The Influence of Village Expenditure on the Performance of Village Development in All Indonesian Districts

Fransiska Baso and Jamaluddin

Faculty of Economics and Business, Tadulako University

fransiska0502@gmail.com, jamaluddin.akuntad@gmail.com

Abstract

In 2014, the Indonesian government formalized Law Number 6 of 2014, which focused on village Management. Its primary goal was to support rapid and sustainable growth in rural areas. This study aims to analyze the impact of village expenditure on the development performance of villages across all districts in Indonesia. The method used is quantitative, utilizing data from 416 districts in Indonesia collected from local governments during the 2018–2021 period, with a total of 1,632 observations in the final sample. The findings of this study indicate that village expenditure significantly influences the improvement of village development performance. These results suggest that an increase in village expenditure tends to positively boost development at the village level, as reflected in the Village Development Index (VDI). The significance of this research lies in its contribution to improving development policy at the village level, where the government is increasingly focused on sustainable and inclusive development. Therefore, the implications of this research can provide valuable insights for policymakers, researchers, and practitioners in the field of community development. By understanding the impact of village expenditure on VDI, the government can optimize budget allocation and enhance the effectiveness of development programs at the village level.

Keywords: Village expenditure, Village development performance, Village Development Index

1. Introduction

Villages play a crucial role in Indonesia's national development. In line with the Minister of Home Affairs Regulation (PERMENDAGRI) Number 66 of 2007 on Village Development Planning, village governments now have the freedom to manage and regulate village development independently, which is a departure from the past when village governments were bound by development programs from the central government. The implementation of regional autonomy is based on the consideration that the regions themselves are more knowledgeable about the conditions and needs of their communities (Hasan & Tanesab, 2022). This asserts that villages have a significant role in achieving the welfare and prosperity of their inhabitants. To measure the progress of development at the village level, the Village Development Index (VDI) was introduced. Several studies conducted by Sumiati (2018); Risnasari et al. (2023); Kharisma et al. (2021); Sandag et al. (2022); Yudha et al. (2018); Furqan et al. (2023). have analyzed the impact of village funds, village income, and the village budget and expenditure on village development and community welfare. Additionally, information and communication technology can also influence the improvement of village development performance. To fill the research gap, this study aims to analyze the extent of the impact of village expenditure on village development performance using the Village Development Index (VDI).

Rural areas must accelerate their growth to reduce development disparities and contribute to the overall socio-economic progress of the country. Adamowicz & Zwolinska-Ligaj (2020). Law Number 6 of 2014 on Villages has brought about significant changes in the village governance paradigm. Today, villages are not only seen as recipients of development but are recognized as active and central parties in efforts to improve the welfare of rural communities (Kharisma et al., 2021).

The Village Development Index is designed to strengthen the steps towards achieving the objectives of village development and is useful in assessing the individual progress of villages in relation to their characteristics, as well as a tool to achieve the targets of the government's development plan (Hanibal, 2015). In the effort to implement

concrete, dynamic, and responsible regional government programs, regions need to fulfill essential elements within the local government administration system. One of the key elements in local government administration is the financial aspect. For regions to effectively organize and run local governance, financial factors are a crucial component.

The implementation of village development requires adequate financing or sources of village income (Martini et al., 2020). Each village is authorized to manage its finances, including in terms of village expenditure (Saputri & Rahayu, 2023). In addition to receiving village funds, village expenditure is also one of the elements that can drive economic development within a village. With a number of budgeted expenditures, economic development will be even better Febrina et al. (2022).

In accordance with the Minister of Home Affairs Regulation (PERMENDAGRI) Number 20 of 2018 regarding village financial management, village expenditure is defined as the total annual outlay of the village that will not be compensated for again. This means that once the village spends money for its needs, the funds cannot be reimbursed. Therefore, it is important for the management of village expenditures to be carried out efficiently and effectively according to current needs. The increase in village development funds through the Village Fund opens new opportunities for village development and provides a boost for the village economy. The main goal of the implementation of the village law is to increase village self-reliance. The village funds allocated should encourage village independence and not create dependence. Therefore, the use of the Village Fund must be done with wise consideration, meeting current needs, and taking into account the sustainability of local resources as well as the development of the village economy.

