

# Assessing the Efficiency of Village Fund Expenditures in Infrastructure Projects: A Public Sector Financial Accounting Approach

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## Abstract

This study investigates the efficiency of Village Fund expenditures in infrastructure projects within Kutambaru Subdistrict, Langkat Regency, and identifies which villages demonstrate efficient or inefficient budget utilization. The analysis is based on secondary data, including Village Budget (APBDes), Budget Plans (RAB), budget realization reports, and accountability reports from eight villages. Efficiency is measured using four public sector accounting indicators: budget-realization ratio, cost-to-physical-output ratio, cost variance (CV), and value for money (VfM). Findings reveal varying levels of efficiency across villages. Kaperas, Namotogan, and Rampal are categorized as the most efficient, characterized by low cost per meter, positive cost variance, and high VfM scores. In contrast, Kuta Gajah and Sulkam are deemed inefficient due to cost overruns (negative CV), high cost per meter, and low infrastructure utility. These inefficiencies are primarily attributed to weaknesses in budget planning (RAB), inaccurate volume estimations, uneconomical material procurement, and suboptimal technical supervision. The study highlights the importance of comprehensive financial performance evaluation at the village level using a value for money approach to ensure that Village Funds yield economic, efficient, and effective development outcomes. The findings are expected to serve as a reference for village and regional governments in improving infrastructure budget governance.

**Keywords:** Village Fund, Expenditure Efficiency, Cost Variance, Value for Money, Village Infrastructure

## Introduction

Village development constitutes an integral part of the national development agenda, emphasizing equitable welfare distribution and accelerated progress across all regions of Indonesia. The government's fiscal commitment to strengthening villages is manifested through the Village Fund policy, as stipulated in Law No. 6 of 2014 on Villages and further regulated by Government Regulation No. 60 of 2014 on Village Funds. The allocation of Village Funds through the State Budget (APBN) has consistently increased over the years, reflecting the government's strong belief that villages serve as strategic actors in realizing development based on local needs (Yustiyanto, 2025). Within the framework of public sector financial accounting, the management of Village Funds must adhere to the principles of efficiency, effectiveness, economy, accountability, and transparency particularly in infrastructure spending, which absorbs the largest portion of the budget and directly impacts the quality of life in rural communities (Sri Kurniawati, 2020). Infrastructure such as village roads, bridges, irrigation channels, sanitation systems, clean water facilities, healthcare services, and other public amenities represent fundamental needs that critically shape the socio-economic activities of rural populations (Liani et al., 2024).

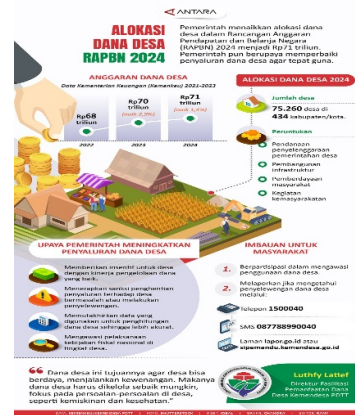
Despite the increasing allocation of Village Funds, various phenomena indicate that spending efficiency in village infrastructure projects remains an unresolved issue (Wulandari et al., 2025). Audit reports from the Supreme Audit Agency (BPK) in recent years have revealed discrepancies between budget planning and realization, fictitious activities, poor construction quality, and non-compliance with technical standards (Sabilaa et al., 2025). Furthermore, issues such as material price markups,



project implementation that deviates from specifications, and idle infrastructure suggest that the costs incurred are not always proportional to the physical outputs produced (Herri, 2024).

In many regions, the limited capacity of village officials in preparing financial reports and conducting cost analysis, coupled with a lack of understanding of public sector accounting principles and weak internal oversight, increases the risk of inefficiency (Cieślak, 2025). Although the government has provided the Village Financial System (Siskeudes) application, its use often remains limited to administrative recording rather than serving as a tool for budget performance evaluation (Bria et al., 2024). As a result, villages struggle to determine whether infrastructure project expenditures are financially efficient or merely reflect budget absorption.

