

# Rural Network Development Strategy in North Gorontalo Regency, Gorontalo Province

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## **Abstract**

*The need for transportation infrastructure is the main thing in the implementation of the development process. Through the Ministry of Villages, the Indonesian government, Development of Disadvantaged Regions and Transmigration of the Republic of Indonesia, carried out a program to build villages as part of the Indonesian Government Program called "Nawacita." The development of rural area road networks to improve accessibility. Rural areas in Kwandang Subdistrict and Ponelo Islands Subdistrict, Northern Gorontalo Regency, Gorontalo Province, are selected as rural areas. The study aimed to obtain a development strategy for the means of transportation infrastructure for rural areas to improve the economy of rural communities in the North Gorontalo District of Gorontalo Province. The method of implementing this research consisted of initial preparation, field survey, defining research variables, data analysis, and formulation of the infrastructure facilities development strategy in the selected areas.*

*Rural areas in Kwandang Subdistrict and Ponelo Islands Subdistrict, North Gorontalo Regency, Gorontalo Province, are selected as rural areas. Development Strategy for Rural Road Networks in the form of policies such as developing rural road networks through village funds financed by the state budget; North Gorontalo District government policy in constructing rural road networks; Involve technical agencies and universities for training village communities.*

**Keywords:** Strategy, Policy, State Budget

## **I. INTRODUCTION**

### **A. Background**

Village communities are communities that are often forgotten by the government in terms of infrastructure development. The need for transportation infrastructure is the main thing in the implementation of the development process. The current government with the program "Nawacita Government of the President of the Republic of Indonesia Mr. Joko Widodo," Building Indonesia from the Village. Rural Area Development is a government effort that encourages accelerated development of inequitable development, especially in Eastern Indonesia. The potential that exists in rural

communities are very diverse depending on the community's livelihoods, such as the results of agriculture, plantations, fisheries, mining, tourism, and other potentials. The potential of each village must be equipped with the availability of transportation infrastructure as the backbone of the community's economy to improve the village community's economy.

### **B. Problem Statement**

The problem of transportation of rural people is currently inadequate infrastructure and sufficient means of transportation so that the potential of each rural area is not optimal. The formulation of the problem in this study is: What is the development strategy of the means of transportation infrastructure in rural communities to improve the economy of the village community.

### **C. The Aimed of the Research**

The study aimed to obtain a development strategy for the means of transportation infrastructure for rural areas to improve the economy of rural communities in the North Gorontalo District of Gorontalo Province.

### **D. Research Significance**

It is hoped that this research would be useful and helpful for planners in North Gorontalo District to meet rural communities' needs to support the Government of Indonesia's President Mr. Joko Widodo's Nawacita program.

The main benefit of this research is to produce a development strategy for the means of transportation infrastructure in rural areas in the North Gorontalo District of Gorontalo Province to be operational in the field later.

## **II. LITERATURE REVIEW**

### **A. Transportation Infrastructure and Facilities Road Network in Indonesia**

According to the Law of the Republic of Indonesia No. 38 of 2004 concerning Roads, public road classification in Indonesia. Road classification by system, classification according to function, classification according to status, and classification according to class based on infrastructure provision specifications. Village



roads, according to their function, are part of the road environment. Public roads that function to serve environmental transport with short distance travel characteristics and low average speed. According to the village, road status is a public road that connects the area and/or between settlements within the village and environmental roads Pandey. S. V. (2016) describes how important the development of transportation infrastructure in rural communities is to improve the accessibility of rural communities. The need for a road network is the main thing to improve the village community's economy.

**B. SWOT Analysis**

The use of SWOT analysis to formulate how road network development in rural areas is often forgotten or often lacking in government attention. This SWOT analysis will provide a sufficient conclusion to become a development policy in the future, especially rural road networks. Research is a form of self-evaluation for current conditions or existing conditions why the planning of rural road networks is often difficult to realize its development will impact rural communities' economy.

Analysis of internal and external conditions is needed for individuals and groups of organizations to design work strategies and work programs. A SWOT analysis requires the involvement of parties related to honesty.

**Strength**

- What makes you competitive
- What can be done and to be better than others
- What advantages are there on the other side

All internal resources that can or have the ability to be seeded

**Weakness**

- What can be improved
- What to avoid
- What is better on the other side

All internal resources that do not have the ability/lack of being seeded

**Opportunity**

- Positive trends that are happening in the community
- The expanse of opportunities and opportunities
- Conditions around which can have a positive impact
- The expanse of opportunities and opportunities

- Conditions around which can have a positive impact
- All external resources that can be used as added value / productive value

**Threat**

- Barriers that will be faced
- The level of competition that occurs
- The speed of changes that occur
- Surrounding conditions / contradictory policies

All external resources that can be used as added value / productive value / economic value.

