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## The influence of dedicated terminals and transportation infrastructure on economic empowerment in the Barito river basin: Supporting sustainable development through enhanced connectivity and economic resilience

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### Abstract

This study investigates the impact of transportation infrastructure—particularly the role of dedicated terminals—on community economic empowerment in the Barito River Basin, South Barito. It aims to assess how such infrastructure developments contribute to sustainable economic growth, reduce inequality, and strengthen community resilience, in alignment with the Sustainable Development Goals (SDGs). The research is grounded in Adam Smith's theory of economic growth and incorporates the concept of Corporate Social Responsibility (CSR) as a strategic enabler of community empowerment. A quantitative method was employed through a survey of 200 households in the Barito River Basin area. Regression analysis was used to examine the influence of dedicated terminals and CSR initiatives on economic welfare indicators. The results indicate a significant positive relationship between the presence of dedicated terminals, CSR-based empowerment programs, and improvements in community economic welfare ( $\beta = 0.490$ ,  $t = 13.359$ ). The development of transport infrastructure and targeted CSR efforts have contributed to increased employment opportunities and the growth of small and medium enterprises (SMEs). However, critical challenges such as extreme poverty and high stunting rates remain. While infrastructure investments and CSR programs have delivered notable benefits to local economic conditions, inclusive and targeted development policies are essential to ensure that socio-economic gains reach all community segments. Addressing structural issues through collaborative and sustainable strategies remains a priority. This study underscores the importance of integrating SDG-aligned infrastructure projects with community-oriented policies. Enhancing the effectiveness of CSR programs and promoting equitable development frameworks can bridge persistent socio-economic gaps and support long-term resilience in river-based communities.

**Keywords:** CSR, Dedicated terminals, Economic empowerment, Equitable development, Sustainable Development Goals (SDGs), Transportation infrastructure.

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## 1. Introduction

Regional economic development is a vital component in improving community welfare. One of the main pillars of this development is adequate transportation infrastructure, including highways and dedicated terminals. In the Barito River Basin (DAS) area, particularly in South Barito, transportation infrastructure plays a significant role in expediting the distribution of goods and services and increasing community access to broader economic opportunities. The dedicated terminals in the Barito Basin serve as strategic hubs for transporting key commodities such as coal, palm oil, and other agricultural products. River infrastructure can be defined as facilities and structures supporting all river-related activities [1]. This infrastructure facilitates the movement of goods from inland areas to larger markets, both nationally and internationally, thereby creating new economic opportunities for the local community.

However, despite the vast potential of this infrastructure, economic welfare in South Barito still faces significant challenges. In 2022, data indicated that 7,143 people in this area lived in extreme poverty. Additionally, the stunting prevalence reached 35.6%, highlighting serious issues in community health and nutrition. High stunting rates reflect the inability of many residents to meet the basic needs of their children, both in terms of nutrition and access to healthcare services. This condition affects the community's long-term economic productivity, limiting their ability to fully leverage available infrastructure, such as dedicated terminals.

To address these challenges, community empowerment through Corporate Social Responsibility (CSR) programs by companies operating the dedicated terminals has become a strategic approach. These CSR programs focus not only on skills training and increasing the capacity of the local workforce but also on supporting the development of small and medium-sized enterprises (SMEs). With effective CSR programs, companies can encourage the community to become more economically independent, create jobs, and strengthen the local economy. Additionally, these programs can help reduce poverty and improve living standards, especially for those residing near the dedicated terminal operational areas.

The development of transportation infrastructure and dedicated terminals has a direct impact on community economic activity, consistent with the study by Han and Li [2] which discusses the linkage between improved transportation infrastructure and increases in real income. They found that better infrastructure generates considerable benefits, providing further empirical support for policies aimed at enhancing transportation infrastructure [2]. Better accessibility enables more efficient goods distribution, reduces transportation costs, and enhances the competitiveness of local products in broader markets. Dedicated terminals also provide employment opportunities for residents, both directly in the transportation and logistics sectors and in the development of other supporting businesses, such as transportation services and trade. However, to ensure these economic benefits reach all levels of society, infrastructure improvements must be accompanied by more inclusive empowerment policies.