This study will examine the implementation of fund utilization and its impact on the improvement of the Village Development Index (). In other words, it will determine whether the distribution of funds to villages can have a positive impact on the VDI-measured level of village development progress. By understanding this relationship, the government can make better decisions in allocating funds to achieve better and more sustainable village development.

This study is limited to analyzing data from villages at the district level during the period of 2018–2021, and its analytical focus is confined to village expenditures. Consequently, there remains scope for subsequent researchers to explore the impact of village expenditures on various other factors.

This article is structured in five sections: The first part presents the background. The second part will review related literature and the basis for hypothesis development; the third part will discuss the research methodology used; the fourth part will detail the results of hypothesis testing; and the fifth part will present the conclusions and implications of the research, including the limitations of this study and recommendations for future researchers.

2. Literature Review

2.1. Sustainable Development Theory

Sustainable development is aimed at meeting current human needs by using natural resources carefully, efficiently, and with consideration for their sustainability for both present and future generations. This concept was first defined in the 1987 Brundtland Report, which stated that sustainable development is the kind of development that meets the needs of the present without compromising the abilities of future generations. The fundamental model of sustainable development is considered to integrate three main aspects: social, economic, and environmental (Santillo, 2007).

At its core, the goal of sustainable development is to create equality in the development process for both current and future generations. Approaches in this development strategy include ensuring social equality and justice, respecting diversity, implementing an integrated approach, and adopting a long-term perspective.(Rahadian, 2016)

In the context of sustainable development, development performance is not only measured by economic growth but also by improvements in quality of life, social welfare, and environmental sustainability. Therefore, village expenditures should be directed towards projects that support economic growth, enhance quality of life, and preserve the environment. This can include infrastructure, education, health, and environmental conservation programs.

2.2. Village Development Index

Rural development is a process that involves multiple dimensions. One of them is the political dimension, which involves power, resources, accountability, priorities, and choices. This aspect plays a crucial role in rural development Douglas (2005).

According to Yudha et al. (2018), the implementation of development has so far left a gap between urban and rural areas. This occurs due to policies that are less favorable to development in rural areas, leading to various problems related to the imbalance of welfare between regions, as discussed by Pranoto et al. (2004). Furqan et al. 2023 also state that village development in Indonesia is not yet evenly distributed across topographies.

Village development and improving the status of villages is one of the main agendas of the Indonesian government, according to Aji & Qibthiyyah (2023). In fulfilling the responsibilities mandated by the Village Law, especially regarding planning and monitoring development, the central government has taken steps to evaluate the level of village development. This step is realized through the creation of the Village Development Index (VDI), as explained by Aji & Qibthiyyah (2023). The VDI is a composite index consisting of three sub-indices: the Social, Economic, and Ecological Resilience Index of the Village. The purpose of the VDI is to provide a measuring tool that can depict the position, status, direction of progress and autonomy of a village.

According to the Village Development Index (VDI), villages in Indonesia are categorized into five levels. Self-sufficient villages, or "Desa Mandiri," fall into the highest level with an VDI above 0.8155. Progressive villages, or "Desa Maju," have an VDI between 0.7072 and 0.8155. Developing villages, or "Desa Berkembang," fall within the range of RDI between 0.5989 and 0.7072. Underdeveloped villages, or "Desa Tertinggal," have an VDI between 0.4907 and 0.5989. Lastly, highly underdeveloped villages, or "Desa Sangat Tertinggal," are defined by an VDI that is equal to or less than 0.4907. This categorization is useful for the government to identify areas that require more attention and investment in development (Ministerial Regulation of Village Development and Transmigration No. 2 of 2016).

According to Anggraini & Sutopo 2021, the functions and benefits of the Village Development Index (VDI) can be explained as follows:

a)   The VDI serves as a tool to measure and compare the level of success of villages in terms of empowerment and development. By using theVDI, comparisons between villages can be made to assess differences and disparities in development achievements.
b)   The VDI is used as a basis for advocating budget policies at various levels of government, from the central government to the village level, with the aim of enhancing village self-reliance. The VDI data can assist the government in allocating resources effectively and efficiently according to the needs of the villages.
c)   This tool is useful in evaluating the planning and implementation processes of village development. With the VDI, the government can assess whether the development programs and activities are in line with the set targets.
d)   The VDI helps determine specific areas and focal points for village development. By analyzing the VDI, the government can identify villages that require more attention and assistance in terms of development.
e)   This index also strengthens the analysis of village development and empowerment by integrating it with other indices such as the capacity index, gender equality index, democracy index, and governance, tailored to the specific conditions of the village. This helps in obtaining a more comprehensive understanding of the status of village development and community empowerment within it.

