a mean of 47.10 and a standard deviation of 17.72. The average value, which is still below 50, reflects generally low educational attainment across the province. The high standard deviation indicates significant disparities between regions, likely influenced by geographic constraints, shortages of qualified teachers, and unequal distribution of educational facilities.
b. Health Index Analysis (X_2)
   The Health Index ranges from 51.42 to 81.28, with a mean of 68.77 and a standard deviation of 6.04. These figures suggest that health conditions are generally more stable and evenly distributed compared to other sectors. The relatively low variation among regions may be attributed to effective health policies, such as the widespread availability of community health centers (puskesmas) and immunization programs.
c. Expenditure Index Analysis (X_3)
   The Expenditure Index shows a minimum of 9.38 and a maximum of 55.80, with a mean of 22.46 and a standard deviation of 9.90. The low average value indicates limited purchasing power among the population in Papua. The high inter-regional variation reflects economic inequality, driven by differences in local economic activity, market access, and resource distribution.
d. Poverty Rate Analysis (Y)
   The Poverty Rate ranges from 10.01 to 47.52, with an average of 29.58 and a standard deviation of 9.75. The relatively high minimum value suggests that poverty remains widespread, while the maximum value close to 50% indicates extreme poverty conditions in certain areas. The variation across regions points to disparities in access to basic services and economic opportunities.

Overall, the descriptive analysis reveals substantial inequalities in human development across Papua. While the Health Index appears relatively high and evenly distributed, the Education and Expenditure Indices show wide disparities. The consistently high poverty rate (average 29.58%) reflects serious structural challenges.

The prevalence of poverty is closely associated with limited access to education and economic opportunities. Therefore, strategies should prioritize equitable access to education, strengthening of local economies, and reduction of regional disparities. Investments in basic infrastructure and locally driven economic empowerment programs such as agriculture, fisheries, and creative industries can help increase purchasing power and community self-reliance. Evidence-based policymaking is essential to ensure effective interventions and support sustainable development in Papua.

Multiple Linear Regression Analysis

1. Partial Analysis

Table 2. Partial Multiple Linear Regression Analysis of Papua Province

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.177	3.718		9.462	.000
	X1Papua	-.154	.029	-.279	-5.340	.000
	X2Papua	.234	.060	.145	3.898	.000
	X3Papua	-.643	.053	-.653	-12.145	.000

a. Dependent Variable: YPapua

Source: Research Results, 2024

Multiple linear regression was employed to examine the effect of the Education Index (X_1), Health Index (X_2), and Expenditure Index (X_3) on the Poverty Rate (Y) across districts/municipalities in Papua Province. The t-test results indicate that all three independent variables have a statistically significant influence on poverty, although the direction of influence varies:

X_1 (Education) has a negative effect: higher education levels are associated with lower poverty.

X_2 (Health) has a positive effect: improvements in the health index have not directly translated into poverty reduction.

X_3 (Expenditure) has a strong negative effect, highlighting the importance of purchasing power in poverty alleviation.

The detailed analysis is as follows:

a. The Effect of the Education Index (X_1) on the Poverty Rate (Y)

The regression results show a coefficient B = -0.154, t-value = -5.340, and significance = 0.000. This implies that a one-unit increase in the Education Index reduces the poverty rate by 0.154 units, assuming other variables remain constant. These findings align with human development theory, which posits that education enhances income generation, expands access to formal employment, and strengthens household economic resilience. Higher education also promotes financial literacy and resource management skills, which help mitigate structural poverty.

However, the effectiveness of education in reducing poverty in Papua remains constrained by:

1) Limited access to quality education, especially in remote areas;
2) A mismatch between graduates' skills and labor market demands;
3) The dominance of informal and traditional sectors that do not require higher education;
4) Local socio-cultural norms that deprioritize formal education;
5) Inadequate transportation infrastructure and labor mobility, limiting employment opportunities even for the educated.