To support this analysis, data on the welfare conditions of the South Barito community in 2022 are presented. Extreme poverty affected 7,143 people, while the stunting prevalence was 35.6%. The total length of district roads reached 1,035.04 km, with 328.73 km paved. There are also 13 operationally dedicated terminals in the region, which provide employment for around 2,500 people and support over 120 new small and medium-sized enterprises (SMEs) near the terminals.

**Table 1.**  
Community Welfare Conditions in South Barito Regency in 2022.

Indicator	Value
Extreme Poverty Rate	7,143 People
Stunting Prevalence	35.6%
Total District Road Length	1,035.04 km
Paved Road Length	328.73 km
Number of Dedicated Terminals	13
Number of Residents Employed at Terminals	2,500 People
Number of New SMEs Around Terminals	120 Businesses

Source: South Barito Regency Central Statistics Agency and P3KE Report 2022.

The Table 1 provides an overview of the welfare conditions in the South Barito Regency in 2022, highlighting key economic and infrastructure indicators. Extreme poverty affects 7,143 people, while the stunting prevalence stands at 35.6%, revealing substantial health and welfare challenges. The total district road length reaches 1,035.04 km, of which 328.73 km

are paved, supporting mobility and goods distribution. The area has 13 dedicated terminals providing jobs for around 2,500 residents and supporting the growth of 120 new SMEs. This transportation infrastructure and the dedicated terminals play a vital role in facilitating the flow of goods and services, creating employment, and strengthening the local economy amid ongoing welfare challenges faced by the community.

While this infrastructure has significant potential to stimulate economic growth, challenges such as high extreme poverty rates and stunting prevalence continue to hinder long-term productivity. The presence of dedicated terminals and empowerment programs like Corporate Social Responsibility (CSR) from companies offers opportunities for economic improvement; however, their impact on the community is not yet fully optimized. Therefore, it is essential to gain deeper insight into how dedicated terminals and transportation infrastructure influence economic empowerment. This raises several questions: What is the direct impact of dedicated terminals on the local economy in the Barito River Basin? How can community empowerment through this infrastructure enhance their social and economic welfare? These questions form the foundation for further research on the issues at hand.

## **2. Literature Review**

Community economic empowerment is often linked to the existence of transportation infrastructure, particularly dedicated terminals, which serve as hubs for the distribution of goods and services. In the context of the Barito River Basin, South Barito, the development of dedicated terminals not only facilitates the flow of commodities such as coal and palm oil but also enhances community welfare through job creation and the growth of small and medium enterprises (SMEs). Previous studies have shown that adequate transportation infrastructure has a direct impact on regional economic growth [3] where accessibility and the availability of transportation facilities stimulate broader economic activities, open larger markets, and reduce logistics costs [4]. The presence of these dedicated terminals is also associated with Corporate Social Responsibility (CSR) programs, which have the potential to enhance the economic empowerment of local communities [5].

Furthermore, Adam Smith's theory of economic growth [6] explains that the economic development of a region is greatly influenced by the advancement of infrastructure that supports trade and distribution activities. Dedicated terminals and transportation infrastructure enhance economic productivity by accelerating the movement of goods and lowering operational costs, ultimately creating an economic surplus for the local community [7]. However, the challenge in economic development in the Barito River Basin lies in ensuring that this infrastructure provides equitable benefits, especially for the communities living around the terminals. Therefore, empowering communities by involving them in economic activities centered around dedicated terminals becomes a crucial aspect of improving their socio-economic welfare [8].

## **3. Methodology**

### **3.1. Research Design**

This study adopts a quantitative research design using a survey approach to investigate the influence of transportation infrastructure and dedicated terminals on community economic empowerment in the Barito River Basin (DAS Barito), South Barito. The research framework integrates both direct and moderating effects to capture the complexity of relationships among variables related to infrastructure development and socioeconomic outcomes.

### **3.2. Participants and Sampling Technique**

The population of this study comprises individuals residing near the dedicated terminals along the Barito River who are directly impacted by terminal operations. A purposive sampling technique was employed to select 200 household heads, ensuring that participants have relevant experience and exposure to the infrastructure in question. The sample was chosen based on proximity to the terminals and active engagement in economic activities influenced by transportation access.

