



EVALUATION OF DISTRICT ROAD INFRASTRUCTURE DEVELOPMENT IN TONDEI VILLAGE SOUTH MINAHASA REGENCY

Erlangga Lumowa¹, Joyce Jacinta Rares, Wehelmina Rumawas³

¹²³ Development Resource Management Study Program, Postgraduate, Sam Ratulangi University, Manado, North Sulawesi, Indonesia

ARTICLE INFO

Article history:

Received Januari 2026

Revised Januari 2026

Accepted Januari 2026

Available Januari 2026

erlanggalumowa13@gmail.com

*This is an open access article under the [CC BY-SA](#) license.
Copyright © 2023 by Author. Published by Cahaya Ilmu
Bangsa Institute*

ABSTRAK

Pembangunan infrastruktur jalan merupakan instrumen strategis dalam mendorong pertumbuhan ekonomi daerah, meningkatkan aksesibilitas layanan publik, serta memperkuat kesejahteraan masyarakat. Jalan sebagai infrastruktur transportasi darat memiliki peran krusial dalam mendukung mobilitas penduduk, distribusi hasil produksi, dan keterhubungan antarwilayah. Namun, dalam praktiknya, keberhasilan pembangunan jalan sering kali dinilai secara sempit berdasarkan capaian fisik dan serapan anggaran, tanpa mempertimbangkan manfaat dan dampak yang dirasakan masyarakat. Penelitian ini bertujuan untuk mengevaluasi pelaksanaan Program Pembangunan Jalan Kabupaten pada ruas penghubung Kecamatan Sinonsayang-Motoling Barat yang melintasi Desa Tondei, Kabupaten Minahasa Selatan, dengan menggunakan kerangka evaluasi kebijakan publik William N. Dunn. Penelitian ini menggunakan pendekatan kualitatif deskriptif. Data dikumpulkan melalui wawancara semi-terstruktur, observasi lapangan, dan telaah dokumen resmi terkait pembangunan jalan tahun anggaran 2014.

Informan penelitian ditentukan secara purposive, meliputi unsur pemerintah daerah, pemerintah desa, kontraktor atau pengawas teknis, tokoh masyarakat, serta pengguna jalan. Evaluasi kebijakan dilakukan berdasarkan enam kriteria Dunn, yaitu efektivitas, efisiensi, kecukupan, pemerataan, responsivitas, dan ketepatan. Hasil penelitian menunjukkan bahwa kondisi jalan kabupaten di Desa Tondei mengalami kerusakan berat dan berkepanjangan, sehingga belum mampu menjalankan fungsinya secara optimal sebagai infrastruktur pendukung aktivitas sosial, ekonomi, dan pelayanan publik. Kerusakan jalan berdampak signifikan terhadap peningkatan biaya transportasi, lamanya waktu tempuh, penurunan efisiensi distribusi hasil pertanian dan peternakan, serta menurunnya pendapatan masyarakat. Selain itu, kerusakan jalan juga menimbulkan dampak sosial dan kesehatan, seperti keterisolasian sosial dan terhambatnya akses masyarakat terhadap layanan kesehatan, terutama dalam kondisi darurat. Variasi kondisi jalan akibat faktor musiman mengindikasikan rendahnya ketahanan infrastruktur, yang mencerminkan kelemahan pada aspek perencanaan teknis dan sistem drainase. Dari perspektif kebijakan publik, penelitian ini menemukan adanya kesenjangan antara perencanaan kebijakan dan kualitas implementasi di lapangan. Rendahnya tingkat kepuasan masyarakat mencerminkan lemahnya pelibatan publik dan kurang optimalnya komunikasi antara pemerintah dan masyarakat. Penelitian ini merekomendasikan perbaikan jalan secara menyeluruh dan berkelanjutan, penguatan pemeliharaan rutin, penerapan prinsip ketahanan infrastruktur, serta peningkatan perencanaan partisipatif agar pembangunan jalan benar-benar responsif terhadap kebutuhan masyarakat dan berkontribusi pada kesejahteraan berkelanjutan.

Kata Kunci: Evaluasi, Pembangunan, Infrastruktur, Jalan.