Thus, although the relationship between education and poverty reduction is significant and negative, its actual impact is not automatic and depends heavily on access, education relevance, labor market absorption, and socio-geographical factors.

b. The Effect of the Health Index (X_2) on the Poverty Rate (Y)

Regression analysis yields B = 0.234, t-value = 3.898, and significance = 0.000, indicating a significant positive relationship between the Health Index and poverty. This means that improvements in the health index are associated with higher poverty levels, assuming other factors remain constant. While counterintuitive to conventional theory which holds that better health reduces poverty this finding can be interpreted in the Papua context through several contributing factors:

1) A mismatch between health improvements and economic conditions: healthcare access may improve, but communities remain trapped in subsistence economies with low income and limited job opportunities;
2) Increased life expectancy without adequate social protection: longer life spans may lead to prolonged poverty among non-productive age groups without proper safety nets;
3) High out-of-pocket health expenditures: despite access, the cost of medicine, transportation, and treatment remains burdensome for low-income households;
4) Unequal access to healthcare among social groups: improvements in the health index may not benefit the poorest, especially in remote areas;
5) Cultural and traditional practices: in some areas, low use of modern healthcare services limits the potential economic benefits of better health;
6) Persistent environmental health issues and endemic diseases: poor sanitation, malnutrition, and infectious diseases continue to hinder productivity despite aggregate improvements in the health index.

In conclusion, while the health status of the Papuan population has improved overall, its impact on poverty reduction remains suboptimal. This highlights the need for an integrated approach that links health improvements with income generation, social services, and equitable access to ensure more effective and inclusive poverty alleviation.

c. The Effect of the Expenditure Index (X_3) on the Poverty Rate (Y)

The regression results indicate that the Expenditure Index (X_3) has a regression coefficient of -0.643, a t-value of -12.145, and a significance level of 0.000, suggesting a very strong and significant negative relationship with the poverty rate. This means that every one-point increase in the expenditure index reduces poverty by 0.643 units, assuming other variables remain constant. This relationship demonstrates that household purchasing power plays a critical role in poverty reduction. As household expenditure increases, people are more able to meet their basic needs such as food, housing, education, and healthcare which leads to improved overall well-being. Several factors explain this relationship:

1) Increases in income and household consumption signal economic improvements, particularly in informal sectors such as agriculture and microenterprises in Papua.
2) Improved market access and economic infrastructure enable more efficient distribution of goods and services, reduce prices, and increase consumption.
3) Economic stability and secure employment encourage productive spending, including investments in education and healthcare.
4) Financial literacy and prudent consumption patterns enhance household economic resilience and reduce the risk of falling into poverty.

However, the impact of expenditure is also influenced by several factors:

1) Expenditure structure: Low-income households typically spend most of their income on basic needs, while higher-income households are able to invest in productive assets.
2) Price stability: Inflation can erode the positive effects of increased purchasing power.
3) Spending distribution: Increased expenditure must be accompanied by improvements in quality of life, not merely short-term consumption.

In conclusion, a higher Expenditure Index is associated with a lower poverty rate in Papua. This underscores the importance of purchasing power, income stability, and economic access as key determinants in achieving tangible and sustainable poverty reduction.

2. Simultaneous Analysis

Table 3. Multiple Linear Regression Analysis (Simultaneous) – Papua Province

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.820[a]	.673	.670	5.60557

a. Predictors: (Constant), X3Papua, X2Papua, X1Papua

b. Dependent Variable: YPapua

Multiple linear regression analysis was employed to evaluate the extent to which the Education Index (X_1), Health Index (X_2), and Expenditure Index (X_3) simultaneously influence the Poverty Rate (Y) in Papua. Based on the regression results presented in the Model Summary, the R value of 0.820 indicates a strong relationship between the independent variables and the dependent variable. This suggests that these three independent variables play a substantial role in explaining the variation in poverty levels in Papua.

The R Square value of 0.673 indicates that 67.3% of the variation in the Poverty Rate (Y) can be explained by the three independent variables used in the model namely, the Education Index, Health Index, and Expenditure Index. In other words, the regression model demonstrates a relatively high explanatory power regarding the factors contributing to poverty. The remaining 32.7% is influenced by other factors not included in the model, which may involve aspects such as government policy, infrastructure conditions, labor market access, and broader socio-cultural dynamics in Papua.

The Adjusted R Square value of 0.670 indicates that, when adjusting for the number of independent variables in the model, the explanatory power of the model remains high at 67%. Adjusted R Square is used to confirm the validity of the model even when tested on a larger sample or different population. This value signifies that the model maintains a good level of accuracy in explaining the relationship between the independent variables and poverty in Papua.

These results demonstrate that the Education Index, Health Index, and Expenditure Index collectively have a significant influence on the Poverty Rate in Papua. With a relatively high

R Square value, it can be concluded that this model is more effective in explaining poverty variation than the regression model used for West Papua, which only had an R Square of 31.7%. This suggests that in Papua, education, health, and purchasing power are more closely related to poverty levels compared to West Papua, where external factors may still be more dominant in determining economic conditions.