### **3.3. Data Collection Tool**

Data were gathered using a structured questionnaire designed to measure community perceptions of transportation infrastructure, dedicated terminals, and economic empowerment. The questionnaire was developed based on established indicators and employed a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It included items assessing perceptions of transportation access, quality of infrastructure, effectiveness of empowerment initiatives, and perceived economic outcomes.

### **3.4. Variables and Constructs**

In this study, the independent variables consist of transportation infrastructure (X1) and dedicated terminals (X2). The primary dependent variable is community economic empowerment (Y). Additionally, a moderating variable, community empowerment programs (Z), is included to strengthen the relationship between transportation infrastructure and dedicated terminals with the socio-economic welfare of the community. This variable structure is designed to provide a deeper understanding of how infrastructure development and social interventions contribute to enhancing the economic capacity of local communities. The study explores how transportation infrastructure and dedicated terminals influence economic empowerment directly and how community empowerment initiatives moderate these relationships by strengthening their socio-economic impacts.

### **3.5. Data Analysis Technique: PLS-SEM**

The data were analyzed using Partial Least Squares - Structural Equation Modeling (PLS-SEM). This method was selected due to its robustness in handling complex models with multiple constructs and moderating effects, particularly in

exploratory research with relatively small to moderate sample sizes. PLS-SEM allows for simultaneous testing of both measurement models (to assess the reliability and validity of constructs) and structural models (to test hypothesized relationships among variables).

### 3.6. Model Justification and Contribution

Unlike traditional SEM techniques that rely heavily on large sample sizes and data normality (e.g., CB-SEM), PLS-SEM is variance-based and is better suited for predictive modeling and theory development, especially when the goal is to explore causal relationships in emerging contexts like rural infrastructure impact studies. This methodological choice differentiates the current research from previous studies that may have used simpler regression analyses or did not incorporate moderating variables. By applying PLS-SEM, this study offers a more nuanced understanding of the mechanisms through which transportation infrastructure and dedicated terminals affect economic welfare, with particular attention to the mediating and moderating role of community empowerment programs. This integrated approach provides actionable insights for policy and development interventions in similar socio-economic contexts.

## 4. Results and Discussions

The evidence from this study shows that community empowerment significantly affects the economic capabilities of the community. This can be seen in the following table:

**Table 2.**  
First-Order Model of Community Empowerment on Economic Capability.

Item Code	Outer Loading	Sample Mean	Std. Error	AVE	Composite Reliability
Community Empowerment	0.543	—	—	0.855	—
BE1	0.694	3.962	0.399		
BE2	0.693	3.893	0.420		
BE3	0.804	3.980	0.433		
BE4	0.720	3.975	0.463		
BE5	0.767	3.915	0.462		

Source: Appendix (Primary data processed, 2024).

The First-Order Model of Community Empowerment towards Economic Empowerment as Convergent Validity and Internal Consistency Reliability has a Cronbach's alpha value of 0.789, with the standard for Cronbach's alpha > 0.60 [9]. Composite Reliability has a value of 0.855 with a standard CR (rch\_c) of 0.6 to 0.7, and the AVE value is 0.543 with a standard AVE above 0.5 [10]. Overall, the items have a total effect on community empowerment regarding economic empowerment. This can be seen in the following table:

**Table 3.**  
Summary of Hypothesis Testing<sup>1</sup>

Hypothesis	Path	Std. Beta	Std. Error	t-value	p-value	Bias	5.0% CI	95.0% CI	Decision
H1	PT → KSM	0.393	0.041	9.557	0.000	0.001	0.327	0.460	Supported
H2	PT → PM	0.294	0.036	8.236	0.000	-0.003	0.243	0.363	Supported
H3	PT → TK	0.675	0.028	24.383	0.000	0.002	0.626	0.715	Supported
H4	TK → KSM	0.243	0.037	6.607	0.000	-0.002	0.190	0.316	Supported
H5	TK → PM	0.435	0.051	8.605	0.000	0.003	0.459	0.633	Supported
H6	PM → BE	0.490	0.037	13.359	0.000	0.001	0.422	0.549	Supported
H7	PM → BK	0.501	0.036	14.033	0.000	0.002	0.444	0.559	Supported
H8	PM → BP	0.516	0.036	14.346	0.000	0.003	0.453	0.573	Supported
H9	PM → KSM	0.558	0.053	10.610	0.000	-0.006	0.364	0.521	Supported

Source: Appendix (Primary data processed, 2024).