*Corresponding author

E-mail addresses: erlanggalumowa13@gmail.com

ABSTRACT

Road infrastructure development constitutes a strategic instrument for stimulating regional economic growth, enhancing access to public services, and strengthening community welfare. As a key component of land transportation infrastructure, roads play a crucial role in supporting population mobility, the distribution of production outputs, and interregional connectivity. However, in practice, the success of road development programs is often assessed narrowly based on physical outputs and budget absorption, with limited consideration of the actual benefits and impacts experienced by local communities. This study aims to evaluate the implementation of the Regency Road Development Program along the Sinonsayang-Motoling Barat connecting corridor that passes through Tondei Village, South Minahasa Regency, using William N. Dunn's public policy evaluation framework. This research adopts a descriptive qualitative approach. Data were collected through semi-structured interviews, field observations, and a review of official documents related to the 2014 road development program. Research informants were selected purposively and included local government officials, village authorities, contractors or technical supervisors, community leaders, and road users. Policy evaluation was conducted based on Dunn's six criteria: effectiveness, efficiency, adequacy, equity, responsiveness, and appropriateness. The findings indicate that the condition of the regency road in Tondei Village has suffered from severe and prolonged deterioration, preventing it from functioning optimally as infrastructure supporting social, economic, and public service activities. Road damage has significantly increased transportation costs, prolonged travel time, reduced the efficiency of agricultural and livestock product distribution, and contributed to declining community income levels. Furthermore, road deterioration has generated social and health-related impacts, including social isolation and limited access to healthcare services, particularly in emergency situations. Seasonal variations in road conditions further reveal low infrastructure resilience, reflecting weaknesses in technical planning and drainage system design. From a public policy perspective, the study identifies a substantial gap between policy planning and the quality of on-the-ground implementation. The low level of community satisfaction reflects inadequate public participation and suboptimal communication between government authorities and local residents. This study recommends comprehensive and sustainable road rehabilitation, strengthened routine maintenance, the application of infrastructure resilience principles, and enhanced participatory planning to ensure that road development is genuinely responsive to community needs and contributes to sustainable welfare.

Keywords: Evaluation, Development, Infrastructure, Road.

1. INTRODUCTION

Infrastructure development is one of the government's main programs in encouraging the acceleration of national and regional development. Infrastructure has a strategic role because it serves as a basic prerequisite for the running of economic, social, and public service activities. The availability of adequate infrastructure has been proven to be able to shorten travel time, reduce transaction costs, and improve overall development efficiency. Therefore, the success of development in a region is highly dependent on the readiness and quality of the infrastructure it has (World Bank, 2016).

Economic growth, both at the national and regional levels, cannot be separated from the availability of basic infrastructure such as roads, telecommunications, energy, sanitation, and transportation. Roads, as part of land transportation infrastructure, have a crucial role in ensuring the smooth flow of goods, services, and population mobility. If the road network functions properly, economic activities can take place efficiently and sustainably. On the other hand, damaged or inadequate road conditions will be a serious obstacle to economic growth and community welfare (Haris, 2009).

Road construction includes a series of interrelated stages, ranging from planning, budgeting, construction implementation, operation, to maintenance. From a public policy perspective, infrastructure development can be understood as a form of public service organized by the state



to improve the quality of life of the community. Road construction policies do not only produce physical outputs in the form of the length of the road built, but must also be able to provide real results and benefits for the user community (Dunn, 2003).

In the framework of Development Resource Management, infrastructure is positioned as a strategic public resource whose management requires careful planning, transparent governance, and long-term orientation. Road infrastructure serves as a leverage capital for improving access to basic services, equitable distribution of economic opportunities, and reducing disparities between regions. Therefore, decision-making in the road infrastructure sector needs to be based on empirical evidence and real needs of the community, not solely on administrative or political considerations (Adisasmita, 2012).

Local governments have an important role in ensuring the implementation of infrastructure development that is responsive to the needs of the community. Through infrastructure development policies, the government is expected to be able to encourage the growth of local economic activities, accelerate public services, and improve the welfare and standard of living of the community equally. One of the main obligations of the government is to meet the basic needs of the community in a fair manner, including the provision of decent and sustainable infrastructure (Usman, 2010).

Adisasmita (2012) explained that infrastructure is a facility that must be built or provided first so that other facilities can function optimally. Road infrastructure, electricity, clean water, drainage, and sanitation are fundamental elements in regional development. Among these various types of infrastructure, roads have a strategic character as a link between regions that determine the affordability of service centers, smooth distribution of production products, and labor mobility. Thus, the quality of the road greatly determines the economic competitiveness of a region.

The importance of road infrastructure development is also closely related to improving people's welfare and quality of life. Usman (2010) stated that infrastructure development contributes significantly to three main aspects, namely economic development, improving the quality of life, and improving environmental quality. Good infrastructure allows people to access education, health services, and employment opportunities more easily, thus having a direct impact on improving social welfare.