**Figure 1.** Village Fund Allocation in the 2024 Draft State Budget



The infographic illustrates that the government has allocated IDR 71 trillion in Village Funds to 74,800 villages across Indonesia, using a formula based on basic needs, population size, poverty rates, land area, and geographical challenges. These funds are prioritized for strategic programs such as stunting prevention, extreme poverty alleviation, basic infrastructure development, and community empowerment (Arifin et al., 2020). In addition, the 2024 Village Direct Cash Assistance (BLT Desa) policy mandates that between 10% and 25% of the budget be allocated to poor households not covered by BPNT/PKH, vulnerable families with chronic illnesses, the elderly, and persons with disabilities. This significant increase in budget allocation reflects the government's high expectations for the role of villages in national development, while also reinforcing the urgency of measuring spending efficiency to ensure that Village Funds generate optimal and well-targeted outcomes (Haryanto & Nurlinah, 2025).

Although the allocation and prioritization of Village Fund usage have been carefully designed to promote more targeted development, field implementation reveals that the size of the budget does not automatically guarantee the quality of management or the effectiveness of development outcomes pembangunan (Sinurayaa et al., 2025). In other words, the increase in budget has not been fully accompanied by improvements in village financial governance, particularly in the planning, execution, and evaluation of infrastructure projects (Smas et al., 2025). This condition creates a gap between policy objectives and actual achievements at the village level, thereby necessitating a more comprehensive assessment of how the funds are truly utilized and to what extent their efficiency can be financially justified.

Moreover, the absence of standardized and measurable financial performance indicators often renders the assessment of Village Fund expenditure efficiency subjective (Priatna & Fitri, 2024). Many previous studies have focused more on report transparency, program effectiveness, or regulatory compliance, but have not specifically measured expenditure efficiency in infrastructure projects using public sector accounting ratios such as budget-realization comparisons, cost-output analysis, cost variance, and value-for-money assessments. The disparity in infrastructure quality among villages receiving similar budget allocations also indicates unequal efficiency in fund utilization (Solissa et al., 2025). Villages with stronger technical capacity are able to deliver higher-quality infrastructure at lower costs, while others with comparable fiscal characteristics tend to experience budget

inefficiencies. This highlights the need for a public financial accounting approach that enables objective, systematic, and data-driven efficiency measurement.

These conditions reveal a significant research gap. Most of the existing literature on Village Fund management has focused on accountability, transparency, or program effectiveness. Very few studies have thoroughly examined the efficiency of Village Fund expenditures in infrastructure projects using a public sector financial accounting approach particularly those employing financial ratio indicators, input–output analysis, and cost evaluations relative to physical project outputs. There is also a lack of research assessing the root causes of inefficiency from the perspective of budget planning processes, the quality of Budget Plan Documents (RAB), project management, and the capacity of village officials in managing financial reports. This absence of data-driven analysis makes it difficult for village governments and stakeholders to conduct objective evaluations of infrastructure spending performance. Therefore, this study is essential to address both practical and academic needs by offering a public accounting-based framework for measuring expenditure efficiency and providing a comprehensive overview of financial management quality in village infrastructure development.

## Theoretical Review

### Village Funds

Village Funds are sourced from the national budget (APBN) and allocated through the regional budget (APBD) at the regency/city level to support village governance, development, and community empowerment, as regulated by Law No. 6 of 2014 on Villages. (Aulia et al., 2024) define Village Funds as a fiscal instrument aimed at strengthening village autonomy through development financing based on local needs. (Siregar et al., 2023) emphasize their function as a catalyst for enhancing socio-economic capacity, while (Anwar, 2025) highlights their role in reducing interregional disparities through participatory development. (Anggraeni et al., 2024) further assert that Village Fund management must adhere to the principles of transparency, accountability, effectiveness, efficiency, and community participation. Theoretically, Village Fund performance can be assessed using indicators proposed by (Raharjo, 2021): (1) budget allocation and distribution, (2) quality of planning and budgeting, (3) implementation and budget absorption, (4) quality of development outputs, and (5) governance and regulatory compliance. These indicators serve to evaluate whether Village Funds are managed optimally and contribute meaningfully to village development and community welfare.