In Table 3, the  $\beta$  value of 0.490 indicates a moderate to strong positive relationship between community empowerment programs and economic empowerment. This suggests that as empowerment programs improve or expand, there is a significant positive impact on the economic empowerment of the community. The t-value of 13.359 is far above the conventional critical value (e.g., > 1.96 for 95% confidence), which means the result is statistically significant. With a p-value of 0.000, this supports the conclusion that the relationship is highly significant at the  $p < 0.001$  level (\*). \*\*

This hypothesis (H6: PM → BE) is supported, and it demonstrates strong evidence that well-designed and effectively implemented community empowerment programs can significantly enhance the economic empowerment of individuals in the study area. Next, the First Order Model of Community Empowerment in Table 4:

<sup>1</sup>All hypotheses are significant at the  $p < 0.001$  level. Significance levels: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Abbreviations: PT = Transportation Infrastructure, TK = Specialized Terminal, PM = Community Empowerment Programs, BE = Economic Empowerment, BK = Health Empowerment, BP = Educational Empowerment, KSM = Community Social Welfare.

**Table 4.**Second-Order Model of Community Empowerment<sup>2</sup>.

Item Code	Outer Loading	Sample Mean	Std. Error	AVE	Composite Reliability	Significance
BE	0.785	0.617	0.034			
BK	0.788	0.648	0.035			
BP	0.840	0.687	0.033			
Community Empowerment				0.676	0.862	

Source: Appendix (Primary data processed, 2024).

In the table, the Second-Order Model of Community Empowerment demonstrates that the outer loading value for economic empowerment (BE) is 0.785, which falls within the acceptable threshold range of 0.6 to 0.7 as recommended by Karim et al. [11]. This indicates that the indicator contributes meaningfully to the construction. The findings from this study provide empirical evidence that community empowerment has a significant positive effect on economic empowerment. Specifically, the community empowerment construct has a Cronbach's alpha of 0.789, Composite Reliability (CR) of 0.855, and an Average Variance Extracted (AVE) of 0.543, all of which indicate acceptable levels of internal consistency and convergent validity.

Moreover, all associated indicators collectively demonstrate a total effect on economic empowerment through community empowerment, as reflected by a beta ( $\beta$ ) value of 0.490 and a t-value of 13.359 in the PM  $\rightarrow$  BE path, with a confidence interval ranging from 42.2% to 54.9%, affirming the robustness of the model. Conceptually, empowerment refers to the capacity of communities to become self-reliant, often facilitated through structured support and guidance. The aim of such empowerment processes is to foster individuals and communities that are autonomous in both thought and action [12]. As a comparison, the economic capabilities of communities in the Barito River Basin, South Barito, can be observed through the development of GDP per capita from 2019 to 2022, as presented in Table 5:

**Table 5.**Gross Domestic Product at Current Prices (ADHB) and Constant Prices (ADHK) by Business Sector (Million Rupiah)<sup>3</sup>.

Year	2019	2020	2021	2022	2023
Value of Gross Domestic Product (GDP) in Billion Rupiah					
ADHB	6,369.13	6,277.92	6,681.13	8,131.63	8,481.24
ADHK (2010 constant prices)	4,367.13	4,240.61	4,331.03	4,602.95	4,753.49
GDP per Capita (Thousand Rupiah)					
ADHB	46,512.31	50,543.23	50,542.34	60,985.12	63,054.16
ADHK (2010 constant prices)	31,985.20	32,823.40	32,875.12	34,534.15	35,312.41
GDP per Capita Growth (ADHK 2010) (%)	4.05	1.33	1.31	5.27	2.34
Population (Thousand People)	136.8	131.40	132.21	133.48	134.70
Population Growth (%)	0.87	-4.14	0.27	0.30	0.98

Source: BPS 2019 to 2023 processed primary data, 2024.

Community economic empowerment around the special terminal operations is increasingly enhanced through MSME empowerment activities by the government and companies to restore the economic conditions affected by the COVID-19 pandemic. Starting in 2022, the per capita GDP condition has increased, indicating that the community's economy is starting to improve. The results of the above tests show the minimum, maximum, average, and standard deviation values for each independent variable. From the First-Order Model of Community Empowerment towards Economic Empowerment, the overall value for Economic Empowerment (BE1) with the statement item involving community leaders/members, both formal and informal, in the employment of labor at the special terminal/coal stockpile has a minimum value of 2.000 and maximum value of 5.000 with a mean value of 3.862 and a standard deviation of 0.458, and an outer loading value of 0.694 (BE1), which is acceptable, with the outer loading limit standard of 0.6 to 0.7 [11].