However, in development practice, success is often measured narrowly through physical output indicators, such as the length of roads built or the rate of budget uptake. This approach tends to ignore the dimensions of outcomes and benefits that are actually felt by the community. In fact, the measure of success in road infrastructure development should include reducing travel time, reducing transportation costs, improving the safety of road users, and sustainability of road functions in various weather conditions (Haris, 2009).

The development of adequate road infrastructure will help a region to grow and develop, because it has an impact on increasing public consumption, labor productivity, access to jobs, and regional economic stability. On the contrary, limited road access will increase economic costs and increase inequality between regions. Therefore, road construction and maintenance must be a priority in regional development policies.

Based on this context, this study focuses on the evaluation of the district road infrastructure development program on the inter-district connecting section that crosses Tondei Village, West Motoling District, South Minahasa Regency. This sharpening of focus is needed so that the evaluation carried out has clear, measurable, and relevant targets to the needs of the road user community in the area. Evaluation of infrastructure development is understood as a systematic



assessment process to find out the extent to which the implementation of development has gone according to plan, is effective, efficient, and provides real benefits to the community (Dunn, 2003).

In this study, the criteria for public policy evaluation proposed by William N. Dunn (2003) were used as an analytical framework, which included effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy. These criteria are operationalized contextually in accordance with the conditions of road construction in Tondei Village, with an emphasis on the results and benefits that are directly felt by the user community.

The empirical condition in Tondei Village shows that there is still a lag in road infrastructure development. The connecting road between Sinongsayang District and West Motoling District along ± 17 km with a width of about 3.7 meters has been severely damaged for approximately 16 years. The road is still a rocky road, which in the dry season resembles a dry river, while in the rainy season it is often submerged and cut off due to waterlogging and torrential flows. This condition inhibits community mobility and increases the risk of road user safety.

The long-term damage to the road indicates structural problems in technical planning, periodic maintenance, and supervision of the implementation of development. The impact of these conditions is not only technical, but also social and economic, such as increasing transportation costs, disruption of access to education and health, and increasing levels of isolation of village communities, especially in Jau Pelita Hamlet which can only be accessed through these roads.

Although there have been several changes in regional leadership in South Minahasa Regency, the problem of road infrastructure in Tondei Village has not been handled completely. This shows the importance of a comprehensive evaluation of the district road construction program so that the root of the problem can be identified and sustainable improvement steps can be formulated.

This research is expected to make an academic contribution in the field of Development Resource Management by presenting empirical evidence on the performance of road infrastructure development at the district level. From a practical perspective, the results of the research are expected to be the basis for improving technical planning, sharpening budget priorities, strengthening the maintenance system, and increasing community participation and supervision so that the benefits of road development can be felt optimally and sustainably.

Various previous studies have shown that road infrastructure development at the village and regional levels has an important role in increasing people's mobility and economic activities, but still faces various obstacles in its implementation. Research by Kogoya et al. (2023) in Jirene Village, Lanny Jaya Regency, found that the limited village fund budget, weak budget governance, and lack of communication between the village government and the community are the main obstacles that cause road infrastructure development to not run effectively. Meanwhile, a study by Sari et al. (2022) in Harapan Farmer Village, Kutai Kartanegara Regency, shows that even though the construction of village roads has been carried out according to planning and RAB, the implementation process still faces technical obstacles during implementation. Similar results were also found by Rahmati and Setiawati (2020) who concluded that the farming road construction program in Kandris Village was quite successful, but its success was still limited and required strengthening in the aspects of planning, implementation, and supervision.

Other research confirms that geographical factors, resource availability, and institutional capacity greatly influence the success of road construction. Corlin (2015) showed that difficult geographical conditions, limited heavy equipment, human resources, and budget caused road construction in East Manggarai Regency to not achieve the set goals and had an impact on the high cost of transportation and inconvenience for road users. On the other hand, Noer's research (2024) in Cisayong District, Tasikmalaya Regency, shows that road construction policies can be considered successful when planning is carried out comprehensively and needs-based, although



there are still technical obstacles such as design and land acquisition. Overall, previous research reviews have shown a consistent pattern that road construction is not only assessed on physical outputs, but should be evaluated on the basis of sustainable outcomes and benefits. Therefore, a policy evaluation approach is needed that integrates the concept of infrastructure as a development resource, a public policy evaluation framework, and an input-process-output-outcome program cycle so that road infrastructure development really has a real impact on the welfare of the community (Adisasmita, 2012; Dunn, 2003; Althaus et al., 2022).

Literature Review

Analysis of Public Policy According to the Perspective of William N. Dunn

According to William N. Dunn, public policy analysis is understood as a scientific process that aims to provide relevant, rational, and accountable information for decision-makers in dealing with public problems. Policy analysis does not only focus on the formulation of alternative policies, but covers the entire policy cycle from problem formulation, planning, implementation, to policy impact evaluation (Dunn, 2003). This approach emphasizes that public policies must be directed to answer societal problems effectively, efficiently, and fairly.

