

# Role of Budgetary Decentralization and Community Funds In Enhancing Infrastructure to Lower Poverty Rates

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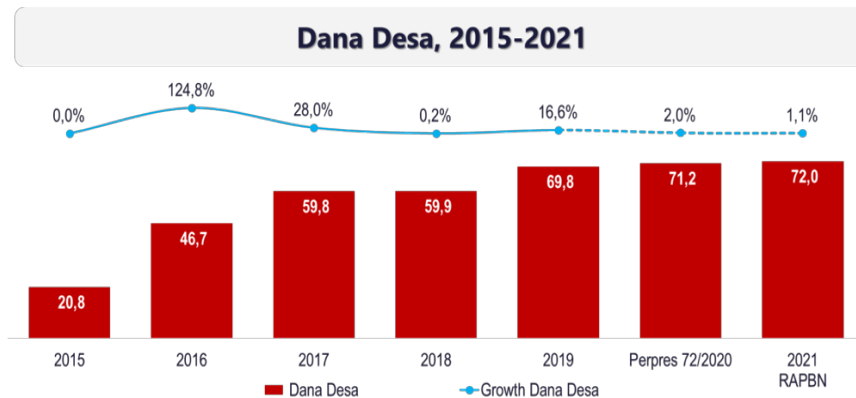
**Abstract:** The development of infrastructure can influence economic activities and contributing to improved welfare, hopefully. Given that the government holds primary responsibility for infrastructure development, it must prioritize this issue, particularly in Indonesia, an archipelagic nation. As the government plays a crucial role, the main objective of this study is to identify the impact of fiscal decentralization and village funds on infrastructure improvement as a means to reduce poverty. This research employs a mixed-methods approach, combining panel data regression analysis with a systematic literature review. The dataset consists of 415 regencies and cities across 33 provinces in Indonesia, covering the period from 2015 to 2021. The key findings of this study surprisingly reveal that village funds and infrastructure budget allocations have a significant yet negative effect on infrastructure. Meanwhile, regional independence and competitiveness indices exhibit a positive and significant impact. Furthermore, foreign investment negatively influences infrastructure development. Additionally, existing infrastructure is found to have no significant effect on poverty levels in Indonesia.

**Keywords:** Infrastructure Development, Poverty, Government Expenditure, Mixed Methods.

## Introduction

The seriousness of the Indonesian government in ensuring the availability of infrastructure is reflected in several infrastructure development priorities that have high economic value. To be able to continue to encourage sustainable growth, the government has targeted the achievement of infrastructure development also related to connectivity between islands and within islands. The role of connectivity is crucial for a country's economy, especially for developing countries. A study conducted by Chotia & Rao (2017) shows that infrastructure development can reduce poverty; both in the long and short term. The decline in the poverty rate that occurs will certainly create better economic conditions. Furthermore, the results of a study conducted by Urrunaga & Aparicio (2012) concluded that public service infrastructure (such as roads, electricity, and telecommunications) is important in explaining temporary differences in regional output. The study conducted by Ng et al. (2019) shows that economic growth is largely determined by the condition of existing infrastructure, especially roads. In general, existing studies show that connectivity itself plays an important role in the economic sustainability of a country.

The Indonesian government has carried out various policies related to accelerating the provision of infrastructure that is evenly distributed throughout Indonesia. One of them is reflected in the provision of transfers (Village Funds) which reflects the implementation of fiscal decentralization. In a fiscal decentralization system, in general, there are two types of regional revenue sources, namely Regional Original Revenue (PAD) and income transfers from the central government to regional governments (Balancing Funds or Village Funds). Village Funds are funds originating from the APBN which are intended for villages and are used to finance government administration, development implementation, community development, and community empowerment (Ministry of Finance, 2021). Based on Permendes 21 of 2015, the priority for using village funds is to build infrastructure (roads, irrigation, or simple bridges) for the health and education sectors. Therefore, it can be said that the Village Fund itself has an important role in terms of rural infrastructure development which will certainly have an impact on the surrounding economic activity (see also Gomo, 2019). For this reason, government transfers (Village Funds) have a strategic role in terms of developing rural areas. The following is a figure showing the progress of village funds during the 2015-2021 period;

