

## The Influence of Road Infrastructure Access on The Socio-Economic Life of The Community in Kertanegla Village, Bojonggambir District, Tasikmalaya

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### Abstract

Access to infrastructure plays a very important role in improving the social and economic life of rural communities. Good and affordable infrastructure can facilitate economic activity, increase accessibility, and strengthen connectivity between regions. This research aims to relate the influence of road infrastructure access on the socio-economic life of the community in Kertanegla Village, Bojonggambir District, Tasikmalaya Regency. In this research, the research method used is a descriptive quantitative method with linear regression analysis techniques. The results obtained from this research are that the construction of road infrastructure on economic growth in Kertanegla Village has an influence but is not significant.

**Keywords:** Road Infrastructure, Socio-Economics

### 1. INTRODUCTION

Good and affordable infrastructure is very important for the socio-economic life of society. Infrastructure can include roads, bridges, public transportation, electricity, clean water and internet. All of this infrastructure plays an important role in improving community welfare (Hawke, 1980). Access to infrastructure can also of course be an obstacle to life in various aspects. The importance of infrastructure availability is one of the things needed to achieve the expected economic growth. The availability of infrastructure is a very important aspect in the process of accelerating national development. Infrastructure is considered as one of the motors driver of economic growth (Tatang et al., 2021).

Village infrastructure should meet the needs and potential of village communities in carrying out daily activities and improve the quality of life of the community. However, in reality there is access to transportation infrastructure in Kertanegla Village. Kertanegla village is a village in Bojonggambir sub-district, Tasikmalaya district with an area of around 1,045 ha. Kertanegla village has 8 hamlets, 16 RWs and 45 RTs with a population of around 4,852 people in 2023. In the agricultural sector, around 50.2% of the population is involved in agricultural and livestock activities. They work in fields, gardens, or livestock and produce the food needed by the population. This agricultural sector can be the main source of income for residents in rural areas. Then, around 45.6% work as agricultural laborers and around 4.2% work as mechanics, craftsmen and traders.

This village road infrastructure experienced damage such as cracks, holes, and even damage. These problems are caused by intensive use of infrastructure and lack of routine maintenance. Poor road quality can cause discomfort for road users, especially during the rainy season.

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Kertanegla Village's poor roads hamper village residents' accessibility to important facilities such as schools, health centers, markets and workplaces. This will make it difficult for village communities to obtain basic services and economic opportunities. The mobility of village residents is disrupted. Transportation becomes difficult and inefficient, especially during the rainy season or in bad weather conditions. This can limit the economic and social activities of the village community, as well as hinder access to information and other opportunities outside the village. Roads hinder village residents' accessibility to important facilities such as schools, health centers, markets and workplaces. This will make it difficult for village communities to obtain basic services and economic opportunities (Prapti et al., 2015).

These bad roads can also cause social and economic isolation (Ristiyanto, 2019) . The people of Kertanegla Village may feel marginalized and not connected to urban centers or other communities. This isolation can lead to limited access to basic services, employment opportunities, education, and skills necessary for advancement.

Based on the problems that arise in this research, the condition of the road infrastructure in Kertanegla Village is inadequate. Inadequate infrastructure conditions will affect several aspects of community life so that in the end it will disrupt the economic activities of the Kertanegla Village community. The problem formulation examined in this study is to find out how road infrastructure influences the social and economic life of the community in Kertanegla Village.

This research aims to link the influence of road infrastructure access with the socio-economic life of the community in Kertanegla Village, District Bojonggambir, Tasikmalaya Regency. Road infrastructure is an important element in the development of an area, because it can influence population mobility and facilitate accessibility to various places. In the context of Kertanegla Village, the development of road infrastructure is expected to have a positive impact on the social and economic life of the local community. This research will analyze the extent to which road infrastructure access has contributed to increased economic activity, such as ease of market access, business opportunities, and increased accessibility to health and education services.

## 2. METHOD

In this research, the research method used is a descriptive quantitative method. The population of this research is the people of KerTanegla Village, Tasikmalaya Regency. This method is used to describe the relationship between two or more variables using a mathematical approach. The type of data in this research is primary data obtained directly from the source through research conducted by researchers.

The number of samples taken was determined based on the sample calculation formula, Sugiyono (2019:143) stated that The appropriate sample size in research is between 30 and 50, where the analysis used is multivariate with correlation or regression, the number of sample members is taken 20 times the number of variables studied. There are 2 variables in this research (independent + dependent), so the number of sample members =  $20 \times 2$  variables = 40. From these calculations, the number of samples to be studied is 40 respondents. After the sample is selected, a research questionnaire containing questions related to the research topic is distributed to the respondents. After the questionnaires were collected, the collected data was analyzed using simple linear regression analysis techniques.

### 3. RESULT AND DISCUSSION

Table 1. Coefficient of Determination Test Results

Model Summary			
Model	R	R Square	Adjusted R Square
1	.255a	.065	.041

a. Predictors: (Constant) Road infrastructure

The table above explains the magnitude of the correlation/relationship value (R), which is 0.255. From this output, a coefficient of determination (R Square) of 0.065 is obtained, which means that the influence of the independent variable (Road Infrastructure) on the dependent variable (Social Economy) is 6.5%.