The most crucial stage in policy analysis, according to Dunn, is the structuring of the problem. At this stage, policy makers are required to identify the core of the problem precisely, understand the affected actors, and the social, economic, and political context in which the problem develops. Mistakes in formulating problems will have an impact on the selection of policies that are not on target, so that policies fail to solve the root of the problem and even have the potential to cause new problems (Dunn, 2003). Therefore, the structuring of the problem is the main foundation that determines the next policy direction.

Dunn also emphasized that policy issues are dynamic and are social constructs that are influenced by the perceptions and interests of various stakeholders. This complexity requires that policy analysis be carried out comprehensively and contextually so that the policies formulated are not only technocratic, but also responsive to the real needs of society.

In the policy evaluation stage, Dunn introduced six main criteria, namely effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy. Effectiveness assesses the achievement of policy objectives; efficiency measures the balance between benefits and resources; the adequacy of considering the extent to which policies are able to reduce the severity of the problem; equity assesses the distribution of benefits fairly; responsiveness to assess the suitability of policies with community needs; and the accuracy of testing the relevance of the policy to the root of the problem faced (Dunn, 2003). These six criteria make policy evaluation multidimensional and not only oriented to physical output.

In the context of road infrastructure development, Dunn's evaluation framework allows for a more substantive assessment, not only on the length of the road built or the amount of the budget, but also on tangible benefits such as improved accessibility, transportation efficiency, and equitable distribution of public services. Therefore, Dunn's theory is relevant to be used as the basis for the evaluation analysis of infrastructure development in rural areas.

Development Evaluation and Evaluation

Evaluation is an important component of public policy and development because it serves to assess the extent to which a program or policy has achieved its planned goals and its impact on society. Evaluation is not only administrative, but is a systematic, indicator-based, and policy-learning-oriented scientific process (Dunn, 2003). According to Arikunto and West Java (2014), evaluation



is a series of activities to measure and assess a program using clear instruments as a basis for decision-making.

In the public policy cycle, evaluation functions as an accountability mechanism as well as a policy correction tool. Dunn (2003) emphasizes that evaluation does not only measure results, but also interprets the value of those results in relation to the problem to be solved. Thus, the evaluation includes technical, social, and normative dimensions.

Stufflebeam (2000) strengthens the concept of evaluation through the CIPP (Context, Input, Process, Product) model. This model emphasizes that evaluation must be carried out thoroughly from the planning stage to the final outcome. Context evaluation assesses the relevance of the program to the needs of the community; evaluation of inputs, assessing the adequacy of resources and planning; evaluation of the process of assessing program implementation; and product evaluation assesses the results and the impact produced. The CIPP model is widely used in development evaluation because it is able to explain not only success or failure, but also the causative factors.

In a normative perspective, Sen (1999) through the capability approach emphasizes that development must be assessed from the extent to which it is able to expand people's freedom and life choices. Therefore, it is not enough to evaluate development based only on economic indicators, but must also assess the impact on access to education, health, employment, and social participation.

Infrastructure Development and Its Evaluation

Infrastructure is defined as a physical system that provides basic facilities such as transportation, drainage, and other public services that sustain the social and economic activities of a community (Grigg, 1988). Infrastructure plays a strategic role because it is the main prerequisite for regional development. Infrastructure development not only creates short-term jobs, but also increases productivity and economic competitiveness in the medium and long term (Marzuki, 2007).

In the discipline of Development Resource Management, infrastructure is seen as strategic public capital that must be managed sustainably. Adisasmita (2012) emphasized that the development of transportation infrastructure must relate technical aspects to the goals of regional development so that the benefits are felt widely and evenly. Therefore, the evaluation of road infrastructure development not only assesses physical quality, but also socio-economic outcomes such as reducing transportation costs, increasing mobility, and equitable access to services.

Evaluation of infrastructure development, using Dunn's (2003) framework, allows for a holistic assessment of development processes, outcomes, and impacts. This approach is relevant to ensure that road construction truly addresses the needs of the community and contributes to the improvement of welfare in a sustainable manner.

2. RESEARCH METHODS

Construction of the Regency Road on the West Sinonsayang-Motoling section through Tondei Village, South Minahasa Regency. The qualitative approach was chosen because it allows researchers to deeply understand the policy process, the context of implementation, and the meaning of development benefits felt by the community (Kusumastuti & Khoiron, 2019). Descriptive research is used to systematically and accurately describe the empirical conditions of road construction programs as they occur in the field (Hardani et al., 2020).