**Figure 1 Progress of Village Funds 2015-2021**

Source: Ministry of Finance, 2021

Apart from the Village Fund, the availability of infrastructure also depends on the allocation of infrastructure funds planned by the central government. Studies conducted by Ajakaiye & Nchube (2010), Urrunaga & Aparicio (2012), Isaev (2015), and Ng et al. (2019) concluded that infrastructure is one of the main determinants of economic growth. Furthermore, research conducted by Chotia & Rao (2017) states that infrastructure development and subsequent economic growth will reduce poverty; both in the long and short term. In addition to reducing poverty, the availability of existing infrastructure can also increase the level of competitiveness of a country (see: Komarova et al., 2014 and Dyr & Ziolkowska, 2014). There are several other driving factors that can increase the availability of infrastructure so that it can have an impact on the level of national connectivity, such as the rate of population growth in a region (Chu, 1997), decentralization system (Kappeler, et al, 2013), and so on. Several other previous studies such as Komarova, et al. (2014) and Dyr & Ziolkowska (2014) show the importance of the availability of infrastructure to the economic development of a region coupled with the percentage of infrastructure expenditure which still has a small portion. For this reason, this research wants to try to examine and analyze what factors can create an increase in the availability of infrastructure through village funds and regional capabilities in order to reduce poverty in Indonesia. Based on the background above, the aims of this study were (i) to examine and analyze how the influence of village fund allocations, infrastructure budget allocations, population density levels, regional independence levels, competitiveness index, and foreign investment on the availability of infrastructure; and (ii) examine and analyze how the influence of the availability of infrastructure on the poverty rate.

According to some experts, the reasons for the government to intervene in the economy arise due to various problems in the market, such as the distribution of wealth (Tollison, 1989 and Friedman & Friedman (2002), inefficiency & externalities (Stigler, 1966 and Gruber, 2013), and allocation spending (Buchanan, 1967). In addition, Stigler (1972) and Brunner & Metzler (1978) stated that this interference implicitly shows that, public policy is the result or product of the involvement of stakeholders (stakeholders) including the role of the economist in Friedman & Friedman (2002) argue that, nominally the amount of government spending in times of negative economic shocks is an appropriate way of measuring the government's role in the economy. Buchanan (1967) states that the role of fiscal policy has a more influence (multiplier effect) large when the policy is carried out through spending changes compared to the use of tax instruments.

Despite various revenue-generating mechanisms, taxes remain the most widely utilized instrument. Governments consistently strive to collect taxes from various taxable entities. The imposition of taxes influences the markets, particularly in terms of budgetary constraints, operational costs, company incentives, and labor supply (see: Atkinson, 1980; Mankiw, 2007; and Rosen & Gayer, 2008). Meade (1960) argue that taxes serve as a compulsory levy imposed on both individuals and businesses, representing an obligation for taxpayers.

Law No. 2 of 2021 concerning Central and Regional Financial Relations reflects the implementation of the regional autonomy system, especially in the field of fiscal decentralization in Indonesia. The terms of fiscal decentralization refers to the delegation of authority to regional governments, enabling them to allocate funds

provided by the central government in accordance with the responsibilities and powers assigned to them. The granting of fiscal authority to an autonomous region is based on the principle that the allocation of resources is more efficient and effective.

According to Hamzah (2007), regional income is derived from two primary sources: Regional Original Income (PAD) and Balancing Funds. PAD itself comprises: (i). Regional tax revenue, (ii). Regional retribution revenue, (iii) income from regionally owned enterprises, and (iv). Proceeds from the management of separated regional assets. Meanwhile, the balancing funds are derived from the state budget (APBN) and allocated to regions to support their financial needs in implementing decentralization. Thus, tax revenue remains the principal source of income in Indonesia.

The main fact about poverty is that the problem cannot be completely solved. In other words, there will always be poor and rich people in every country (inequality). Acemoglu & Robinson (2012) argue that there are several factors that cause poverty, one of which is geographical conditions. Furthermore, the surrounding geographical conditions which are not ideal tend to cause high inequality. People living in areas with tropical climates tend to be lazy and lack curiosity, which causes them to be less productive and not innovative, so they tend to be poorer (see Acemoglu & Robinson, 2012). Another reason is the climate factor which has an indirect effect on poverty through the transmission of tropical climate diseases such as malaria which has an impact on the level of health and the level of productivity.