With the statement, economic empowerment involves community leaders and community members, both formal and informal, in the recruitment of workers at special terminals and stockpile companies. The workforce for special terminal operations, including docking and ship departures from the special terminal port, as well as ship pilot services, is sourced from local workers. Meanwhile, for production transportation activities at the special terminal, drivers and heavy equipment operators, as well as those involved in environmental restoration, are local workers. In human resource planning, it is the process by which a company or organization meets current and future labor needs. In line with previous research, human resource planning involves community empowerment efforts to fill labor gaps in terms of quantity and quality. When recruiting workers, the company will conduct a recruitment process. However, initiators will encourage the company to prioritize local workers when possible, involving the community as a workforce [13].

<sup>2</sup> Significance levels are typically defined as: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . AVE: Average Variance Extracted. BE = Economic Empowerment, BK = Health Empowerment, BP = Educational Empowerment. Composite Reliability: Measures internal consistency. A loading value  $> 0.7$  is considered strong. Values between 0.6–0.7 are acceptable in exploratory research [11] J. Karim, T. M. Somers, and A. Bhattacharjee, "The impact of ERP implementation on business process outcomes: A factor-based study," *Journal of Management Information Systems*, vol. 24, no. 1, pp. 101-134, 2007. <https://doi.org/10.2753/MIS0742-1222240103>.

<sup>3</sup> Parentheses for negative population growth in 2020 are kept as is to indicate negative growth. ADHB: GDP at current prices (nominal value). ADHK (2010 constant prices): GDP adjusted for inflation, using 2010 as the base year (real value). GDP per Capita: Average GDP per person (in thousand Rupiah). GDP per Capita Growth: Percentage growth of GDP per capita based on constant 2010 prices. Population: Total population in thousands. Population Growth: Annual population growth rate in percentage.

The test results above show the minimum, maximum, average, and standard deviation values for each independent variable. The First-Order Model of Community Empowerment towards Economic Empowerment shows an overall score for Economic Empowerment (BE2) with the statement item that coal stockpile activities open up business/employment opportunities, with a minimum value of 2.000, a maximum of 5.000, an average (mean) of 4.110, a standard deviation of 0.394, and an outer loading value of 0.693 (BE2). The outer loading value is acceptable within the standard range of 0.6 to 0.7 [11].

Economic empowerment includes coal stockpile activities that open up business and employment opportunities. Coal transport ships anchor at the special terminal port, followed by transshipment activities using barges and tugboats, then transported to Tarsus. Ship activities open local business opportunities such as ship pilot services at the special terminal port, services for securing parked ships in river channels for barges waiting in line to load at the port, shuttle services (charter) for passengers, and ferry services for two-wheeled vehicles in river routes near the special terminal operations. This is consistent with previous research indicating that the government has designated mandatory pilotage waters, requiring all sailing ships to use pilotage services. Pilotage involves the community as paid laborers for preparation and restoration activities. Balikpapan Port operations are handled by the Port Authority Unit and can be delegated to port businesses meeting requirements [14].

The village government has been striving for the welfare of the community through village funds and collaboration with the SCR programs of special terminal companies by providing MSME training for handicrafts made from rattan. There are farmer groups empowering food processing with local raw materials (such as crackers, fish, agricultural products, cempedak skin, etc.). Food security programs are our priority at 20%, and institutions formed by the village facilitate MSMEs in accessing banks for business loans.

According to Mujiwardhani, et al. [15] social welfare is a series of organized activities aimed at improving the quality of life, social relations, and community life in line with the community's standards and norms as goals, ideals, guidelines, and aspirations to meet material, social, and spiritual needs [15]. Based on Law No. 11 of 2009 on Social Welfare, community welfare is a condition where the material, spiritual, and social needs of citizens are met, allowing them to live decently and develop themselves, thus enabling them to fulfill their social functions. The level of welfare can be measured by a person's ability to meet their material and spiritual needs [16].