### Village Fund Management

Village financial management encompasses a series of processes including planning, budgeting, administration, reporting, and accountability, as regulated by Ministry of Home Affairs Regulation No. 20 of 2018. According to (Widhiastuti, 2024), village financial management is a systematic effort to ensure that all financial activities are conducted effectively, efficiently, and in accordance with regulations to support the achievement of village development goals. (Nugroho et al., 2024) emphasize that village financial management must be grounded in the principles of transparency, accountability, participation, and budgetary discipline to ensure that Village Fund utilization can be publicly monitored and justified. Research by (Sinduk et al., 2025) indicates that the quality of village financial management is strongly influenced by the competence of village officials, compliance with regulations, and the effectiveness of financial information systems such as Siskeudes. Theoretically, village financial management performance can be assessed using indicators proposed by (Raharjo, 2021)(Farid et al., 2025): (1) quality of planning and budgeting; (2) orderliness and completeness of financial administration; (3) transparency and accessibility of financial information; (4) accuracy and timeliness of reporting; and (5) accountability in public financial disclosure. These indicators are used to evaluate the extent to which village finances are managed professionally, in regulatory compliance, and in support of development objectives.

### Village Infrastructure

Village infrastructure refers to physical facilities constructed to support economic, social, and basic service activities at the village level, including village roads, bridges, irrigation systems,

sanitation, clean water supply, and other public amenities. According to (Kurniawan & Priambodo, 2022), village infrastructure serves as a key driver of local economic development by enhancing accessibility, mobility, and community productivity. (Raharjo, 2021) adds that the quality of village infrastructure is a critical determinant of development success, as well-built infrastructure accelerates the distribution of goods and services, reduces transportation costs, and directly improves community welfare. Furthermore, (Imelda et al., 2025) emphasize that the success of village infrastructure development is strongly influenced by needs-based planning, accuracy of technical specifications, and the effectiveness of project supervision. Theoretically, village infrastructure performance can be assessed using indicators proposed by (Teguh et al., 2014): (1) alignment of projects with community needs; (2) technical quality and construction standards; (3) functionality and sustainability of infrastructure; (4) perceived socio-economic benefits; and (5) effectiveness of post-construction maintenance. These indicators are used to evaluate whether village infrastructure development delivers outputs and benefits that align with broader development objectives.

### **Public Sector Financial Accounting**

Public sector financial accounting refers to the system of measuring, recording, classifying, and reporting financial transactions conducted by government entities to provide relevant and accountable information to the public (Hehanussa, 2024). According to (Sinduk et al., 2025), public sector accounting aims to produce financial reports that can be used to assess performance, budget management effectiveness, and government accountability to society. (Sitepu et al., 2024) emphasize that public sector accounting ensures that budget utilization adheres to the principles of transparency, accountability, and value for money. Meanwhile, (Imelda et al., 2025) explain that public sector accounting plays a role in providing information on financial position, budget realization, and expenditure compliance with regulations, thereby supporting the evaluation of government programs, including Village Funds (Alfirdaus & Hanani, 2025). Theoretically, public sector financial accounting performance can be assessed using indicators proposed by (Gurendrawati, 2023)(Susanti et al., 2024): (1) accuracy in recording and presenting financial reports; (2) compliance with government accounting standards; (3) transparency of budget and realization information; (4) quality of internal control systems; and (5) the capacity of financial reports to support performance evaluation and decision-making. These indicators serve as the basis for assessing how public financial management, including Village Funds, can be professionally and accountably justified.