Pace et al. (2022) in their study in Zimbabwe identified a link between reducing poverty and the transfer of funds provided. The results of the study show that transfers provided by the government have a positive impact on rural communities, especially the problem of inequality. In previous years, Gomo (2019) also conducted a similar study in South Africa. Similar study results were found where government transfers were able to have an impact on poverty reduction.

Not only transfer funds, but infrastructure development is also one way that can be used by a country to fight the poverty in question. A study conducted by Chotia & Rao (2017) shows that infrastructure development can create poverty reduction, both in the long and short term. Poverty reduction that occurs will certainly create better economic conditions. Furthermore, the results of a study conducted by Urrunaga & Aparicio (2012) concluded that public service infrastructure (roads, electricity and telecommunications) is important in explaining temporary differences in regional output. Pradhana & Baghib (2013) in their study concluded that there is a two-way causality between road transportation and economic growth. He also found two-way causality between road transportation and capital formation, two-way causality between gross domestic capital formation and economic growth, one-way causality from rail transportation to economic growth, and one-way causality from rail transportation to gross capital formation. The study conducted by Ng et al. (2019) also found that the growth in road length per thousand inhabitants and the stock of physical capital per worker contributed positively to economic growth. This implicitly means that infrastructure development itself should be able to reduce poverty through increased economic growth. Not only in terms of economic growth, infrastructure development also extends to other aspects such as trade openness in a region.

A study conducted by Ajakaiye & Ncube (2010) concluded that African infrastructure programs have the potential to lead to an expansion of trade and regional integration. Better infrastructure will certainly support economic growth and should be able to tackle poverty problems. However, theoretically, many factors can affect infrastructure development. One of the factors that can influence the occurrence of infrastructure development in an area is through the demands of an increasing number of residents that require mobility support. A study conducted by Chu (1997) which specifically identified the link between population density growth and infrastructure development found that a high level of population density demands development in terms of infrastructure.

Not only the reason for population density, the level of independence of an area can also be a factor that supports infrastructure growth. Jia et al. (2014) tried to identify the relationship between fiscal decentralization and infrastructure development in China. The results of the study show that the decentralization of spending increases government spending and leads to the allocation of funds with greater weight on capital construction and less weight on education and administration. Furthermore, Kappeler (2013) in his study also shows a similar thing where regional infrastructure investment tends to increase after the implementation of fiscal decentralization. Infrastructure development through fiscal decentralization can also be seen as a level of competitiveness that is able to attract foreign and domestic investment opportunities to enter. A study conducted by Dyr & Ziokowsk (2014) which investigated the relationship between competitiveness and infrastructure development showed results in which both have a causal relationship. Similar results were also found in the study of Komarova et al. (2014).

The Village Fund, which is a reliable instrument for carrying out regional development, has been proven from several studies, namely Jamaluddin, et al. (2018) and Hartojo, et al. (2022) where the management of existing village funds significantly influences the development of village areas. The intended development can also be reflected, one of which is through the development of available infrastructure. Furthermore, Anderson et al. (2018) in his study also concluded that government spending also affects the level of income growth, so implicitly this means that there will be a reduction in the poverty rate.

Not only that, faster economic growth in an area will increase migration from a less developed area to a more developed area, and this will also spur demand for infrastructure availability. Chu (1997), who specifically identified the link between population density growth and infrastructure development, found that high population density demands development in terms of infrastructure. In the case of fiscal decentralization, a higher level of regional independence means that a region is fiscally capable of meeting its own expenditures, this will also have an impact on the availability of infrastructure in a region that is more independent. Jia et al. (2014) in their study show that the decentralization system increases government spending and leads to the allocation of capital construction funds, so that in this case fiscal decentralization can encourage government spending in the infrastructure sector, it will have an impact on the level of availability.