In improving the welfare of the village community, the village government is supported by the management of village-owned enterprises or Bumdes. The establishment of Bumdes is intended to encourage and accommodate all income-increasing activities of the community, both those that develop according to local customs and culture and economic activities managed by the community through government and regional government programs and projects. The provision of village funds is expected to support the community in developing the village and improving welfare.

Social assistance provided by the special terminal company prioritizes those in need, considering factors such as income level, social conditions, and other urgent needs. For social assistance from the village government, there are several categories, including assistance from the central government and from the village itself. The distribution of assistance, especially the Direct Cash Assistance (BLT), is quite transparent, with recipients of social assistance (Bansos) being listed on the IFBEDES information board and displayed on the notice board. The process for determining and finalizing the eligible recipients consists of four stages: first, data is requested from neighborhood heads (RT), then a village meeting (musdes) is held involving RT, RW (community heads), female representatives, representatives of village institutions, and poor households.

Discussions are held to create a ranking until reaching 25%. Central assistance includes cash and food aid, distributed through the post office and banks. There is also regional aid during certain periods, such as during inflation, which leads to the establishment of low-cost markets. From the production sector's perspective, increasing social assistance and implementing various policies can help business sectors like MSMEs. The disbursement of social assistance by the government has managed to curb the poverty rate from rising too sharply, despite some increases. The return of community activities can sustain recovery momentum while accelerating the National Economic Recovery (PEN) program [16].

The scheme of social protection policies to assist the public, especially in poor and vulnerable conditions, continues to expand. Some examples include food card assistance for 18.8 million families, with payments made twice in July and August, electricity discounts for 32.6 million households, and extended internet quota subsidies for 36.1 million recipients until December 2021. In addition to focusing on COVID-19 control efforts through accelerated vaccinations, the government is also focused on protecting the public.

The test results above show the minimum, maximum, average, and standard deviation values for each independent variable. Economic Empowerment (BE3), with the statement "It is easy for the community to sell business products outside the village using special terminal/coal stockpile transportation," has a minimum value of 2.000, a maximum of 5.000, an average (mean) of 3.993, a standard deviation of 0.457, and an outer loading value of 0.693 (BE3). The outer loading value is acceptable within the standard range of 0.6 to 0.7 [11]. This statement about Economic Empowerment highlights how easy it is for the community to sell business products outside the village using special terminal/coal stockpile transportation.

Increased community mobility, both via river routes, aligns with previous research indicating that as construction efforts grow, there is a demand for developing and enhancing water transportation routes to facilitate population mobility and streamline traffic from one area to another, both between sub-districts and from sub-districts to the district capital [17]. Additionally, adequate land transportation has contributed to the growth of the community's economic sector, increased land value, the development of small, medium, and large-scale businesses, product specialization between regions, population concentration, and urbanization, particularly in areas where access roads and transport services have been opened [18].

According to Becker, human capital refers to the accumulation of skills and knowledge produced through health and education. Higher levels of education and health in individuals are indicative of greater expected human capital [19].

The test results above show the minimum, maximum, average, and standard deviation values for each independent variable. Economic Empowerment (BE4) with the statement item "My family earns between > Rp.1,000,000 and Rp.5,000,000 per month, sufficient to meet family needs" has a minimum value of 2.000, a maximum of 5.000, an average (mean) of 3.962, a standard deviation of 0.425, and an outer loading value of 0.804 (BE4). The outer loading value is acceptable and within the standard Outer Loading range of 0.6 to 0.7 [11]. The positive impact of the special terminal on community income, out of 400 respondents, includes 88 micro and small traders, 18 service providers, 22 private employees, 32 private workers, 16 teachers and honor staff, 14 civil servants, village officials, and police, 154 farmers and fishermen, 15 laborers, and 41 housewives.

The test results above show the minimum, maximum, average, and standard deviation values for each independent variable. Economic Empowerment (BE5) with the statement item "The special terminal company conducts community economic development programs" has a standard deviation of 0.415. Economic Empowerment (BE5) has a minimum value of 2.000, a maximum of 5.000, an average (mean) of 3.938, a standard deviation of 0.398, and an outer loading value of 0.767 (BE5), which is acceptable within the standard outer loading range of 0.6 to 0.7 [9]. Previous research examined the types of ships used for coal transportation, planning of special terminals with volume projection analysis, cargo handling, and the frequency of ship visits at special terminals [20]. Ports, as part of transportation infrastructure, can stimulate the economic activities of a region as they are integral to the transportation and logistics systems [21].

