

Evaluating the Impact of Special Autonomy Funds on Human Development Index in West Papua

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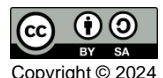
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Abstract

The Special Autonomy Fund (SAF) is allocated by the Indonesian government to West Papua Province to support regional development and address political, economic, and social issues. According to the United Nations Development Programme (UNDP), the Human Development Index (HDI) is measured through indicators of health, education, and economic capacity. This study examines the impact of SAF on HDI in West Papua for the period 2014-2023. Using a linear trend model, the findings indicate an average HDI increase of 0.6064% per year, with a coefficient of determination of 37.90%. SAF significantly influences the mean years of schooling (MYS) but has no discernible impact on life expectancy (LE) or per capita expenditure (PCE), as SAF predominantly contributes to the education sector in West Papua.

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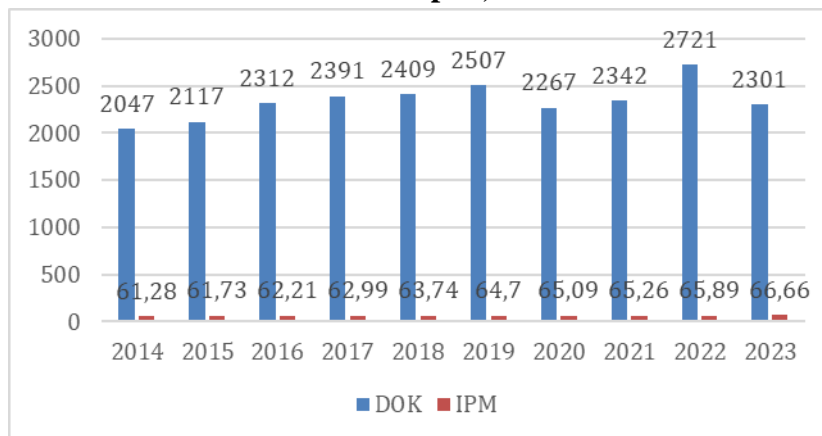
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1. Introduction

Indonesia's Law No. 32 of 2004 on regional autonomy grants provinces the authority to manage their own administration, financial resources, and natural assets. Under this legislation, certain provinces, including Aceh, Papua, and West Papua, receive special autonomy status to enhance public services and improve community welfare through Special Autonomy Funds (SAF). These funds enable local governments to manage finances with greater flexibility, improve infrastructure, advance education and healthcare, and encourage public participation in decision-making processes. Scholars such as Rondinelli and Cheema have argued that decentralization and regional autonomy can improve governmental efficiency and responsiveness to local needs, while Bahl and Linn emphasize that transparency and accountability in financial management can foster public trust.

West Papua is among the regions that receive SAF. According to Law No. 21 of 2001 on Special Autonomy, West Papua has the authority to independently manage its social, political, and economic affairs, as well as its natural and financial resources. The goal of this autonomy is to empower local communities, increase transparency, and encourage community involvement in governance. However, this autonomy remains governed by specific regulatory constraints.

Figure 1.
Trends in Special Autonomy Funds and the Human Development Index in West Papua, 2014–2023



According to Figure 1, it can be shown that from 2014 to 2023, both SAF allocations and the Human Development Index (HDI) in West Papua

showed a general upward trend. In 2020, SAF allocations declined from 2.507 trillion IDR to 2.267 trillion IDR due to the government's reallocation of funds to address the COVID-19 pandemic. SAF funding then rose in 2021 and 2022, reaching 2.721 trillion IDR, before decreasing again in 2023 to 2.301 trillion IDR. Concurrently, West Papua's HDI improved from 61.28% in 2014 to 66.66% in 2023, indicating ongoing advancements in social welfare and human development. These positive trends suggest an improvement in living standards, alongside progress in education, healthcare, and economic stability (United Nations Development Programme [UNDP], n.d.).

Given these developments, this study investigates the impact of SAF on HDI in West Papua to understand how the allocation of special autonomy funds contributes to sustainable human development in the region.

2. Literature Review

Special Autonomy Funds

The Special Autonomy Fund (SAF) is a financial allocation provided by the Indonesian government to support regional development in West Papua Province (Direktorat Jenderal Perimbangan Keuangan Kementerian Keuangan, n.d.). Established under Law No. 21 of 2001 on Special Autonomy, SAF aims to address political, economic, and social challenges faced by the people of West Papua. The SAF is a vital component in enhancing local development, focusing on education, healthcare, infrastructure (Badan Pusat Statistik Papua Barat, n.d.-b), and community empowerment (Kadafi & Murtala, 2020). Managed by the West Papua provincial government, the fund is allocated annually by the central government, enabling greater financial flexibility to support key areas that improve regional welfare (Muhtarulloh, 2021).