Furthermore, increasing the availability of infrastructure can attract more foreign investment (capital inflow) (Celebi et al., 2015). Dyr & Ziokowsk (2014) and Komarova et al. (2014) who investigated the relationship between competitiveness and infrastructure development showed a similar relationship where both have a causal relationship. The availability of more qualified infrastructure will increase competitiveness and will also have an impact on attracting foreign investment which will also have an impact on further infrastructure development. In the end, the availability of infrastructure is actually able to provide further economic development, so it has an impact on reducing the poverty rate (Ajakaiye & Ncube, 2010). Several previous studies conducted by Ajakaiye & Ncube (2010), Tripathi & Gautam (2011), Urrunaga & Aparicio (2012), Isaev (2015), Chotia & Rao (2017), Ng et al. (2019), and Wang et al. (2020).

## Methodology

This study uses a combination of quantitative and qualitative methods. The data in this study consisted of secondary data from 415 regencies from 33 provinces in Indonesia and divided into 4 other regions, namely Western, Central, Eastern, and Underdeveloped Regions of Indonesia. The timeframe used is 2015-2021. The data will be processed and analyzed using the Panel Data Regression approach and VosViewer, Prisma, and NVivo. The stages of the quantitative approach using the panel data analysis method, to estimate the parameters can be used three types of estimation techniques, namely: the Common Effect model (Pooled Least Square), the Fixed Effect model, and the Random Effect model. The 2 substructural equations are:

- 1. First Substructural Equation, regarding Infrastructure (Road Length) in the first substructural equation there are 6 independent variables namely Village Funds ( $X_{1it}$ ), Allocation of Infrastructure Funds ( $X_{2it}$ ), Population Density Level ( $X_{3it}$ ), Regional Independence ( $X_{4it}$ ), Investment ( $X_{5it}$ ), Regional Daylight Power Index ( $X_{6it}$ ), as well as one dependent variable namely Infrastructure ( $Y_{1it}$ ). The following equation can be written as:

$$Y_{1it} = \beta_0 + \beta_1.X_{1it} + \beta_2.X_{2it} + \beta_3.X_{3it} + \beta_4.X_{4it} + \beta_5.X_{5it} + \beta_6.X_{6it} + e_{1it}$$

- 2. The Second Substructural Equation, regarding the Poverty equation.

In the second substructural equation, there is one independent variable namely Infrastructure ( $Y_{1it}$ ) while the dependent variable is Poverty ( $Y_{2it}$ ). The following equation can be written as:

$$Y_{2it} = \beta_0 + \sum \beta_1 Y_{1it} + e_{2it}$$

Estimation of this equation will produce the magnitude of the direct effect of all explanatory variables on poverty.

Moreover, the qualitative analysis will be carried out by Systematic Literature Review (SLR). It employed to synthesize existing research evidence in a structured manner, involving the process of searching for research articles, critically reviewing them, and synthesizing findings to address a specific research question. Regarding the stages, first, several articles will be collected through the help of software, namely Publish or Perish (PoP) with several data sources with certain keyword criteria. Using several criteria for filtering the raw data to convert into eligible articles through PRISMA diagram approach. Although PRISMA is generally used for Meta-Analysis, it does

not work with Meta-Analysis. Furthermore, articles that meet the selected requirements will be analyzed using Nvivo to code each article. These steps are commonly referred to as the triangulation method.

## Result & Discussion

The test of the research model is to see the effect of village fund variables, infrastructure fund allocation, population density, regional self-reliance, foreign investment, and regional daylight index on infrastructure in 415 regencies from 33 provinces in Indonesia. As explained above, the panel model analysis stages have been carried out with the steps described previously and the results are as follows. In order to choose the right model, Chow's test is first performed to determine whether the right model is the Common Effect Model (CEM) or the Fixed Effect Model (FEM). Processing results are shown in Table 1. Information from the table shows that the prob value of the chi-square is  $0.000 < 0.05$  so  $H_0$  is rejected and  $H_a$  is accepted and it is concluded that the right model is FEM.

**Table 1. Chow Test Result of Model 1**

Group Area	Cross-section Chi-square	Prob	Decision
415 Regencies	13104.075365	0.0000	Individual Effect
Western Indonesia	1146.314518	0.0000	Individual Effect
Central Indonesia	250.359406	0.0000	Individual Effect
Eastern Indonesia	23.462576	0.0431	Individual Effect
62 Underdeveloped Regency	539.135630	0.0000	Individual Effect

Source: Data processed

Therefore, it is continued to test the two individual effects which name is the best to estimate the first model using the Hausman Test.