The VDI methodology is periodically updated by the government to maintain its relevance to current conditions and ensure its effectiveness as a tool in planning and implementing village development strategies.

2.3. Village Expenditure

Based on Regulation of the Minister of Home Affairs Number 113 of 2014 on Village Financial Management, village expenditure is defined as the total expenditure from the village account that is the responsibility of the village for one fiscal year and will not receive any fund refunds. This expenditure is intended to support the implementation of village tasks and authorities. The regulation also outlines that the sources of funds for Belanja Desa include various types of revenue, such as village own-source revenue (PAD), village fund (DD), village fund allocation (ADD), taxes received from local governments, assistance funds from the regional budget (APBD), as well as contributions from the district or city regional budget (APBD). (Ratna Sari Dewi, 2018) state that the allocation amount for Belanja Desa should be adjusted to the income obtained by the village. This means that the higher the income of a village, the more funds are available for use in village development activities.

According to Government Regulation Number 43, Article 100 of 2014, the utilization of Belanja Desa (Village Expenditure) as determined in the Village Budget (APB Desa) is subject to the following provisions:

1. A minimum of 70% (or more) of the total budget for Belanjaa must be allocated to support activities such as village governance, village development projects, community development, and empowerment of the village community.
2. A maximum of 30% (or less) of the total budget for Belanja Desa can be used for the following purposes: a) Salaries and allowances for the village head and members of the village apparatus,b) Operational costs of village governance, c) Allowances and operational costs for the Village Consultative Body (Badan Permusyawaratan Desa), d) Incentives for neighborhood associations (rukun tetangga) and citizen groups (rukun warga).

These provisions aim to ensure that the majority of Belanja Desa is directed towards developmental activities and community empowerment while allowing for reasonable resources to cover administrative and governance-related expenses within the village.

2.4. The Influence of Village Expenditure on the Village Development Index

Village expenditure is not only a source of funds for physical development but can also form the foundation for the overall well-being and development of the village. The management and allocation of village finances are crucial components integrated with the village income and expenditure budget (Hidayat et al., 2022).

The wise and targeted implementation of village expenditure policies can enhance the Village Development Index, leading to positive impacts on various aspects of rural community life. Kharisma et al.,2021; Yudha et al.,2018 state that village expenditures funded by the Village Allocation Fund and Village Fund significantly influence the achievement of the Village Index. The geographic, demographic, and socioeconomic circumstances of the rural population have a significant impact on the effectiveness of village expenditures. Hilmawan et al.,2023, in their research, demonstrate that the Village Fund plays a crucial role in determining rural development, both directly and as a determinant factor in village development.

Therefore, in connection with the above description, it is suspected that village expenditure can have a positive impact on increasing the Village Development Index (VDI). The hypotheses that can be formulated are as follows:

H1: Village expenditure has a positive influence on the Village Development Index.

3. Methods

3.1. Data

This research utilizes local government data in Indonesia from 416 districts for the years 2018-2021. However, due to the absence of VDI score data for 28 districts in 2018 and the fact that the study spans four years, the final sample consists of 1632 observations. All data used in this research are sourced from Indonesian government agencies, namely BPS (Central Bureau of Statistics) for village expenditure data, while the VDI score data is obtained from the Ministry of Village.