The evaluation is focused on the suitability of planning, budgeting, construction implementation, and program benefits for the community. The scope of the research is limited to the implementation period of 2014 with the source of funding from the South Minahasa Regency APBD, as stated in the contract and PHO documents.



The object of the research is the Regency Road Improvement Program on the West Sinonsayang-Motoling section which crosses Tondei Village with a length of ± 17 km and a width of ± 3.7 m. This section is the main access for the people of Tondei Village to the sub-district center and the only route to Jau Pelita Hamlet. The research location was chosen because it has a strategic function as a link between sub-districts and because of the condition of the road that has been severely damaged for a long time, so it is relevant as a case of evaluating regional infrastructure development policies.

The evaluation framework of this study refers to William N. Dunn's theory of public policy analysis, which views evaluation as a systematic assessment process of the performance and value of a public policy (Dunn, 2003). The evaluation was carried out using six main criteria, namely effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy, in order to assess the achievement of program objectives, optimization of resource use, and suitability of the program with community needs.

The research data consists of primary data and secondary data. Primary data was obtained through semi-structured interviews and field observations of Public Works Office officials, village governments, community leaders, and road users. Interviews were conducted to explore the perceptions, experiences, and assessments of informants on the benefits and constraints of the road construction program (Sugiyono, 2019).

Secondary data was obtained from official documents in the form of work contracts Number 02/Contracts/PPK-BM 1/DPU-MS/VII/2014 and PHO documents Number 103/PPK-DM/APBD/XII/2014, as well as other related planning documents.

The research informants were determined by purposive sampling by considering the relevance of the role and mastery of information related to the program being evaluated (Hardani et al., 2020). The informants include elements of local governments, contractors or technical supervisors, village governments, community leaders, and road users. The number of informants is determined based on the principle of data saturation, which is that data collection is stopped when the information obtained has been repeated and does not produce new findings.

Data analysis was carried out in a qualitative descriptive manner by following the stages of data collection, data reduction, data presentation, and conclusion drawing and verification (Miles & Huberman, 2014). The analysis process was carried out simultaneously from the beginning of the study to ensure integration between empirical findings in the field and the policy evaluation framework used.

3. RESULTS AND DISCUSSION

The object of this research is located in West Motoling District and Sinonsayang District, South Minahasa Regency, North Sulawesi Province, which are geographically located at the coordinates of $0^{\circ} 47' - 1^{\circ} 24'$ North Latitude and $124^{\circ} 18' - 124^{\circ} 45'$ East Longitude. West Motoling District is located about 101.8 km from Manado City with a hilly topography and an altitude of 462-892 meters above sea level, bordered by Kumelembuaia District to the north, Motoling District to the east, Ranoyapo District to the south, and Sinonsayang District to the west, and has an area of 177.11 km². Meanwhile, Sinonsayang District is about 120 km from Manado City, has a topography of lowland areas with an altitude of ± 15 meters above sea level, bordered by the Sulawesi Sea in the north, Tenga District in the east, West Motoling District in the south, and Bolaang Mongondow Regency in the west, with an area of about 18,010 hectares. The road that crosses Tondei Village and

*Corresponding author

E-mail addresses: erlangalumowa13@gmail.com



connects the two sub-districts has a strategic role as the main access for the community for social and economic activities, especially for the villages of Tondei, Ongkaw, Raanan Baru, and Motoling with a large overall population. This road infrastructure is a vital means in supporting community mobility, distribution of agricultural products, access to education, health services, and strengthening the local economy, considering that the majority of the population makes a living as farmers, transportation drivers, and ranchers.

The research informants consist of government and community elements determined through purposive sampling techniques based on direct involvement and mastery of information related to road construction. The informants include officials of the Public Works Office, regional procurement officials, contractors or supervisory consultants, village governments, community leaders, and road users, with a total of 16 people. The characteristics of the informants showed the dominance of 13 men and 3 women, which reflects the structure of participation in the infrastructure development sector in the study area. In terms of education, most of the informants have a Bachelor's (S-1) educational background, followed by high school graduates/equivalent and one Master's degree (S-2) graduate. This condition shows that informants have adequate knowledge capacity to provide relevant, comprehensive, and credible information related to the planning, implementation, and impact of road construction on the local community.