This discrepancy may reflect differences in development policy effectiveness and economic structures between the two provinces. In Papua, improvements in education and purchasing power may have a more direct impact on poverty reduction, whereas in West Papua, other external factors still play a larger role. Moreover, the high R Square value in Papua implies that welfare improvement strategies in this province could be more effective if focused on the education, health, and economic empowerment sectors, given that these three variables contribute significantly to explaining poverty levels.

Overall, the regression results suggest that the model used for Papua has better predictive power than the model applied to West Papua. Nevertheless, there remains 32.7% of the variance in poverty unexplained by this model, likely attributable to other influential factors such as infrastructure access, labor market dynamics, and complex socio-cultural issues specific to the region.

CONCLUSION

The results of the multiple linear regression analysis indicate that the Education Index (X_1), Health Index (X_2), and Expenditure Index (X_3) have significant effects on the Poverty Rate (Y) in Papua Province, both simultaneously and partially. These three variables contribute to determining poverty levels, albeit with varying strengths and directions of influence.

Simultaneously, the regression model for Papua explains 67.3% of the variance in poverty, demonstrating that education, health, and expenditure are strongly associated with poverty levels. This suggests that development strategies focusing on expanding access to education, improving healthcare services, and increasing household purchasing power may serve as effective measures to reduce poverty in Papua.

Partially, the Education Index exhibits a negative effect on poverty, indicating that higher educational attainment is associated with lower poverty levels. This implies that education has played an effective role in enhancing the well-being of the population in Papua, particularly among individuals who have access to quality education aligned with labor market demands.

Meanwhile, the Health Index shows a positive relationship with poverty, suggesting that despite improvements in healthcare services, these enhancements have not yet translated into significant poverty reduction. Factors such as unequal access, limited healthcare infrastructure in remote areas, and population growth outpacing economic expansion may contribute to the inability of health improvements to effectively reduce poverty in Papua.

The Expenditure Index demonstrates a negative influence on poverty, meaning that greater household purchasing power corresponds with lower poverty levels. This highlights that increased household expenditure in Papua significantly contributes to improving community welfare, likely driven by better access to economic resources, markets, and greater economic stability among higher-income groups.

The main conclusion of this study is that poverty reduction strategies in Papua must be tailored to the region's socio-economic characteristics. Efforts should focus on expanding access to quality, skills-based education, strengthening a more equitable and efficient healthcare system, and formulating policies that support increased purchasing power through economic stability and broader market access. With more targeted and context-specific policies, poverty alleviation efforts in Papua can be more effective and sustainable.

Based on the results of the multiple linear regression analysis, several policy recommendations can be proposed to reduce the poverty rate in Papua Province. These recommendations are formulated by considering the differing patterns of relationships between the Education Index, Health Index, and Expenditure Index with poverty levels, ensuring that the strategies applied are more targeted and effective in enhancing community welfare.

a. Strengthening Education Oriented Toward Labor Market Needs
   The analysis shows that education plays a substantial role in reducing poverty in Papua. Therefore, the education system must be optimized to better align with labor market demands.
   1) Local governments should improve the quality of vocational education and technical training tailored to local industries.
   2) Strengthen partnerships with businesses and industries to develop internship and job training programs for high school and university graduates.
   3) Provide incentives for the private sector to generate more employment opportunities for local workers with specific skill sets.
   4) Promote entrepreneurship-based education to encourage communities to establish independent businesses.

b. Enhancing Household Purchasing Power through Economic Stability and Market Access
   Given that the Expenditure Index significantly contributes to poverty reduction in Papua, increasing household purchasing power should be supported through several strategic measures:
   1) Promote the development of local potential-based economic sectors, such as agriculture, fisheries, and community-based tourism.
   2) Strengthen business capital support programs for MSMEs and indigenous microenterprises to boost production capacity and expand market access.
   3) Stabilize the prices of basic necessities by improving logistics systems and distribution chains, enabling people to access goods at more affordable prices.
   4) Expand access to credit and financing for the poor through more flexible and community-based schemes.

c. Reforming the Health System to Become More Inclusive
   Although the Health Index has improved, regression results indicate its limited impact on poverty reduction. Therefore, more effective policies are needed to ensure healthcare services reach impoverished communities:
   1) Improve access to primary healthcare in remote areas by increasing the number of mobile health clinics and deploying field-based medical personnel.
   2) Develop a more flexible health insurance system for the poor, including subsidized treatment costs for underprivileged families.
   3) Promote disease prevention and nutrition improvement programs, as better health enhances community productivity.
   4) Improve maternal and child health services to reduce maternal and infant mortality rates and prevent long-term health consequences due to malnutrition.

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