Table 1.Overview of the Research Sample

DESCRIPTION	SAMPLE									
	2018	%	2019	%	2020	%	2021	%	TOTAL	PERCENT (%)
Panel A: "Determination of Sample Number of Districts"										
Number of Districts	416	100	416	100	416	100	416	100	1664	100
Administrative Districts	(1)	0,24	(1)	0,24	(1)	0,24	(1)	0,24	(4)	0,96
No VDI Score Data	(28)	6,73	-	-	-	-	-	-	(28)	1,68
Final Sample Size/Year	**387**	**93,02**	**415**	**99,75**	**415**	**99,75**	**415**	**99,75**	**1632**	**98,07**
Panel B: "Sample Description"										
Districts	387	100	415	100	415	100	415	100	1632	100

Total	387	100	415	100	415	100	415	100	1632	100
Based on the Geographic Location of Villages										
Java Island	83	21,45	84	20,24	84	20,24	84	20,24	335	20,53
Outside Java Island	304	78,55	331	79,76	331	79,76	331	79,76	1297	79,47
Total	387	100	415	100	415	100	415	100	1632	100
Total Sample 2018-2021									1632	100
Data Source: Processed by the Researcher, 2024										

3.2. Empirical Model and Operational Variables

To address the research problem and simultaneously test the hypothesis, the empirical model in this study is as follows:

$$VDI_{it}=\beta 0_{it}+\beta 1 TOBEL_{it}+\beta 2 ISLAND_{it}+\beta 3 AGES_{it}+e_{it}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

VDI_{it} is the dependent variable representing the Village Development Index (VDI). VDI is a score measuring village development performance. $\beta 0_{it}$ is the intercept coefficient or constant that represents the average VDI value when all independent variables $TOBEL_{it}$, $ISLAND_{it}$, and $AGES_{it}$ are zero, and e_{it} is the random error. $\beta 1 TOBEL_{it}$ is the regression coefficient for the variable $\beta 1 TOBEL_{it}$. This coefficient measures the influence of changes in total village expenditure on VDI when other variables remain constant. $\beta 2 ISLAND_{it}$ is the regression coefficient for the variable $\beta 2 ISLAND_{it}$, which is a dummy variable indicating whether the village is inside or outside of Java Island. This coefficient measures the influence of geographic location on VDI. $\beta 3 AGES_{it}$ is the regression coefficient for the variable $\beta 3 AGES_{it}$, which represents the impact of the age of village governance on VDI. It is a random error reflecting the variability not explained by the independent variables in the model.

This model is used to test the hypothesis regarding how total village expenditure ($\beta 1 TOBEL_{it}$), geographic location ($\beta 2 ISLAND_{it}$), and the age of village governance ($\beta 3 AGES_{it}$) contribute to village development performance (VDI_{it}). $ISLAND_{it}$ is a variable representing the geographic location of the village, measured using a dummy variable, with "0" indicating the village is outside of Java Island and "1" indicating it is on Java Island. $AGES_{it}$ is a variable representing the age of the local government, measured in years since its establishment. In addition to reflecting the government's experience in managing finances and public services, the age of the local government also signifies the community's experience in evaluating the local government's performance and participating in previous regional elections for local leaders.

Table 2.Operationalization of Variables

Name	Operationalization of variable	Data source
VDI_{it}	The Village Development Index (VDI), which consists of three composite indices, measures the social resilience index, economic resilience index, and environmental resilience index.	Village Information System of the Ministry of Village
$TOBEL_{it}$	Total Expenditure is measured using natural logarithm (LN).	Central Statistics Agency (BPS)
$AGES_{it}$	The number of years since the local government's founding serves as a measure of its age.	Ministry of Home Affairs
$ISLAND_{it}$	Island represents the island where the village is located, measured on a categorical scale (0=outside of Java; 1=Java).	Ministry of Home Affairs

Source: Processed by the researcher (2024)

4. Results And Discussion

4.1. Statistical Description of Variables

Table 3. Descriptive Statistics of Variables

Information	Mean	Standard Deviation	Min	Max
VDIit	0.63	0.07	0.23	0.89
TOBELit	25.57	3.99	0.00	28.06
AGESit	42.11	24.37	4.00	71.00
ISLANDit	0.21	0.40	0.00	1.00

Number of Observations = 1632
Explanation of operationalization of variables in Table 2.
*) In trillion Indonesian Rupiah

Source*: Secondary data, STATA output (Processed by the researcher, 2024)*

The statistical description of the variables provides in-depth insights into the data used in the village development analysis. The average Village Development Index (VDIit) of 0.63 indicates that, in general, the measured villages tend to have scores higher than the lower half of the possible scale. The low standard deviation for this variable, 0.07, suggests that VDI scores do not vary significantly between villages; in other words, many villages have scores close to this average value. The range of VDI values from a minimum of 0.23 to a maximum of 0.89 indicates that while most villages cluster around the average, there are still villages with very low and very high scores.