**Table 2. Chow Test Result of Model 2**

Group Area	Cross-section Chi-square	Prob	Decision
415 Regency	1584.745601	0.0000	Individual Effect
Western Indonesia	7038.163076	0.0000	Individual Effect
Central Indonesia	4577.503298	0.0000	Individual Effect
Eastern Indonesia	2406.242773	0.0000	Individual Effect
62 Underdeveloped Regency	2441.355720	0.0000	Individual Effect

Source: Data Processed

The second model in this study aims to see the effect of fitted infrastructure (the infrastructure that has been influenced by Village Funds, Infrastructure Budget Allocations, Population Density, Regional Independence, and Regional Competitiveness) on district-level poverty in Indonesia. The test results show that in all the second model preparations in this study, the individual effect is the best name to estimate the first model using the Hausman Test.

**Table 3. Hausman Test Result of Model 1**

Group Area	Cross-section Chi-square	Prob	Decision
415 Regency	0.000000	1.0000	Random Effect Model
Western Indonesia	44.333493	0.0000	Fixed Effect Model
Central Indonesia	12.94032	0.0003	Fixed Effect Model
Eastern Indonesia	2.500264	0.8684	Random Effect Model
62 Underdeveloped Regency	6.308978	0.0120	Fixed Effect Model

Source: data processed

The results of Hausman's test on the second model show that for preparations with a sample of 415 regencies and regencies that are included in the eastern part of Indonesia in Indonesia that receive village funds, the model is better estimated by Random Effect. While other regions use the fixed effect.

**Table 4. Hausman Test Result of Model 2**

Group Area	Cross-section Chi-square	Prob	Decision
415 Regency	0.341749	0.5588	Random Effect Model
Western Indonesia	0.922438	0.3368	Random Effect Model
Central Indonesia	0.000023	0.9962	Random Effect Model
Eastern Indonesia	0.485506	0.4859	Random Effect Model
62 Underdeveloped Regency	0.324123	0.5691	Random Effect Model

Source: data processed

The results of the Hausman test show that in the second model, both the processed results, namely 415 regencies, and the processing that separates the western, central, and eastern regions as well as the processed 62 underdeveloped regencies in Indonesia, show the results of the Random Effect Model.

### Hypothesis testing

Processing results for the infrastructure model are shown in Table 5 with the following explanation:

**Model 1 → INFRAS = f (DD, AAI, PDDK, KD, INV, IDSD)**

**Table 5. Estimation Result of Model 1**

Variable	Theory	415 REG (REM)		WESTERN (FEM)		CENTRAL (FEM)		EASTERN (REM)		62 REG UNDERDEVELOPED	
		Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)
Constanta		438.5931	0.0000	29792.69	0.0092	-84065.69	0.0339	-5392.193	0.0496	768.1324	0.1724
DD	+	-0.201995	0.0000	-22.50259	0.1346	81.12264	0.0004	-2.235202	0.4154	17.28059	0.0563
AAI	+	-0.004473	0.0000	-2.579750	0.3531	-9.797445	0.2421	9.453362	0.1130	0.253034	0.1407
PDDK	+	-2.74E-05	0.4566	10.55483	0.0460	54.59223	0.0811	62.42590	0.0322	-0.678040	0.2758
KD	+	-0.000790	0.0210	89.56818	0.0819	13.50927	0.0986	335.1420	0.0846	22.60993	0.0613
INV	+	-0.008357	0.0001	-5.89E-05	0.3080	0.135140	0.4009	-0.144364	0.3402	0.005058	0.0437
IDSD	+	5.47E-08	0.3405	834.8174	0.0324	2317.199	0.0317	159.5171	0.0199	-5.411899	0.4071
<b>Goodness of Fit</b>											
R-square		0.171645		0.517117		0.245979		0.028525		0.726212	
Adj R-square		0.169930		0.434518		0.114247		0.013655		0.676092	
F-stat		100.0832		6.260606		1.867262		1.918349		14.48957	
Prob F-stat		0.000000		0.000000		0.000000		0.076719		0.000000	