The community empowerment efforts by the special terminal company aim to reduce poverty among village residents near the special terminal's operations through CSR funds. These activities include developing vegetable crops, while the village government, through the Village Budget (APBDes), also allocates funds for poverty alleviation. These efforts involve local neighborhood heads (RT and RW), community leaders, and institutions from the government, private sector, and society. Hence, a synergistic collaboration is required to establish a strategic partnership model for empowering the community. In this partnership, all three actors government, the private sector, and society, have an equal bargaining position, so the government is not seen as a superpower actor. Instead, it should share its power so that private sector actors and the community can play a proper role in national development. Community empowerment is understood as the process of transferring power from the government to the powerless (poor community), so they can have the strength to build and increase their capacity to develop.

Moreover, creating empowered communities is a shared responsibility of the government, private sector, and society through a harmonious, consistent, and balanced partnership mechanism. Poverty is not just about money; it also involves the inability to provide proper education for village children. Education is a basic right often neglected due to poverty. This is why the community believes that poverty is not just an income issue but also about access to quality education. However, in villages near the special terminal's operations, basic education is adequate, supporting children in achieving quality education, with schools available from kindergarten/elementary to junior high and vocational schools [22].

The condition where an individual is unable to care for themselves according to the standard of living of their group and cannot make use of their physical or mental abilities is called poverty. There are three aspects of poverty: First, multidimensional poverty, meaning human needs are diverse, and thus poverty also has many dimensions. General poverty policies include primary aspects such as lack of assets, political organization, knowledge, skills, and secondary aspects such as lack of social networks, financial resources, and information. Second, these aspects of poverty are directly or indirectly interrelated, meaning that progress or decline in one aspect affects the others. Third, poverty is closely related to rural areas, and those who experience poverty are mainly rural residents.

In general, the characteristics of poverty are as follows: First, a lack of production factors, which limits income-earning capacity. Second, they lack the possibility of acquiring production assets on their own. Third, a low level of education due to the need to earn a living at a young age. Fourth, most individuals reside in rural areas. Fifth, those living in urban areas are mostly young and lack adequate skills. MSMEs in the village have been developed thanks to the training support provided by the village government. Entrepreneurs have gained new knowledge and skills to manage handicrafts as their businesses. The community greatly benefits from the MSME training provided by the special terminal company and the village government. This support helps improve the economy and products of our MSMEs, allowing us to compete better in the local market.

Training conducted by the company through the CSR program and the village government for MSMEs includes weaving mats, baskets, and producing food products using local raw materials. Meanwhile, MSME business capital comes from the village's food security program, amounting to 20% of the Village Budget (APBDes), and is facilitated through institutions established by the village, with MSMEs given access to banking services. One of the efforts made by the Ende Regency Government to address unemployment is to organize competency and productivity training for the workforce through the Local Technical Implementation Unit for Small and Medium Enterprises Training (UPTD LLK UKM) with the aim of enhancing the basic knowledge and skills of job seekers so that they have independence and the intention to be self-employed (entrepreneurship) [23].

In carrying out its role and function as a training institution, UPTD LLK UKM Ende consistently organizes various skill training packages for the workforce according to the needs of the Ende Regency community. In 2018, the types of skills training conducted involved 128 participants with 8 training programs offered (audio-video, welding workshops, embroidery machine operators, beauty care, tailoring, carving arts, mobile phone technicians, and culinary skills).

According to Article 1, paragraph 9 of Law No. 13 of 2003 [24]. Concerning employment, it is explained that job training encompasses all activities aimed at providing, acquiring, improving, and developing work competencies, productivity,



discipline, attitudes, and work ethic at specific skill and expertise levels in accordance with the level and qualifications of a job or profession. The function of job training is to equip, enhance, and develop work competencies to improve the capabilities, productivity, and welfare of the workforce. Therefore, job training is a form of responsibility of the Ende Regency Government to increase job skills so that trainees are motivated to engage in entrepreneurship. Additionally, the Ende Regency Government also needs to prepare financial access through banking institutions, specifically the NTT Bank Ende Branch, to facilitate credit access.