The results of the interviews show that the condition of the district roads in Tondei Village has long been damaged and has a significant impact on the socio-economic activities of the community. All key informants, both from elements of the village government and the road user community, stated that road damage caused an increase in transportation costs, an increase in travel time, and a decrease in the efficiency of the distribution of agricultural and livestock products. The road is the main access connecting West Motoling District and Sinonsayang District as well as the distribution route for the village's leading commodities, so that infrastructure damage has a direct impact on people's income and quality of life, especially in the rainy and dry seasons which worsen road conditions.

In terms of policy and technicality, the Public Works Office emphasized that road construction in Tondei Village has gone through the stages of planning, budgeting, procurement, implementation, and supervision in accordance with regulations and regional planning documents. The technical implementation was declared to have met contract specifications and material quality standards, despite weather constraints, labor discipline, and limited resources. The procurement process is carried out openly and accountably, but still faces challenges in selecting service providers that meet technical standards. Overall, the findings of the study show a gap between the effectiveness of policy planning and the quality of implementation on the ground, which underscores the importance of strengthening surveillance, sustainable maintenance, and increasing policy responsiveness to local conditions and community needs.

The Impact of Road Damage on the Community's Economy

The results of interviews with the Head of Tondei Village, farmers, and road user communities show that the damage to the district road in Tondei Village has a direct and significant impact on the economic condition of the community. Damaged roads cause increased transportation costs, extend travel time, and accelerate vehicle damage, thereby reducing the efficiency of the distribution of agricultural and livestock products. These findings confirm the close link between the quality of road infrastructure and the sustainability of the local economy, especially in agrarian areas that depend on accessibility to market superior commodities such as copra, cloves, nutmeg, pigs, and tilapia. When road access is disrupted, the income of farmers and transportation business actors is also depressed due to increased logistics costs and decreased product competitiveness.



In the perspective of public policy analysis, this condition can be categorized as a public problem as stated by Dunn (2003), because it has a wide impact and requires government intervention. The problem identification stage shows that road damage has become a protracted structural problem, characterized by increasing transportation costs, long distribution times, and disruption of community mobility. Impact forecasting shows that if this condition is not addressed immediately, the economic productivity of the village will continue to decline, the burden of household costs will increase, and the risk of social and economic isolation will increase. Field findings also show that there is a gap between the objectives of infrastructure development policies and the benefits felt by the community, which indicates the low effectiveness of current road maintenance policies.

Based on the stages of policy recommendations and evaluation within the framework of Dunn (2003), this study emphasizes the need for comprehensive district road improvement with priority at the worst points of damage, strengthening regional budgeting for areas producing superior commodities, and increasing coordination between village and district governments through participatory planning mechanisms such as Musrenbang. Empirical evaluation shows that existing policies are not fully responsive to the needs of the community, so that more targeted, sustainable, and results-oriented policy interventions are urgently needed. Thus, the quality of road infrastructure not only determines the smooth mobility, but is also a key factor in maintaining the stability and economic sustainability of the people of Tondei Village.

Social and Health Impact

The results of interviews with community leaders, the Chairman of BPD, and residents of Tondei Village show that road damage not only has an impact on economic aspects, but also causes serious social and health consequences. Damaged roads cause social isolation, decrease the intensity of interaction between residents, and limit public access to public service facilities, especially health services. This condition weakens social cohesion and increases the vulnerability of rural communities, especially for vulnerable groups such as the elderly, pregnant women, and children. In the perspective of infrastructure development evaluation, accessibility is a key indicator of the success of public services (Dunn, 2003). Field findings show that poor road conditions hinder people from reaching health centers and referral hospitals, slow down the handling of emergency patients, and increase the risk of delays in medical services. This situation indicates that the road infrastructure development that has been carried out previously is not sustainable and has not been able to guarantee the equitable distribution of basic services. Thus, road damage in Tondei Village is not only a technical problem, but also a social problem that has a direct impact on the quality of life and the degree of public health.

Differences in Road Conditions by Season

The results of interviews with informants show that road conditions in Tondei Village are greatly influenced by seasonal factors. In the rainy season, roads are often flooded, slippery, and have the potential to experience landslides, so that transportation access is disrupted and even cut off. In contrast, in the dry season, the road surface becomes dusty and potholed, which not only interferes with the comfort of road users but also increases the risk of accidents and vehicle damage. The variability of these conditions shows low road resilience to climate and weather change.

The findings are in line with the theory of road infrastructure resilience which emphasizes the importance of technical design that is adaptive to environmental conditions, such as adequate drainage systems, the selection of materials that are resistant to humidity and extreme temperatures, and foundation structures that are able to withstand erosion (Pratama & Setiono,



2020). The inability of the roads in Tondei Village to function optimally throughout the year shows weaknesses in the planning and technical design stages. According to Pratama and Setiono (2020), drainage system failure is the dominant cause of road damage in rural areas. Therefore, road infrastructure improvements in the future need to integrate the principles of infrastructure resilience so that roads are not only physically feasible, but also able to function sustainably in the face of climate variability.