Human Development Index

The Human Development Index (HDI) serves as a comprehensive measure of a region's development, encapsulating health, education, and economic dimensions, as defined by the United Nations Development Programme (UNDP). The HDI comprises three core indicators: life expectancy as a proxy for health (Badan Pusat Statistik Papua Barat, n.d.-c),

literacy rate and school enrollment for educational attainment, and per capita expenditure as a measure of economic well-being (Ririn, Prihatni, & Murdayanti, 2014). These factors provide a balanced view of human development, highlighting progress in essential services and the quality of life (Badan Pusat Statistik Papua Barat, n.d.-a). HDI offers an objective framework to evaluate how public policies, such as SAF, contribute to sustainable human development in targeted regions (Samputra, 2020).

3. Methodology

Scope of the Study

This study aims to analyze the impact of the Special Autonomy Fund (SAF) on the Human Development Index (HDI) in West Papua. The research specifically focuses on examining how SAF allocation influences HDI improvements in the region, providing insights into the effectiveness of fiscal support on human development outcomes.

Research Type and Data Sources

This research employs a descriptive quantitative approach to explore the relationship between variables. Secondary time-series data from 2014 to 2023 are used, sourced from the Directorate General of Fiscal Balance, Ministry of Finance, and Statistics Indonesia (BPS) for West Papua. These datasets provide a comprehensive view of SAF allocations and HDI metrics across the specified period.

Data Analysis Model

To assess the impact of SAF on HDI, several statistical analyses are conducted, including simple linear regression, t-tests, the coefficient of determination, correlation coefficient tests, and classical assumption tests such as normality testing.

Simple Linear Regression: This method is employed to determine the effect of SAF on HDI in West Papua, using the regression model:

$$y = a + bx \text{ where:}$$

Y = Dependent variable (HDI), a = Intercept, representing the expected value of Y when X=0, b = Regression coefficient (slope), indicating the rate of change in Y for each unit increase in X, X = Independent variable (SAF), the predictor for Y.

This analytical approach provides insights into the relationship and

explanatory power of SAF on HDI trends, with results evaluated for statistical significance and model fit.

4. Results

Factors Influencing HDI in West Papua

The Human Development Index (HDI) in West Papua is influenced by several critical factors across health, education, and economic domains:

Health: Access to healthcare services and medical facilities, along with community health programs, contributes to life expectancy.

Education: The availability and quality of education, including the number of schools and qualified teachers, and school participation rates directly impact HDI.

Economic Conditions: Economic factors such as per capita income and employment rates indirectly affect HDI, although health and education remain primary indicators.

Additional influences include social and cultural factors, geographic accessibility, security, and political stability. Together, these factors interact to shape the quality of life and overall welfare in West Papua.

Impact Analysis of Special Autonomy Funds on HDI in West Papua (2014–2023)

The trend analysis of HDI in West Papua from 2014 to 2023 (Badan Pusat Statistik Papua Barat, 2023) reveals a steady upward trajectory. The linear trend model, generated using least-squares regression, yields the equation $y = 0.6064x - 1160$, where y represents HDI and x denotes time (year). This model indicates a consistent HDI increase of approximately 0.6064% per year, reaching an HDI of 66.66% by 2023.

Normality Test

The Kolmogorov-Smirnov normality test confirms the normal distribution of residuals ($p = 0.893$, $\alpha = 0.05$), indicating that the data are suitable for further statistical analysis, including regression and variance testing.

Correlation and Determination Coefficients

The correlation coefficient ($R = 0.301$) and the coefficient of determination ($R^2 = 0.379$) suggest that 37.9% of the variation in HDI in West Papua can be attributed to the influence of Special Autonomy Funds (SAF), while the remaining 62.1% is impacted by other variables outside the scope of this study.

Regression Analysis and t-Test

Regression analysis indicates a non-significant relationship between SAF (independent variable, X) and HDI (dependent variable, Y), as the p-value (0.058) exceeds the significance threshold ($p > 0.05$). The regression equation obtained is $Y=49.914-0.006X$, where the constant (49.914) suggests the HDI level when SAF is zero, and the negative coefficient (-0.006) implies a slight inverse relationship between SAF and HDI, although not statistically significant.