### **Public Expenditure Efficiency Ratios**

Public expenditure efficiency ratios are essential tools in public sector accounting used to assess the extent to which government entities utilize resources optimally to produce development outputs. According to (Imelda et al., 2025), efficiency ratios evaluate the alignment between inputs (costs) and outputs, thereby reflecting the degree of savings or waste in the implementation of public programs (Siregar et al., 2023). Commonly used efficiency indicators include the budget-realization ratio, which reflects budget absorption; the cost-to-output ratio, which assesses the proportionality between costs and physical results; cost variance, which measures the difference between budgeted and actual costs; schedule variance, which captures deviations in project timelines; and value for money, which evaluates the benefits of development relative to the costs incurred (Hehanussa, 2024). In the context of Village Fund management, these ratios are highly relevant as they enable quantitative and objective measurement of infrastructure project efficiency. They allow village governments to assess whether allocated funds have produced outputs as planned, met technical standards, and delivered optimal benefits to the community (Naidu et al., 2022).

### **Methodology**

This study employs a descriptive quantitative approach to measure the efficiency of Village Fund expenditures in infrastructure projects (Hasan, 2024). The research was conducted in Kutambaru Subdistrict, Langkat Regency, comprising eight villages as units of analysis. Data collection was carried out through documentation, including Village Budget (APBDes) records, budget realization

reports, project Budget Plans (RAB), and infrastructure accountability reports, supplemented by limited interviews with village officials to obtain information on financial management processes (Moleong, 2017). Data analysis utilized public expenditure efficiency ratios, including budget-realization ratio, cost-to-output ratio, cost variance, and value for money, to assess whether infrastructure spending was managed efficiently in accordance with public sector accounting principles (Ilhami et al., 2024).

## Results and Discussions

### Results

#### Research Data Description

The research data were obtained from Village Budget (APBDes) documents, infrastructure project Budget Plans (RAB), budget realization reports, and infrastructure accountability reports from eight villages in Kutambaru Subdistrict. The APBDes documents were used to examine the budget allocated for village development, specifically under Village Development Implementation (Field 2), which includes infrastructure expenditures such as road construction, drainage, irrigation, and bridges. The RAB documents provide detailed cost plans, including unit prices of materials, labor wages, work volumes, and total budget per activity. Budget realization reports record the actual amount of funds used, while infrastructure accountability reports contain the physical outputs of completed infrastructure projects. Based on these documents, data were compiled to calculate four types of public expenditure efficiency ratios:

1. Budget vs. Realization Ratio, which compares the total infrastructure budget in the APBDes with the recorded actual expenditures, indicating the level of budget absorption and discipline in project execution.
2. Cost-to-Output Ratio, which compares actual project costs with the physical outputs produced (e.g., road length, drainage volume, or building area), used to assess whether the expenditures are proportional to the development results.
3. Cost Variance (CV), calculated as the difference between the planned budget in the RAB and the actual costs, indicating potential savings or overspending during project implementation.
4. Value for Money (VfM), used to assess the economy, efficiency, and effectiveness of expenditures by examining material prices, cost-output alignment, and the benefits of infrastructure for the community.

#### Budget vs. Realization Ratio

This ratio illustrates the extent to which the planned budget stated in the Village Budget (APBDes) is realized in the form of actual expenditures, as recorded in the budget realization reports. A higher absorption percentage indicates a greater level of budgetary discipline in implementing development programs at the village level. However, a high absorption rate does not necessarily equate to efficiency, as it must be analyzed alongside the physical outputs produced to ensure that the budget has been utilized optimally. The following table presents a comparison between infrastructure budget allocations and actual expenditures for each village in Kutambaru Subdistrict:

**Table 1.** Budget vs. Realization Ratio of Village Fund Infrastructure Expenditures

| Village                | Infrastructure Budget<br>(Rp) | Actual Expenditure<br>(Rp) | Absorption<br>Ratio (%) |
|------------------------|-------------------------------|----------------------------|-------------------------|
| Desa Namotogan         | 950.000.000                   | 890.000.000                | 93,7%                   |
| Desa Kuta Gajah        | 1.200.000.000                 | 1.180.000.000              | 98,3%                   |
| Desa Perkebunan Marike | 850.000.000                   | 780.000.000                | 91,7%                   |
| Desa Kaperas           | 1.000.000.000                 | 950.000.000                | 95,0%                   |
| Desa Namoteras         | 900.000.000                   | 870.000.000                | 96,7%                   |
| Desa Rampal            | 1.100.000.000                 | 1.050.000.000              | 95,5%                   |
| Desa Sulkam            | 750.000.000                   | 700.000.000                | 93,3%                   |
| Desa Kutambaru         | 1.300.000.000                 | 1.260.000.000              | 96,9%                   |