Total Village Expenditure (TOBELit) shows a relatively significant average figure of 25.57 trillion Indonesian Rupiah, indicating the average amount of village expenditure in the studied sample. The relatively high standard deviation of 3.99 reveals a considerable variation among villages in terms of how much they spend. This is important because the minimum value of 0.00 suggests that some villages may not report expenditures or may not have any expenditures, while the maximum value of 28.06 indicates that some villages spend a substantial amount.

The variable island It distinguishes between villages located on Java Island and those outside of Java Island. The average of 0.21 indicates that approximately 21% of the villages in the sample are on Java Island. The large standard deviation (0.40) relative to the mean value suggests that the proportion of villages within and outside Java varies significantly in the sample. AGESit, which represents the age of village governance, has an average of 42.11 years, indicating that most village leaders are in their middle age, presuming that this number may represent the mid-career age. The high standard deviation of 24.37 indicates that there are villages with leaders who are both very young and very old, reflecting diversity in experience levels and possibly approaches to village development.

Overall, with 1632 recorded observations, this data provides a comprehensive and robust overview of the existing conditions of village development. It helps in understanding the broader context of research aimed at evaluating the impact of village expenditure on village development performance, considering factors such as the age of governance and geographic location.

4.2. Correlation Analysis of Variables

Tabel 4.Correlation Analysis of Variables

Variable	VDIit	TOBELit	AGESit	ISLANDit
VDIit	1.0000			
TOBELit	0.2935***	1.0000		
	(0.0000)			
AGESit	0.4231***	0.1896***	1.0000	
	(0.0000)	(0.000)		
ISLANDit	0.3902***	0.1702***	0.5288***	
	(0.0000)	(0.0000)	(0.0000)	1.0000

Number of Observations = 1632
Explanation of operationalization of variables in Table 2.
***, **, * = Significant *P-value* 1%, 5%, 10%.

Source*: Secondary data, STATA output (Processed by the researcher, 2024)*

Table 4 presents the results of a statistical correlation test that measures the relationships among variables such as VDI (Village Development Index), TOBEL (Village Expenditure), AGES, and ISLAND. The primary variable in this study, VDI, serves as a measure to determine the correlation between village expenditure and the village development index. AGES and ISLAND are treated as control variables in the model. The use of these control variables is crucial because it allows researchers to isolate the relationship between the dependent and independent variables by 'controlling' or considering the influence of other variables that might also affect the dependent variable. The correlation coefficient between VDI and TOBEL is 0.2935, with a very high level of significance (p-value < 0.0000), indicating a moderate and significant positive relationship. This means that as the VDI value increases, TOBEL is also likely to increase. Similarly, the correlation values for other variables range from 0.1702 to 0.5288, indicating varying degrees of positive relationships from weak to moderate. The asterisk symbols (***, **, *) indicate the significance levels of the statistical test results. In this context, all p-values are < 0.0000, meaning that each relationship is highly statistically significant at the 1% level.

4.3. Hypothesis Testing Results

In this study, hypothesis testing was conducted using the multiple linear regression method through the STATA software. The results of this testing can be found in Table 5 below:

Table 5.Hypothesis Testing Results

Variable	Ekspetasi sign	VDIit	
		Score	Village status
Cons.		0.485***	1.464***
		(0.000)	(0.000)
TOBELit	H1	0.003***	0.036***
		(0.000)	(0.000)
AGESit	+	0.000***	0.008***
		(0.000)	(0.000)
ISLANDit	+	0.038***	0.447***
		(0.000)	(0.000)
Obs.		1632	1632
Prob > F		0.0000	0.0000
Adj R-squared		0.2567	0.1769
Vif means		1.28	1.28

Explanation of operationalization of variables in Table 2.
***, **, * = Significant P-value 1%, 5%, 10%.