Source: data processed

The results above show that in the processing of 415 regencies in Indonesia that receive Village Funds, these results are not in accordance with the hypothesis put forward where in general Village Funds are unable to improve infrastructure. This result also occurs in the group of regencies that are included in the western and eastern parts of Indonesia, where the processing results show that there is no influence of Village Funds on infrastructure improvements. However, different results are shown in the processed results of regencies that are included in the central part of Indonesia and 62 regencies that are included in underdeveloped regencies in Indonesia. Village funds are able to influence infrastructure improvements in the region. This finding is supported by research conducted by Jammaludin, et al. (2018) which revealed that the management of existing village funds had a significant effect on the development of village areas. The intended development can also be reflected, one of which is through the development of available infrastructure. It can also be seen that the Village Fund variable has a positive and significant effect on Infrastructure Development. This can be interpreted that any increase in the Village Fund variable will increase Infrastructure Development.

For the Infrastructure Budget Allocation variable, this variable has not been able to improve district infrastructure in Indonesia. In contrast to research conducted by Maharani, et.al (2018), which states that the infrastructure budget has a significant positive effect on the development of road infrastructure and other infrastructure. The effect of infrastructure budget allocations has a significant negative effect on infrastructure as evidenced in several provinces in Indonesia, where with funds allocated that are larger than the average village fund

data received by a province, there is uneven road construction. Meanwhile, the population density variable shows positive and significant results (based on the western, central, and eastern regions).

The Regional Independence variable (based on the western, central, and eastern regions, as well as 62 underdeveloped regencies) has a positive and significant impact on infrastructure. This finding is supported by research conducted by Jia, et al. (2014) in China and Kappeler (2013). For the variable foreign investment (based on the western, central, and eastern regions, as well as 62 underdeveloped regencies) it is concluded that it has a positive effect on improving infrastructure in the region. This finding is supported by research conducted by Wei et al. (2010) and Celebi et al. (2015). For the Regional Competitiveness variable (in the regency that is included in the western, central, and eastern parts) has a positive and significant effect on infrastructure. This finding differs from the results conducted by Dyr & Ziokowsk (2014) and Komarova et al. (2014).

### Test of Model 2

In order to choose the right model, Chow's test is first performed to determine whether the right model is the Common Effect Model (CEM) or the Fixed Effect Model (FEM). Processing results are shown in Table 6. Information from the table shows that the prob value of the chi-square is  $0.000 < 0.05$  so  $H_0$  is rejected and  $H_a$  is accepted and it is concluded that the right model is FEM.

**Model 2  $\rightarrow$  POOR = f (INFRAS<sub>fitted</sub>)**

**Table 6. Estimation Result of Model 2**

Variable	Theory	415 REG (REM)		WESTERN (REM)		CENTRAL (REM)		EASTERN (REM)		62 REG UNDERDEVELOPED	
		Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)	Beta	Prob (1Tail)
Constanta		7796.735	0.0141	79.38675	0.0000	32.41592	0.0001	24.71369	0.0000	34.81315	0.0000
INFRAS <sub>fitted</sub>	-	-69.37155	0.2611	-7.23E-05	0.0280	-3.93E-06	0.0004	-1.64E-06	0.1852	7.75E-05	0.1929
Goodness of Fit											
R-square		0.000141		0.002279		0.003808		0.000643		0.001744	
Adj R-square		-0.000203		0.001655		0.002701		-0.001874		-0.000567	
F-stat		0.409670		3.656486		3.440301		0.255382		0.754696	
Prob F-stat		0.522188		0.056030		0.000007		0.613591		0.385476	

Source: Data processed

The test results show that in general, the results (415 regencies) produce values that are not in accordance with the hypothesis. However, infrastructure can reduce poverty in regencies that are included in the western and central parts because it has a negative coefficient and a significant influence on poverty. The results of this study are in accordance with several previous studies conducted by Ajakaiye & Ncube (2010), Tripathi & Gautam (2011), Urrunaga & Aparicio (2012), Isaev (2015), Ng et al. (2019), and Wang et al. (2020) show similar results where the availability of infrastructure can develop the economy, especially in fighting poverty (Chotia & Rao, 2017).