Sources: PemkabLangkat, 2024

Based on the table above, all villages in Kutambaru Subdistrict exhibit high budget absorption rates, ranging from 91.7% to 98.3%. Kuta Gajah Village recorded the highest absorption rate at 98.3%, indicating that nearly all planned infrastructure budgets were successfully realized. However, this high absorption rate requires further analysis through physical output indicators to ensure that fund utilization was truly efficient, rather than merely reflecting budget exhaustion. Conversely, Perkebunan Marike and Sulkam Villages showed the lowest absorption rates, at 91.7% and 93.3% respectively. These lower rates may suggest potential administrative inefficiencies, project delays, or budget savings that were not accompanied by increased physical output. Namoteras and Kutambaru Villages also demonstrated high absorption rates above 96%, indicating consistency in budget execution for development purposes. Overall, the budget absorption ratio suggests that most villages possess strong budget implementation capacity. However, absorption alone is insufficient to reflect expenditure efficiency; therefore, subsequent analyses such as cost-to-output ratio, cost variance, and value for money are necessary to provide a more comprehensive picture of Village Fund efficiency in infrastructure spending.

### Cost-to-Output Ratio

Following the analysis of budget absorption, the next step is to examine the cost-to-output ratio, which reflects the relationship between actual expenditures and the physical infrastructure output produced. This ratio is crucial because expenditure efficiency depends not only on the amount of funds absorbed but also on the tangible benefits generated per unit of currency spent. This analysis helps identify whether a village is capable of managing its budget optimally through accurate cost planning, effective construction resource management, and sound cost control during project implementation. The following table presents the calculated cost-to-output ratios for eight villages in Kutambaru Subdistrict:

**Table 2.** Cost-to-Output Ratio of Village Infrastructure (Cost per Meter of Road)

| Village                | Actual Expenditure<br>(Rp) | Road Output<br>(m) | Cost Per Meter<br>(Rp/m) |
|------------------------|----------------------------|--------------------|--------------------------|
| Desa Namotogan         | 890.000.000                | 1.150 m            | 773.913                  |
| Desa Kuta Gajah        | 1.180.000.000              | 1.200 m            | 983.333                  |
| Desa Perkebunan Marike | 780.000.000                | 900 m              | 866.666                  |
| Desa Kaperas           | 950.000.000                | 1.250 m            | 760.000                  |
| Desa Namoteras         | 870.000.000                | 950 m              | 915.789                  |
| Desa Rampal            | 1.050.000.000              | 1.300 m            | 807.692                  |
| Desa Sulkam            | 700.000.000                | 820 m              | 853.658                  |
| Desa Kutambaru         | 1.260.000.000              | 1.400 m            | 900.000                  |

Sources: PemkabLangkat, 2024

Table above indicates that the cost efficiency of village road construction in Kutambaru Subdistrict varies significantly across villages. Kaperas Village is identified as the most efficient, with a construction cost of Rp 760,000 per meter. This reflects the village's strong ability to manage infrastructure projects through sound planning, economical material procurement, and controlled technical implementation. High efficiency is also evident in Namotogan Village and Rampal Village, with respective costs of Rp 773,913 and Rp 807,692 per meter, suggesting effective cost management practices. In contrast, Kuta Gajah Village records the highest cost per meter at Rp 983,333, making it the least cost-efficient among the observed villages. This condition may indicate several contributing factors, such as higher material prices, lower labor efficiency, or inaccuracies in project volume planning. Namoteras Village and Kutambaru Village also display relatively high costs per meter Rp 915,789 and Rp 900,000 respectively highlighting the need for improved effectiveness in infrastructure project management. Overall, the analysis of the cost-to-output ratio demonstrates that a larger budget does not necessarily translate into higher cost efficiency. Villages with greater funding do not automatically achieve better efficiency. Therefore, the quality of planning, material procurement, technical management, and project supervision becomes a crucial determinant of the efficiency level in the use of Village Fund expenditures.