**TABLE 1.**  
**SWOT MATRIX**

Internal/External	Opportunity	Threat
Strength	Comparative <b>1</b> Advantage	<b>2</b> Mobilization
Weakness	Divestment <b>4</b> Investment	<b>3</b> Damage Control

Quadrant Analysis of SWOT

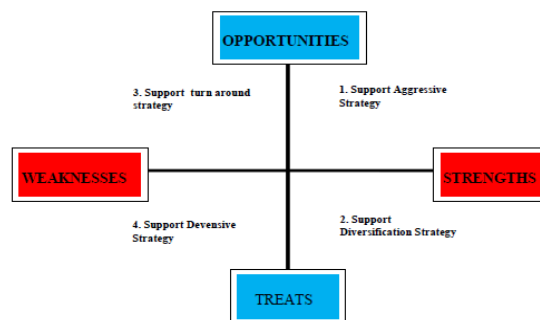


Figure 1. Quadrant Analysis for SWOT Analysis

**III. RESEARCH METHODOLOGY**

The research methodology is a step in the completion of the research on the Development Strategy of Rural Area Transportation Infrastructure Facilities in North Gorontalo District, Gorontalo Province in the form of initial preparation and data collection, data processing or data analysis, up to the determination of the development strategy of rural areas facilities and infrastructure.

The method of implementing this research will consist of the following steps:

**A. Initial Preparation**

Activities carried out include:

- Understand the purpose and objectives, research objectives, the scope of work, location of activities, and expected outputs;
- Prepare and collect initial data;
- Establishing a temporary design from the initial data to be used as a preliminary survey guide;
- Determination of the location to be surveyed

**B. Field Survey Stage**

Field surveys and investigations are carried out to obtain data in the field to a certain level of accuracy by considering several factors, such as the actual existing field conditions and the handling objectives to be achieved. In the field survey, there were several activities, including:

- a. Survey the existing condition of transportation facilities and infrastructure
- b. Survey of traffic flow conditions on rural roads
- c. Survey of relevant agencies regarding infrastructure facilities.
- d. Interview survey to the community in the Rural area in North Gorontalo District

**C. Data Analysis**

Analysis of the need for transportation infrastructure facilities by using the Guidelines for Determining Minimum Service Standards in the Decree of the Minister of Settlements and Regional Infrastructure No. 534 / KPTS / M / 2001.

Analysis of the current and future transportation network development strategies

With the results of the analysis that resulted in the development strategy of rural road networks such as;

- What activities will be carried out
- How to do it
- Who will do it
- When to do it

**D. Research Variables**

In this study, the problem under study was the North Gorontalo District Government's strategy in constructing a rural area road network in North Gorontalo District, Gorontalo Province, specifically relating to the determination of priority scales in the construction of rural areas and the reasons.

Related to this, 5 variables will be examined as strengths, weaknesses, threats, and opportunities faced by North Gorontalo Regency in the development of rural area road infrastructure, namely: an Organization and Management

Road construction requires full organizational and management support. Without a strong organization and management, the development will face threats.

b. Administration and authority

To build the desired road network requires regular Administration and full authority in determining the area to be built by the road.

c. Human Resources

Strong human resources are needed to build rural road network infrastructure in North Gorontalo District, which is because the challenges faced are very large.

d. Regional Autonomy Law

The Regional Autonomy Law that North Gorontalo Province owns provides a very large opportunity in carrying out development. However, if this opportunity is not used properly, it will make regional

autonomy not positively impact rural road network development.

e. Natural conditions

Natural conditions that are very influential on road construction plans, especially Ponelo Islands sub-district, are some areas that are separated from the mainland of North Gorontalo District. This is a challenge in the development of rural road networks. Local governments must find the right way to overcome these challenges because otherwise, they will be a threat to road network development continuity.

**E. Formulation of Development Strategy for Transportation Infrastructure Facilities**

This stage formulates the right strategy to build transportation infrastructure facilities for rural communities in Gorontalo North Gorontalo Province. Clearly, this research is explained in the Research Flow Chart as shown in Figure 2. the following

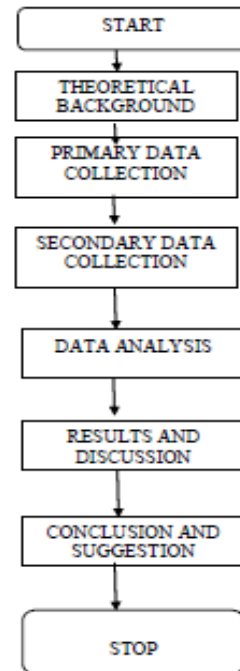


Figure 2: Flowchart of Research Implementation

**IV. RESULTS AND DISCUSSION**

**A. Rural Areas in the District. North Gorontalo**

North Gorontalo District's rural area is in 2 (two) sub-districts, namely Kwandang District and Ponelo Kepulauan District. Area of rural areas, as described in Table 2 below. The condition of the road body in North Gorontalo Regency in 2009-2013 according to the data of the District Spatial Plan. North Gorontalo Year 2011-2031 based on asphalt, gravel, stone, and soil surface as described in Table 2. Below