Community Satisfaction and Expectations

The results of the interviews show that the level of community satisfaction with the condition of the roads in Tondei Village is very low. Road damage causes loss of travel time, increased transportation costs, and repeated vehicle damage. This condition causes discomfort and anxiety for the community because roads are the main means of mobility and distribution of agricultural products. This low satisfaction has led to strong hopes that the local government will immediately carry out comprehensive road repairs and ensure continuous routine maintenance.

From the perspective of community participation theory, the level of public satisfaction is an important indicator of the success of infrastructure development (Cohen & Uphoff, 1980). This theory asserts that effective development requires community involvement not only at the implementation stage, but also in decision-making, outcome utilization, and evaluation. Field findings indicate that the low satisfaction of the people of Tondei Village reflects the weak involvement of residents in the road construction planning and evaluation process. The aspirations of the community have not been fully accommodated, so the results of the development have not been in accordance with the real needs of road users.

Furthermore, low public satisfaction also reflects the lack of optimal two-way communication between the government and residents. Wijaya, A. S. (2020) stated that the government's failure to build participatory communication often has implications for low policy legitimacy and declining public trust. In the case of Tondei Village, the lack of dialogue space causes the community to not have an effective feedback mechanism to submit complaints and evaluate road conditions. As a result, the problem of road damage lasts for a long time without adequate handling.

Based on the theory of participation, the expectations of the people of Tondei Village for road repairs and routine maintenance can be categorized as *participatory demand*, namely the demand for the community to be actively involved in development (Pretty, 1995). Meaningful participation is believed to be able to improve the suitability of programs with local needs, strengthen social supervision, and ensure the sustainability of infrastructure. Thus, the low level of community satisfaction in this study can be understood as negative feedback that is important for local governments to evaluate and improve the governance of road development to be more responsive, participatory, and sustainable.

4. CONCLUSION AND SUGGESTION

This study concludes that the condition of district roads in Tondei Village, West Motoling District and Sinonsayang District, South Minahasa Regency, is in a damaged condition and has not been able to carry out its functions optimally as supporting infrastructure for social, economic, and community public services. Road damage has a significant impact on the increase in transportation costs, the length of travel time, the decrease in the efficiency of the distribution of agricultural and livestock products, and the decrease in the income of the community, the majority of whom earn their livelihoods in the agricultural sector and transportation services. This condition confirms that the quality of road infrastructure is directly related to the sustainability of the local economy and the welfare of rural communities.



From a public policy perspective, this study found a gap between road construction policy planning and the quality of implementation in the field. Although the planning, budgeting, procurement, and implementation processes have followed applicable regulations, the results of the development have not provided sustainable benefits to the community. In addition to economic impacts, road damage also has social and health consequences, such as social isolation, limited access to health services, and increased risk of delays in medical treatment. Variations in road conditions due to seasonal factors indicate the low resilience of the infrastructure to environmental conditions, which indicates weaknesses in the aspects of technical design and drainage systems.

The low level of community satisfaction reflects the suboptimal involvement of residents in the process of planning, implementing, and evaluating road construction. The lack of two-way communication between the government and the community causes local aspirations to not be adequately accommodated, so that infrastructure development is not fully responsive to the real needs of road users. Thus, the road problems in Tondei Village are not only technical, but also reflect the issues of governance, participation, and sustainability of regional infrastructure development policies.

Based on the findings of the study, the local government of South Minahasa Regency is advised to carry out comprehensive and sustainable repairs to district roads in Tondei Village by prioritizing the worst points of damage. These improvements need to be supported by strengthening the budget for routine maintenance, especially in areas that produce superior commodities, as well as the application of technical designs that are adaptive to climatic and environmental conditions, such as adequate drainage systems and the use of materials that are more resistant to extreme weather.

In addition, the government needs to improve the quality of road construction governance through strengthening technical supervision, periodic post-construction evaluations, and the selection of service providers who truly meet technical and professional standards. The integration of infrastructure resilience principles is important so that roads can function optimally throughout the year and do not suffer repeated damage.

Local governments are also advised to strengthen participatory planning mechanisms by actively involving the community from the decision-making, implementation, to evaluation stages of road construction. Forums such as Musrenbang need to be optimized as a substantive dialogue space, not just a formality, so that the aspirations of the community can be accommodated in a real way. Improving two-way communication between the government and citizens is expected to increase public satisfaction, strengthen policy legitimacy, and ensure the sustainability of road infrastructure development.