### Cost Variance (CV) Analysis

Cost Variance (CV) is used to identify the difference between the budgeted costs outlined in the Bill of Quantities (RAB) and the actual expenditures incurred during the implementation of infrastructure projects. This ratio provides insight into whether there is budget savings (positive CV) or overspending (negative CV). CV is crucial in efficiency analysis because, although a village may achieve high budget absorption, deviations between planned and actual costs may indicate issues related to cost estimation accuracy, the effectiveness of material procurement, or technical constraints during project execution. The table below presents the Cost Variance values for eight villages in Kutambaru Subdistrict:

**Table 3. Cost Variance (CV) of Village Fund Infrastructure Expenditure**

| Village                | Budget (Rp)   | Realization (Rp) | Cost Variance (Rp) | Description        |
|------------------------|---------------|------------------|--------------------|--------------------|
| Desa Namotogan         | 950.000.000   | 890.000.000      | +60.000.000        | efficient          |
| Desa Kuta Gajah        | 1.200.000.000 | 1.250.000.000    | -50.000.000        | <i>Unefficient</i> |
| Desa Perkebunan Marike | 850.000.000   | 780.000.000      | +70.000.000        | efficient          |
| Desa Kaperas           | 1.000.000.000 | 1.030.000.000    | -30.000.000        | <i>Unefficient</i> |
| Desa Namoteras         | 900.000.000   | 870.000.000      | +30.000.000        | efficient          |
| Desa Rampal            | 1.100.000.000 | 1.050.000.000    | +50.000.000        | efficient          |
| Desa Sulkam            | 750.000.000   | 770.000.000      | -20.000.000        | Un efficient       |
| Desa Kutambaru         | 1.300.000.000 | 1.260.000.000    | +40.000.000        | efficient          |

Sources: PemkabLangkat, 2024

The calculation results in the table above indicate that not all villages in Kutambaru Subdistrict were able to implement infrastructure projects efficiently. There is a significant variation between villages that achieved cost savings and those that experienced cost overruns. Namotogan, Perkebunan Marike, Namoteras, Rampal, and Kutambaru recorded positive Cost Variance values, indicating unutilized budget balances that allowed the projects to be completed below the planned cost. This condition suggests that these villages employed realistic budgeting and exercised effective cost control throughout the construction process.

Conversely, three villages recorded negative Cost Variance values Kuta Gajah (-50,000,000), Kaperas (-30,000,000), and Sulkam (-20,000,000). These negative CV values show that actual expenditures exceeded the planned budget, placing these villages in the category of inefficient project implementation. Several factors may explain this inefficiency. In Kuta Gajah Village, the substantial cost deficit may indicate unanticipated increases in material prices, inaccurate estimation of work volumes, or mid-project changes in construction specifications. In Kaperas Village, although the physical output was categorized as good in the previous analysis, the cost overrun could have resulted from errors in unit price estimation or the use of additional materials not included in the initial budget plan. Meanwhile, Sulkam Village experienced a smaller deficit, but it still reflects inefficiency, which may stem from weak project supervision, delays that increased labor costs, or lack of precision in preparing the budget plan (RAB). These findings demonstrate that the efficiency of Village Fund expenditures is not solely determined by the size of the budget or the level of budget absorption. Instead, it is strongly influenced by the quality of budget planning, the accuracy of work-volume calculations, and the effectiveness of project supervision. Villages with negative CV values need to conduct a thorough evaluation of their budgeting process, material procurement mechanisms, and project management practices to prevent future cost overruns.