### Systematic Literature Review

This section will show the results and analysis of data processing carried out using the Systematic Literature Review (SLR) approach. In the first stage, it will be shown the results of filtering each data source (article) for further analysis. Screening of articles through a few inclusion and exclusion criteria is carried out with the help of Preferred Reporting Items for Systematic Reviews and META Analysis (PRISMA) diagrams. First, the mapping results will be shown on the Village Funds keyword which can be seen in the image below:





**Figure 5. Word Frequency of Keyword Competitiveness Infrastructure**



### Figure 6. Word Frequency of Keyword Infrastructure Investment



From the analysis of the literature, it can be explained that: (i). With the keyword Village Fund, it is found that there is a link between Rural Development, Fiscal Federalism, and Fiscal Grant nodes. This states that the village fund budget (in the Fiscal Federalism & Fiscal Grant policy) is related to the development of rural areas (Rural Development). The development of rural areas refers to the need for transportation, energy, education, and infrastructure; (ii). With the keyword Infrastructure Poverty, there is a link between poverty nodes and infrastructure nodes. This indicates that the previously developed framework (poverty-related infrastructure) is in accordance with the existing literature; (iii). With the keyword Density Infrastructure, it is found that there is a link between sustainability aspects in the relationship between the level of population density and the availability of infrastructure; (iv). With the keyword Competitiveness Infrastructure, it was found that the sustainability aspect is one of the things related to the relationship between the level of competitiveness and infrastructure; (v). With the

keyword Infrastructure Investment, there is a relationship between the two, which means that there is compatibility between the framework that has been developed and several previous studies.

## Conclusion

According to the section before, the finding reveal that Village Funds have a positive and significant impact in the Central Indonesian Region and 62 underdeveloped areas, while Infrastructure Budget Allocation significantly influences infrastructure development in the Eastern Region and 62 underdeveloped regencies. Moreover, population density positively affecting infrastructure across the Western, Central, and Eastern regions, whereas the Regional Self-Reliance Index significantly influences infrastructure distribution in all regions. Additionally, foreign Investment positively affects 62 underdeveloped regions infrastructure, and Regional Competitiveness also positively affects infrastructure in the Western, Central, and Eastern regions. However, infrastructure formed by these six independent variables does not significantly affect poverty levels in the Eastern Region and 62 underdeveloped regencies. However, it contributes to poverty reduction in the Western and Central regions.

Based on this conclusion, there are many determining factors in reducing the poverty rate in Indonesia and their effects will vary in each part of Indonesia. Nonetheless, the literature analysis explains that: (i). Village Funds affect the development of rural areas (Rural Development); (ii). Infrastructure Poverty is closely related to the availability of infrastructure. This indicates that the previously developed framework (poverty-related infrastructure) is in accordance with the existing literature; (iii). Density has a relationship with the availability of infrastructure; (iv). Competitiveness. Sustainability is one of the things related to the relationship between the level of competitiveness and infrastructure; (v). Investment has a relationship with infrastructure.

Based on the results of this study and linked to the essence of the decentralization system, one of the goals of which is equity in public facilities which can ultimately reduce poverty, the Central Government has issued a Village Fund policy which is expected to be able to improve infrastructure, in this case, related to road access in order to reduce the number poverty. The main fact about poverty is that the problem cannot be completely solved. In other words, there will always be poor and rich people in every country (inequality). Furthermore, based on the selection of the model, it shows that village funds and other dependent variables have a significant influence on infrastructure, namely in Underdeveloped areas of Indonesia (62 regencies). However, it has not been able to reduce the poverty rate in the region.

Based on the above conclusions, the Fiscal Decentralization policy in Indonesia has been running for more than two decades, but until now it has not been able to reduce the poverty rate. Various policies have been carried out by the Central Government through the Balancing Fund and Special Autonomy. Therefore, the portion of the budget allocation related to public services must be increased. Improving the quality of human development which is still growing slowly in underdeveloped areas must receive special attention. Based on the analysis of the literature it is also recommended that the Village Fund is closely related to Rural Development. Therefore, this village fund is still being increased, but its allocation must be in accordance with the conditions in each division of Indonesia's territory. The level of population density, competitiveness, and investment is also very much related to infrastructure and infrastructure is also very related to poverty. This indicates that the framework developed in this study (poverty-related infrastructure) is in accordance with the existing literature.

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