For further research, it is recommended to combine a qualitative approach with a quantitative analysis related to economic costs, accessibility levels, and public health impacts, so as to obtain a more comprehensive picture of the implications of road infrastructure development and maintenance in rural areas.

5. REFERENCES

- Adisasmita, R. (2012). *Pembangunan infrastruktur dan pengembangan wilayah*. Graha Ilmu.
- Althaus, C., Bridgman, P., & Davis, G. (2022). *The Australian policy handbook* (7th ed.). Allen & Unwin.
- Arikunto, S., & Jabar, C. S. A. (2014). *Evaluasi program pendidikan*. Bumi Aksara.



- Cohen, J. M., & Uphoff, N. T. (1980). Participation's place in rural development: Seeking clarity through specificity. *World Development*, 8(3), 213-235.
- Corlin, Y. G. (2015). Evaluasi pelaksanaan pembangunan infrastruktur jalan daerah hasil pemekaran (Studi di Dinas Pekerjaan Umum Kabupaten Manggarai Timur). *Jurnal Administrasi Publik*.
- Dunn, W. N. (2003). *Pengantar analisis kebijakan publik*. Gadjah Mada University Press.
- Dunn, W. N. (2003). *Public policy analysis: An introduction* (3rd ed.). Pearson Education.
- Grigg, N. S. (1988). *Infrastructure engineering and management*. Wiley.
- Haqiqi, B. N., Manar, D. G., & Herawati, N. R. (2024). Evaluasi pelaksanaan pembangunan infrastruktur jalan kabupaten di Kabupaten Kendal (Studi kasus Desa Cening). *Journal of Politic and Government Studies*, 13(2), 305-318.
- Hardani, Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Metode penelitian kualitatif & kuantitatif*. Pustaka Ilmu.
- Haris, A. (2009). Dampak pembangunan infrastruktur terhadap pertumbuhan ekonomi. *Jurnal Ekonomi Pembangunan*, 10(1), 1-14.
- Kogoya, M., Pati, A. B., & Rares, J. (2023). Implementasi program pembangunan infrastruktur di Desa Jirene Kecamatan Nogy Kabupaten Lanny-Jaya. *Agrisioekonomi: Jurnal Transdisiplin Pertanian*, 19(2), 1091-1098. <https://doi.org/10.35791/agrsosek.19.2.2023.45002>
- Kusumastuti, A., & Khoiron, A. M. (2019). *Metode penelitian kualitatif*. Lembaga Pendidikan Sukarno Pressindo.
- Marzuki. (2007). *Perencanaan pembangunan ekonomi daerah*. UI Press.
- Miles, M. B., & Huberman, A. M. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage Publications.
- Noer, S. (2024). Evaluasi kebijakan pembangunan infrastruktur jalan Kecamatan Cisayong Kabupaten Tasikmalaya. *Jurnal Kebijakan Publik*.
- Pretty, J. N. (1995). Participatory learning for sustainable agriculture. *World Development*, 23(8), 1247-1263.
- Pratama, R. A., & Setiono, B. (2020). Ketahanan infrastruktur jalan terhadap pengaruh iklim dan lingkungan di wilayah pedesaan. *Jurnal Teknik Sipil*, 27(2), 123-134.
- Rahmati, & Setiawati, B. (2020). Evaluasi program pembangunan infrastruktur pedesaan jalan. *Jurnal Administrasi Publik dan Birokrasi (JAPB)*, 3(2), 1-15.
- Sari, D. R., Teguh, C., Prakoso, & Rade, S. (2022). Evaluasi pembangunan jalan desa di Desa Tani Harapan Kecamatan Loa Janan Kabupaten Kutai Kartanegara. *Jurnal Administrasi Publik*.
- Sari, D. R., Teguh, C., Prakoso, & Rade, S. (2022). Evaluasi program pembangunan jalan desa. *eJournal Administrasi Publik*, 9(1), 2-14.
- Sen, A. (1999). *Development as freedom*. Alfred A. Knopf.
- Stufflebeam, D. L. (2000). *The CIPP model for evaluation*. Kluwer Academic Publishers.
- Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Usman, H. (2010). *Manajemen: Teori, praktik, dan riset pendidikan*. Bumi Aksara.
- Wijaya, A. S. (2020). *Dampak Covid-19 terhadap kondisi sosial ekonomi pedagang di Kawasan Pantai Klayar Kecamatan Donorojo Kabupaten Pacitan tahun 2020* (Tesis). Universitas Muhammadiyah Surakarta.
- World Bank. (2016). *World development report 2016: Digital dividends*. World Bank.