### Value for Money (VfM) Analysis

The Value for Money (VfM) analysis is used to assess the extent to which public spending fulfills the principles of the 3Es: economy (cost savings), efficiency (alignment between costs and outputs), and effectiveness (the benefits received by the community). This analysis provides a comprehensive overview of whether Village Funds allocated for infrastructure projects are not only spent appropriately but also generate optimal and sustainable benefits for the community. VfM is

particularly important because a project may be cost-efficient yet fail to produce significant impact, or vice versa yield meaningful outcomes but be implemented with unnecessary cost overruns. The following table presents the Value for Money scores for each village, measured on a scale of 1 to 5.

**Table 4.** Value for Money (VfM) Scores of Village Fund Infrastructure Expenditures

| Village                | Economy (Material Costs) | Efficiency (Cost per Output) | Effectiveness (Community Benefits) | VfM Score | Category |
|------------------------|--------------------------|------------------------------|------------------------------------|-----------|----------|
| Desa Namotogan         | 4                        | 4                            | 4                                  | 4.0       | Good     |
| Desa Kuta Gajah        | 2                        | 2                            | 3                                  | 2.3       | Not good |
| Desa Perkebunan Marike | 4                        | 3                            | 3                                  | 3.3       | Ok       |
| Desa Kaperas           | 5                        | 5                            | 4                                  | 4.7       | Best     |
| Desa Namoteras         | 3                        | 3                            | 3                                  | 3.0       | Ok       |
| Desa Rampal            | 4                        | 4                            | 4                                  | 4.0       | Good     |
| Desa Sulkam            | 2                        | 3                            | 2                                  | 2.3       | Not good |
| Desa Kutabaru          | 3                        | 3                            | 5                                  | 3.7       | good     |

The table above shows that the Value for Money (VfM) levels of infrastructure projects in Kutambaru Subdistrict vary considerably across villages. Kaperas Village emerges as the village with the highest VfM score of 4.7, categorized as very good. This high score indicates that Kaperas Village was able to procure materials at economical prices, implement the project efficiently, and generate substantial infrastructure benefits for the community. Namotogan Village and Rampal Village also demonstrate good VfM scores (4.0), reflecting stable and consistent project performance.

Two villages record low VfM scores and fall under the “poor” category, namely Kuta Gajah Village and Sulkam Village, each scoring 2.3. In Kuta Gajah Village, low economy and efficiency values suggest high construction costs per meter, as highlighted in previous analyses. This indicates potential inefficiencies in material procurement, insufficient technical planning, or suboptimal labor utilization. The moderate effectiveness score reinforces the likelihood that the constructed infrastructure has not provided maximum benefits to the community or that issues remain in the quality of project outcomes.

In Sulkam Village, the low VfM score is influenced by weak performance in both economy and effectiveness indicators. The low economy value may reflect high material prices or inaccuracies in the procurement process. Meanwhile, low effectiveness suggests that the constructed infrastructure has not fully met community needs—for example, roads that are underutilized, low construction quality, or limited accessibility. This finding is consistent with Sulkam’s negative Cost Variance, indicating that the project was not only uneconomical but also ineffective. On the other hand, villages such as Perkebunan Marike, Namoteras, and Kutambaru fall within the “fair” to “good” categories. Kutambaru Village, for instance, despite having moderate efficiency, achieved a high effectiveness score because the infrastructure delivered substantial benefits to the community, thereby increasing its overall VfM value.

Overall, the Value for Money analysis confirms that cost efficiency does not always correlate with development effectiveness. Villages with larger budgets do not necessarily produce greater community benefits, and those with cost savings are not always technically efficient. This analysis highlights the need for comprehensive evaluations of planning, procurement, and project implementation processes to ensure that Village Funds generate optimal value for the community.