Detailed Impact of SAF on HDI Indicators

The analysis further explores the effect of SAF on specific HDI indicators, including life expectancy (LE), literacy rate, mean years of schooling (MYS), and per capita expenditure (PCE). Results indicate that SAF primarily contributes to MYS, demonstrating a direct influence on educational outcomes in West Papua. However, SAF does not significantly affect LE or PCE, as these indicators remained stable over the study period regardless of fluctuations in SAF.

In summary, the contribution of SAF to HDI in West Papua is predominantly directed toward the education sector, as evidenced by its impact on MYS from 2014 to 2023. This allocation suggests that SAF supports long-term human development primarily by enhancing educational access and quality in the region.

5. Discussion

The results of this study reveal that the Special Autonomy Fund (SAF) has had a notable but selective impact on the Human Development Index (HDI) in West Papua, primarily benefiting the education sector through its influence on the mean years of schooling (MYS). This finding aligns with prior research on regional autonomy, which suggests that decentralized funding often enables regions to prioritize local development needs, with education frequently being a focal area for investment due to its long-term socioeconomic benefits.

Impact on Education and Human Capital Development

The observed influence of SAF on MYS underscores the role of educational investments in human capital formation. Increased years of schooling contribute to an educated workforce, which is essential for sustainable regional development. However, the lack of significant impact on life expectancy (LE) and per capita expenditure (PCE) indicates that while SAF contributes to educational improvements, it may not be addressing other critical aspects of HDI comprehensively. This trend may be partly attributed to the allocation strategies that prioritize education over healthcare and economic resilience, suggesting a need for a more balanced distribution to address all HDI components equitably.

Health and Economic Factors

The study's findings highlight the limited impact of SAF on health and economic indicators (Isnadi & Fikriah, 2019), as seen in the stable LE and PCE. This may suggest that SAF allocations in West Papua have not effectively addressed healthcare infrastructure or economic empowerment initiatives, possibly due to resource constraints or governance challenges (Faculty of Economics and Business UGM, n.d.). Past studies emphasize that health improvements require sustained investments in healthcare facilities, community health programs, and preventive care initiatives, which may currently be underfunded in SAF's budget allocation framework. Similarly, economic development depends on broader economic policies, infrastructure, and employment programs that may extend beyond the purview of SAF allocations.

Policy Implications and Recommendations

The findings point to several policy implications for optimizing the impact of SAF on HDI in West Papua. First, policymakers should consider re-evaluating the allocation structure of SAF to ensure a balanced focus on health, education, and economic development (Amal, Zulkifli, & Gunawan, 2023). Integrating targeted healthcare investments, for instance, could help increase life expectancy and further contribute to HDI improvements. Additionally, introducing economic empowerment programs, such as vocational training and small business support, could address economic

stability and income growth, fostering a more holistic approach to human development.

Limitations and Future Research Directions

This study is limited by its reliance on secondary data and a specific focus on SAF within the West Papuan context. Future research could expand on these findings by exploring SAF's impact across other regions with similar autonomy arrangements. Additionally, longitudinal studies that incorporate qualitative data could provide deeper insights into the lived experiences of beneficiaries and the long-term effectiveness of SAF in improving HDI dimensions beyond education. Further research on governance mechanisms within SAF allocation may also be valuable for understanding the administrative and operational challenges impacting fund distribution and utilization.

In conclusion, while SAF has positively influenced the education component of HDI in West Papua, there remains substantial potential for enhancing its impact on health and economic well-being. A more diversified and balanced investment strategy could contribute to a more comprehensive advancement of human development outcomes, supporting West Papua's progress toward equitable and sustainable growth.

6. Conclusion

This study examined the impact of the Special Autonomy Fund (SAF) on the Human Development Index (HDI) in West Papua over the period 2014–2023. The findings reveal that while SAF has contributed positively to educational outcomes, specifically the mean years of schooling (MYS), its effects on other HDI components, such as life expectancy (LE) and per capita expenditure (PCE), remain limited. The correlation and regression analyses indicate that SAF explains 37.9% of the variance in HDI, suggesting a moderate impact that could be further optimized through more balanced allocations.

The study concludes that while SAF has supported educational advancements, a broader and more integrated approach is essential to address all HDI dimensions effectively. By reallocating a portion of SAF towards health and economic development initiatives, policymakers can

create a more holistic impact on human development outcomes in West Papua.

These findings underscore the importance of tailored fiscal policies within autonomous regions to meet diverse development needs. Future studies should explore SAF's impact across different regions and incorporate qualitative insights to capture the nuanced effects of special autonomy funding on community well-being and regional growth.

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