The contribution of other services to the economy of South Barito Regency in 2023 was relatively small, amounting to 148.4 billion rupiah, although the economic growth rate in 2023 increased compared to 2022. The contribution of health services in South Barito Regency in 2023, which includes health service providers and social activities, covered a broad scope. In 2023, it contributed 4.25% to the economy of South Barito Regency, with a growth rate of 3.11%. Education services contributed 8.24% to the economy of South Barito Regency, amounting to 698.5 billion rupiah in 2023 [25].

From the above description, it can be concluded that community empowerment in the economy is reflected in the Summary of Hypotheses Testing with an interval value of 42.2% to 54.9% and  $\beta = 0.490$ , with the average maximum being the largest observation value of 5.000. The t-value of 13.359 indicates a very strong and significant effect of community empowerment on the economic capacity of the community. Thus, H6, which states that there is a partial, strong, and significant influence of community empowerment on the economic capacity of the community in the Barito River Basin area of South Barito, is accepted.

The findings of this study are strongly aligned with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure). The study highlights that community economic empowerment through the development of transportation infrastructure, particularly special terminals and coal stockpiles, has successfully created decent employment opportunities for the local workforce. This aligns with the objectives of SDG 8, which advocates inclusive and sustainable economic growth while promoting productive employment. Skill training programs provided through corporate CSR initiatives also support enhancing the workforce's capabilities, boosting productivity, and fostering entrepreneurial opportunities, particularly for MSMEs.

Moreover, the study contributes to SDG 9 by underscoring the critical role of reliable and inclusive infrastructure in driving economic development and improving community well-being. The construction of special terminals not only serves as logistical hubs but also acts as a catalyst for improving community mobility and facilitating the distribution of MSME products to broader markets. Enhanced transportation infrastructure has increased community access to economic opportunities and supported business growth, creating a multiplier effect that contributes to sustainable regional industrial development.

## **5. Conclusions**

This study concludes that transportation infrastructure, particularly specialized terminals, exerts a significant positive influence on the economic empowerment of communities in the Barito River Basin, South Barito. The findings resonate strongly with SDG 9 (Industry, Innovation, and Infrastructure), as the development of specialized terminals not only enhances resilient and sustainable infrastructure but also promotes regional connectivity, enabling the efficient movement of goods and services. This infrastructure serves as a catalyst for industrial innovation, bolsters local businesses, and contributes to a broader, more robust economic framework.

The Corporate Social Responsibility (CSR) programs implemented by local companies have successfully created job opportunities and supported the growth of small and medium-sized enterprises (SMEs), aligning with SDG 8 (Decent Work and Economic Growth). These initiatives have opened pathways for inclusive economic participation, fostering employment and entrepreneurship within the community. Nevertheless, persistent challenges such as extreme poverty and the high prevalence of stunting continue to constrain the community's long-term economic potential. These issues underscore the need for a collaborative, multi-stakeholder approach to ensure inclusive growth and equitable resource distribution.

### **5.1 Policy Implications**

The study suggests that investments in transportation infrastructure must be integrated with inclusive community empowerment policies that uphold the principles of SDGs 8 and 9. Policymakers should prioritize not only the physical development of infrastructure but also social programs that enhance human capital, address health and nutrition deficits, and reduce socio-economic disparities. Strengthening partnerships between government, the private sector, and civil society is critical to creating an enabling environment for sustainable economic empowerment.

### **5.2. Limitations**

This research is limited by its cross-sectional design, which restricts the ability to capture long-term impacts of infrastructure and CSR programs. The study's focus on a specific geographic area (Barito River Basin) may limit the generalizability of the findings to other contexts with different socio-economic or infrastructural conditions. Additionally, the study relied on self-reported data from communities, which may be subject to biases.

### **5.3.Recommendations for Future Research**

Future studies should adopt longitudinal designs to better understand the temporal dynamics of infrastructure development and community empowerment. Expanding the research to include comparative analyses across different regions would provide insights into contextual factors influencing outcomes. Further exploration of the mechanisms through which CSR programs impact social and economic variables can guide the design of more effective interventions. Lastly,



incorporating qualitative approaches could deepen the understanding of community perceptions and barriers to empowerment.

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