As for the results; calculation. The influence of "road infrastructure" on "socio-economic life" is:

$$\begin{aligned}
 KD &= r^2 \times 100 \\
 &= 0.2552 \times 100 \\
 &= 0.065025 \times 100 \\
 &= 6.5025
 \end{aligned}$$

According to the calculation of the relationship between the impact of "road infrastructure" on "socioeconomics", the coefficient of determination  $r^2$  is 6.50, , which means that "road infrastructure" has a value of 6.5% on "socioeconomic". Therefore, "road infrastructure" is very weak and therefore has little influence on "socioeconomics", as evidenced by the low percentage.

Table 2. Simple Linear Regression Test Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.124	1	1.24	2.650	.112*
Residual	1.776	8	.447		
Total	1.900	9			

a. Predictors: (Constant), Road infrastructure

b. Dependent Variable: Socioeconomic

From the output it is known that the calculated F value = 2,650 with a significance level of  $0.112 > 0.05$ , so the regression model cannot be used to predict road infrastructure variables or in other words there is no influence of the Road Infrastructure variable (X) on the Socioeconomic variable (Y).

Table 3. Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	8.529	.357		23.880	.000
Infrastructure	-.085	.052	-.255	-1.62	.112
Street features				8	

a. Dependent Variable: Socioeconomic

Results in the table above (Unstandardized Coefficients): If the result of constant (a) is 8.529 while the value of road infrastructure development is -0.085, then the equation is written:

$$Y = a - bX$$

$$Y = 8.529 - 0.085X$$

The equation above means:

- The constant is 8.529, meaning that the consistent value of the Road Infrastructure variable is 8.529
- The X regression coefficient of 0.112 states that for every 1% increase in Road Infrastructure value, the Socioeconomic value decreases by -0.085. The regression coefficient is negative, so it can be said that the direction of influence of variable X on Y is negative.

#### Decision Making in Simple Regression Tests.

Based on the significance value: from the Coefficients table, a significance value of 0.112 > 0.05 is obtained, so it can be concluded that the Road Infrastructure variable (X) has no effect on the Socioeconomic variable (Y). Based on the t value: it is known that the calculated t value is  $-1.628 < t_{table} 23.880$ , so it can be concluded that the Road Infrastructure variable (X) has no effect on the Socioeconomic variable (Y).

From the results of the analysis regarding the influence of road infrastructure access on the socio-economic life of the people of Kertanegla Village, a test or test has been carried out processing data obtained from the results of the questionnaire. In the results of the discussion, access to road infrastructure has little impact on the socio-economic life of the community in Kertanegla Village (Wasposito, 2019).

The adjusted R value is 0.041 or 4.1% of the socio-economic life of the Kertanegla Village community, influenced by road infrastructure. Meanwhile, 95.9% of society's socio-economic conditions are influenced by other variables. Apart from that, the analysis carried out using the t test showed an insignificant value, namely  $0.112 > 0.05$ , which means that access to road infrastructure does not have much influence on the economic growth of the Kertanegla Village community.

The results of this research are supported by previous research conducted by Tatang et al., (2021) stating that road infrastructure has a negative and insignificant effect on economic growth in the city of Subulussalam. If the table is the result of a reference to a journal/book, the author and year of publication must be included (Gultom & Tini, 2020).

The findings of this study indicate that while road infrastructure in Kertanegla Village plays a significant role in the daily lives of the community, its direct influence on socio-economic growth is minimal. The results show that road infrastructure only accounts for 6.5% of the variation in socio-economic life, which suggests that other factors may have a more substantial impact. This could be attributed to the limitations of the road infrastructure in terms of quality and accessibility. The poor condition of roads, including cracks and holes, significantly hampers mobility, especially during the rainy season, which in turn affects access to critical facilities such as markets, schools, and healthcare centers (Paige-Green et al., 2016; Madyibi, 2022).

Local authorities and policymakers should prioritize improvements in road quality and explore alternative means of fostering economic growth, such as investing in other types of infrastructure like electricity, clean water, and internet access (Fischer & Amekudzi, 2011; Crescenzi et al., 2026; ). Enhancing these other aspects of infrastructure could help create a more conducive environment for economic activities and improve the overall quality of life for residents in rural areas like Kertanegla Village.

#### 4. CONCLUSION

From the discussion above, we can draw a conclusion that the impact of road infrastructure development on economic growth in Kertanegla Village has an insignificant influence. A significance value of  $0.112 > 0.05$  was obtained, so it can be concluded that the Road Infrastructure variable (X) has no effect on the Socioeconomic variable (Y). The value obtained from the t test is 0.112, which means that roads have no impact on economic growth. Meanwhile, the value of R square is 0.041 or 4.1 percent. This means that road infrastructure has an impact of 4.1% and 95.4% respectively on socio-economic life.

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