**TABLE 2.**  
**AREA OF RURAL AREA NORTH**  
**GORONTALO DISTRICT**

No	Sub-district	Village	Area (Ha)
1	Kwandang	Katialada	3.399,1
2	Ponelo Island	Ponelo	2,27
3	Ponelo Island	Otiola	1,67
4	Ponelo Island	Pihinge	1,73
5	Ponelo Island	Malambe	1,68

Source: Sub-district in Figure 2016



**Figure 3. Research Location of Ponelo District, Kab. North Gorontalo**

**Table 3:**  
**Road length by surface type in district north**  
**Gorontalo (km) in 2009-2013**

Pavement type	Year				
	2009	2010	2011	2012	2013
Asphalt	50,19	97,69	130,62	134,355	141,089
Gravel	131,61	238,82	208,82	250,907	255,875
Stone	161,16	-	-	-	-
Soil	-	71,956	71,13	132,448	175,246
Total	342,96	408,466	410,57	517,71	572,21

Source: Department of Public Works of North Gorontalo District 2013

**B. Condition of the Road Network for Rural Areas in North Gorontalo District**

The Road Area condition in the Rural Area of Kwandang Subdistrict in Katialada village has a 3.5 km asphalt road. Ponelo Island Subdistrict does not have a hardened road this time. Table 4. Shows road conditions according to villages and surface types in Kwandang District and Ponelo Island District.

**Table 4.**  
**Road conditions by village and type of surface in the district kwandang and ponelo kepulauan district**

No	Village	Sub-district	Asphalt concrete	Paved	Soil
1	Katialada	Kwandang	3.5 km	-	0.4 km
2	Ponelo	Ponelo Island	-	-	3 km

3	Otiola	Ponelo Island	-	-	-
4	Pihinge	Ponelo Island	-	1 km	-
5	Malambe	Ponelo Island	-	0.8 km	3 km

Source: Sub-district In Figures 2016

**C. Analysis of Rural Area Road Network Needs**

Study of infrastructure and facilities available based on standards (Guidelines for Determining Minimum Service Standards in the Decree of the Minister of Settlement and Regional Infrastructure No. 534 / KPTS / M / 2001). Rural Settlement Services Sector. Basis of analysis Guidelines for Determining Minimum Service Standards in the Decree of the Minister of Housing and Regional Infrastructure No. 534 / KPTS / M / 2001 as described in Table 5. below:

**Table 5.**  
**Guidelines for determining minimum service standards in the decree of the minister of settlements and regional infrastructure no. 534 / kpts / m / 2001**

No	Service area	Indikator	Service Standard		Quality	Information
			Coverage	Level of Service		
1	2	3	4	5	6	7
1	Village Settlement	-	-	-	-	-
2	Environmental infrastructure	-	-	-	-	-
3	a. Road Network	Road Length to area ratio	Length 25-50m/ha width 2-5m	-	-	-
	b. Footpath	Road Length to area ratio	Length 35-70m/ha width 0.8-2m	-	-	-

Source: Guidelines for Determining Minimum Service Standards in the Decree of the Minister of Settlements and Regional Infrastructure No. 534 / KPTS / M / 2001.

The results of the analysis of the needs of the rural area road network North Gorontalo District in accordance with the Guidelines for Determining Minimum Service Standards in the Decree of the Minister of Settlements and Regional Infrastructure No. 534 / KPTS / M / 2001 are described in Table 6 below.

**Table 6.**  
**Minimum service standards in the decree of the**  
**minister of settlements and regional infrastructure**  
**no. 534 / kpts / m / 2001**

No	Village	Sub District	Regional area (Ha)	The need for road network (m) with width 2-5m	The need for road Footpath (m) with width 0.8-2m
1	Katialada	Kwandang	3.399,1	84.975	118.965
2	Ponelo	Ponelo Island	2,27	56,75	79,45
3	Otiola	Ponelo Island	1,67	41,75	58,45
4	Pihinge	Ponelo Island	1,73	43,25	60,55
5	Malambe	Ponelo Island	1,68	42,0	58,80

**Source: Analysis Results 2016**

The framework of determining the development strategy of rural road networks that are important to note is the condition of the existing road network and data in a certain period of time. To complement and support information is needed to evaluate internal factors and external factors that surround the condition of the road network in question.