Source: Secondary data, STATA output (Processed by the researcher, 2024)

Based on the data presented, the statistical analysis indicates that there is a positive relationship between the total village expenditure (TOBEL) and the Village Development Index Score (VDI), which is the dependent variable in this study. This is evidenced by the positive coefficient of TOBEL, indicating that an increase in village expenditure is associated with an improvement in the VDI Score and village status. This relationship is statistically significant with a very small p-value (0.000), suggesting that the relationship is not occurring by chance. This finding is consistent with the research by (Yudha et al., 2018), which stated that expenditure on village development implementation (infrastructure) has the largest impact on village development performance, with an elasticity value of 0.637.

Control variables such as the age of the village government (AGES) and geographical location (ISLAND), representing the age of village governance and a dummy for villages located inside or outside Java Island, respectively, also show significant effects. Although the influence of AGES on the Village Development Index Score (VDI) and Village Status is very small (coefficient 0.000), its high significance (p-value 0.000) confirms that this factor remains important to consider. Meanwhile, the ISLAND variable indicates that villages on Java Island tend to have higher VDI scores and village status compared to villages outside Java, with significant coefficients (0.038 for VDI score and 0.447 for village status) and very small p-values (0.000). This aligns with the research by (Yudha et al., 2018), which states that village expenditures are greatly influenced by the geographical, demographic, and socio-economic conditions of the village communities, resulting in varied outcomes for each village.

The provided R-squared values (0.2581 for Score and 0.1784 for Village Status) show the variation in the Village Development Index Score (VDI) that this model can explain, indicating that the model is reasonably effective in explaining data variability. The low F-statistic probability (0.0000) reaffirms the overall model's strong statistical significance, suggesting that the variables included in the model collectively have a significant impact on the VDI Score and village Status. The total of 1632 observations indicates that the dataset analyzed is sufficiently large to yield reliable results.

This research confirms that village expenditure is an important factor in improving village development performance, and variables such as the age of village governance and the geographical location of the village also play a role in determining this performance. These findings are crucial for policymakers and practitioners in village development to consider how expenditure allocation can be optimized to support more effective and inclusive village development. These findings support the statement by Umi, 2015 that the Village Budget and Revenue (APBDesa) and Original Village Revenue (PADes) significantly influence village development and the implementation of village autonomy. They also align with the findings of Furqan et al. (2023), which indicate that village accountability and government incentives through village funds positively affect the VDI.

According to the theory put forth in the context of achieving sustainable development objectives, research data showing the impact of village expenditure on the efficacy of village-level development closely aligns with the fundamental ideas of sustainable development. This concept underscores the need for a holistic strategy that integrates economic progress, social inclusion, and environmental preservation, ensuring that the current generation's needs are met without compromising the capacity of future generations to meet their own needs. The research findings indicate that the allocation of village budgets, done with careful consideration to support economic, social, and environmental sustainability aspects, not only provides a direct boost to village development but also reflects the values of sustainable development by promoting ongoing sustainability and resilience.

4.4. Additional Testing for Each Composite Index That Contributes to VDI

Table 6. Additional Testing Results for Each Composite Index Forming the VDI

Variabel	Expected Sign	IKS_{it}	IKE_{it}	IKL_{it}
Cons.		0.310***	0.529***	0.614***
		(0.000)	(0.000)	(0.000)
TOBELit	+	0.005***	0.005***	0.000***
		(0.000)	(0.000)	(0.017)
AGESit	+/-	0.001***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)
ISLANDit	+/-	0.064***	0.040***	0.011***
		(0.000)	(0.000)	(0.007)
Prob>F		0.0000	0.0000	0.0000
Adj R-Squared		0.3159	0.2297	0.0411
Mean VIF		1.28	1.28	1.28

Number of Observation = 1.632

Explanation of operationalization of variables in Table 2.

***,** = significant P-value 1% 5%

Source: Secondary data, STATA output (Processed by the researcher, 2024)

This is the regression analysis for the three parts of the Village Development Index (VDI): the Social Resilience Index (IKS), the Economic Resilience Index (IKE), and the Environmental Resilience Index (IKL). The variables that were used were TOBELit (village expenditure at time t), ISLANDit (geographical location at time t), and AGESit (age of village governance at time t).

For TOBELit (Total Expenditure) and IKSit (Social Resilience Index), each increase in the natural logarithm of total expenditure is associated with an increase in the IKS score. This suggests that higher spending by local governments is directed towards enhancing social infrastructure, healthcare services, education, or other social programs that contribute to social resilience. This finding is in line with the research by Supriadi (2021), which

demonstrated that the use of village funds in underdeveloped villages has a significant and positive impact on social resilience as measured through the Social Resilience Indicator (IKS).