## Discussions

The findings of this study show that the efficiency level of Village Fund expenditures for infrastructure projects in Kutambaru Subdistrict varies considerably across villages. Based on the analysis of four key ratios budget realization ratio, cost–output ratio, cost variance, and value for money it is evident that some villages were able to manage their budgets effectively, while others experienced various forms of inefficiency. Villages such as Kaperas, Namotogan, and Rampal demonstrated low cost per meter and positive cost variance, indicating that the projects were completed below budget and generated physical outputs that were proportional to the expenditures. In contrast, Kuta Gajah



and Sulkam exhibited high cost per meter, negative cost variance, and low value-for-money scores, suggesting that their expenditures exceeded the planned budget, material procurement was not economical, and the resulting infrastructure did not fully provide optimal benefits to the community. Thus, the first research question is answered by confirming that efficiency levels differ across villages, and the second research question is addressed by identifying that inefficient villages tend to suffer from weak planning, cost overruns, and low output effectiveness.

These findings are consistent with public sector accounting theory, which emphasizes that government spending efficiency is not solely determined by the level of budget absorption but by the rational relationship between inputs (costs), outputs (physical results), and outcomes (benefits) (Hehanussa, 2024). According to (Sitepu et al., 2024), efficiency must be assessed using a combination of indicators, including financial ratios and value-for-money analysis (Priatna & Fitri, 2024). This is reflected in the findings of the present study, where a village with high budget absorption, such as Kuta Gajah, remained inefficient because the cost per meter and development benefits were not aligned. The value-for-money framework, which comprises the elements of economy, efficiency, and effectiveness, further supports the interpretation that villages with uneconomical procurement or suboptimal development outcomes will attain low efficiency scores, even when their realized expenditures are high. Additionally, project cost control theory reinforces that negative cost variance indicates weak planning and inadequate supervision, as observed in Kuta Gajah, Kaperas, and Sulkam.

The implementation of Village Funds in Kutambaru Subdistrict illustrates variations in the quality of project execution. Efficient villages exhibited realistic budgeting, better material procurement management, and more disciplined technical supervision. Kaperas Village, for example, demonstrated a combination of low cost per meter, positive cost variance, and the highest value-for-money score, indicating optimal planning and oversight. Conversely, villages such as Kuta Gajah and Sulkam faced several implementation challenges, ranging from high material prices due to limited access, changes in project volume during implementation, inaccurate cost estimation, to weak field supervision that compromised infrastructure quality and its level of utilization. These variations highlight that efficiency is not merely a function of budget size but is strongly influenced by the competence of village officials, cost control mechanisms, and the quality of project management.

Theoretically and practically, this study contributes to the development of public sector accounting, particularly in evaluating village government expenditures. It reinforces the notion that efficiency must be measured comprehensively using multiple indicators, as a single ratio is insufficient to capture true efficiency. For local governments, the study provides a basis for evaluating inefficient villages and offering technical assistance in preparing budget plans, estimating work volumes, and supervising projects. The study also has implications for policy, particularly regarding improvements in procurement mechanisms, the use of regional price standards in budget planning, and the enhancement of financial management competencies among village officials.

The findings of this study are supported by previous research. (Haryanto & Nurlinah, 2025) found that apparatus competence and accurate budget planning play a significant role in Village Fund efficiency, supporting the conclusion that villages with weak planning tend to experience inefficiency. (Arifin et al., 2020) revealed that infrastructure costs often do not align with outputs due to weak supervision, consistent with the conditions observed in Kuta Gajah and Sulkam. Furthermore, (Solissa et al., 2025) emphasized that value-for-money analysis is the most effective tool for assessing village development efficiency, reinforcing the results of this study showing that villages with high VfM scores are the most efficient overall.

## Conclusions

This study concludes that the efficiency level of Village Fund expenditures for infrastructure projects in Kutambaru Subdistrict, Langkat Regency, varies significantly across villages. Based on the four main indicators budget realization ratio, cost–output ratio, cost variance, and value for money it is evident that not all villages were able to manage their budgets effectively. Kaperas, Namotogan, and Rampal emerged as the most efficient villages, as they successfully completed projects below budget, recorded low cost per meter, and delivered infrastructure benefits that aligned with community needs. Meanwhile, Kuta Gajah and Sulkam demonstrated low efficiency levels, characterized by

cost overruns (negative CV), the highest cost per meter, and low value-for-money scores, indicating that the expenditures incurred were not proportional to the outputs and benefits generated.

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