IKEit (Economic Resilience Index): Similar to IKS, an increase in expenditure is also associated with an increase in the IKE score. This could indicate that government investment in economic projects, such as the development of small businesses or infrastructure, can enhance economic resilience.

For the IKLit (Environmental Resilience Index): A positive correlation between expenditure and IKL might indicate that the allocation of funds for environmental initiatives, such as waste management, reforestation, or environmental monitoring, strengthens environmental resilience. These results are in line with research done by Srirejeki (2018), Furqan et al. (2023), and Singhirunnusorn et al. (2012). These studies looked at how factors like the District Minimum Wage (UMK), waste management, and village characteristics help the Village Development Index (VDI) get better.

ISLANDit (Island Location) for IKS, IKE, and IKL: This variable is a dummy variable, where a value of 1 indicates villages located on Java Island and 0 indicates villages outside Java. A positive coefficient indicates that villages in Java, in general, have higher social, economic, and environmental resilience scores compared to villages outside Java. This could be due to better access to resources, more advanced infrastructure, or more supportive government policies. Village development in Indonesia is still unevenly distributed based on topographical conditions, and the development processes that have been carried out so far face various issues related to disparities in welfare levels between regions. Despite urban development as a growth center, there is not a uniform positive effect on the surrounding areas through a "trickledown effect." Instead, a "backwash effect" occurs, where resources are drained from surrounding areas, as discussed by Furqan et al., (2023) and Pribadi (2005).

AGESit (Local Government Age). A positive coefficient here indicates that the longer a local government has been established (meaning it is more 'mature' or experienced), the higher the scores for social, economic, and environmental resilience. This can be interpreted as more established local governments being potentially more effective in formulating and implementing policies that support social, economic, and environmental development.

Prob>F: Values approaching 0 for all three models indicate that the models as a whole are highly significant, meaning there is strong evidence that at least one predictor has a significant effect on the response variable. Adj. R-Squared: This value measures how well the independent variables explain the variation in the dependent variable. In this case, values ranging from 0.2297 to 0.4111 indicate that the models are reasonably good at explaining the variation in social, economic, and environmental resilience scores. Mean VIF: With a value around 1.28, there is no strong indication of multicollinearity, meaning the independent variables in the model are not highly correlated with each other, making them reliable for producing stable and interpretable estimates. Overall, these results indicate a significant and positive relationship between total expenditure, village location, local government age, and village resilience in social, economic, and environmental aspects.

5. Conclusion

An increase in village expenditure (TOBELit) has a big positive effect on the social, economic, and environmental resilience of villages. This is clear from regression analysis and other tests that were done on the components of the Village Development Index (VDI). This indicates that a larger budget allocation by local governments for projects supporting these aspects can positively influence the quality of life and development in villages. Additionally, geographical location plays a crucial role, with villages in Java tending to have higher levels of resilience compared to villages outside of Java. Therefore, the government needs to consider the differences in characteristics and needs between these two regions in development planning. Furthermore, the age of the local government (AGESit) also has a positive influence on village resilience, suggesting that more experienced local governments are more effective in designing and implementing sustainable development policies.

The limitations of this study include using data only from 2018–2021 and focusing solely on the impact of expenditure on the village development index. As recommendations, there is a need for enhanced oversight and evaluation of village budget utilization, policy adjustments based on geographical location, and the exchange of experiences among local governments to maximize village development potential. Additionally, further research and periodic evaluations are essential to gain a deeper understanding of factors affecting village resilience and ensure sustainable development. It is hoped that future researchers can expand the scope of their research by including additional variables such as village financial capacity, village income, the characteristics of village heads, and considering an extended observation period.

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Biographies

Fransiska Baso is a student majoring in Accounting in the Faculty of Economics and Business at Tadulako University. Her research interest lies in finance and the public sector.

Jamaluddin is an accounting lecturer from Tadulako University. He obtained his Doctorate (Dr.) and Master of Science in Accounting (M.Si.Ak.) from the postgraduate program in accounting at Hasanuddin University. His research interest focuses on auditing.