Analysis of existing conditions is the beginning of the strategy formulation process. Furthermore, it was stated that the analysis of the existing conditions requires strategic researchers to find a strategic fit between external opportunities and internal forces and pay attention to external threats and internal weaknesses.

SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is a systematic identification of the factors that determine the condition of activity and the determination of alternative development strategies appropriate to these conditions. This analysis is based on the logic that an effective strategy will maximize strengths and opportunities (S, O) and, at the same time, minimize weaknesses and threats (W, T).

Strength is the ability of an area, especially North Gorontalo District, a comparative advantage as a driving factor for rural road network development. This factor is very beneficial for rural communities and is very supportive of development.

Weaknesses are the limited capabilities of a region in building rural road networks that hinder rural road network development. The community must overcome these factors to be able to move towards a

better and developing condition. If the community cannot overcome its weaknesses, the company can be threatened with sustainability.

Opportunities are favorable conditions for the construction of rural road networks. Opportunities are external factors faced in the framework of the construction of rural road networks. The Regional Government must identify the opportunities faced and use them to develop rural road networks in the future. The ability to compete with local communities in road network development is strongly influenced by how the Regional Government can create innovation, both innovations that strengthen/facilitate the development of road network products and the types of road network development services by looking at opportunities.

Threats or threats are unfavorable conditions and threaten the continuity of the construction of rural road networks. To survive and develop, the government and society must be able to overcome the threats faced optimally the potential they have.

So the SWOT analysis must identify the distinctive competence of a region, namely certain expertise and resources owned by the community and government in terms of the construction of rural road networks. Using appropriate scarce regional competencies will provide sustainable comparative advantages.

One way to deduce strategic factors (strategic factors analysis summary) in the framework of developing rural area road networks is to combine external strategic factors (external factor analysis summary / EFAS) with internal strategic factors (internal factors analysis summary / IFAS) into a summary analysis of strategic factors. The use of a summary form of analysis of strategic factors includes the following steps.

Make a list of all the strategic factors developed in the IFAS and EFAS tables.

- b. Give the weight of each factor of 1.0 to show the very important factors and 0.0 to indicate the unimportant factor based on the possible impact of these factors on the strategic position of the rural road network development. The total weight must be 1.00.
- c. Rank each factor from a score of 5 for the very good category to 1 for the very bad category, based on the response to these strategic factors.
- d. Multiply each factor weight by ranking to get the factor weight value

From the SWOT analysis, the local government, as the implementation of regional development, can further consolidate external strategic factors (opportunities and threats) and internal strategic factors (strengths and weaknesses) to determine strategic positions. By knowing the strategic position, based on the analysis, the local government can

consider the accuracy of the methods used to carry out the construction of rural area road networks in the North Gorontalo District of Gorontalo province. The strategic decisions that will be used in development are carried out by combining external and internal factors that have been assessed by the local government. The next step is to identify alternative ways so that regions can use forces specifically to use opportunities for opportunities or to avoid threats and overcome their weaknesses.

The SWOT matrix describes how to match external opportunities and threats faced by North Gorontalo district areas with internal strengths and weaknesses, to produce four alternative strategies.

In providing the strategy formulation, four strategies appear from the SWOT analysis results: a. SO strategy used to draw advantage of opportunities available in the external environment.

b. The WO strategy aims to improve internal weaknesses by taking advantage of opportunities from the outside environment.

c. The ST strategy the organization will use to avoid, at least minimizes the impact of threats coming from outside by utilizing existing strengths.

d. The WT strategy is a defense tactic directed at minimizing internal weaknesses and avoiding external threats.

**Table 7.**  
**Quantitative analysis of swot s-w**

No	STRENGTH	Weight	Score	Score
1	Village Funds allocated by central Government (State Budgets)	0,5	50	25
2	The involvement of village communities in the form of self sufficiency	0,2	30	6
3	Local Government Policy	0,3	40	12
Total		1.0		43
No	WEAKNESS	Weight	Score	Score
1	Limited Funds	0,5	40	20
2	Lack of community participation	0,2	50	10
3	The process of implementing Development	0,3	90	27
Total		1.0		57

Total S + W = 100%

**Table 8.**  
**Quantitative analysis of swot o-t**

No	OPPORTUNITY	Weight	Score	Score
1	Society participation	0.6	40	24
2	Innovation for improving community skills and understanding of problems	0.4	40	16
Total		1.0		40
No	THREAT	Weight	Score	Score
1	Organanization and Management	0.5	50	25
2	Natural Condition	0.5	70	35
Total		1.0		60

Total O + T = 100%

**D. Results of Analysis of Road Network Development Strategy in Gorontalo District**

As a force in the implementation of the construction of rural road networks is:

- Village Funds From the central government (APBN)
- District government policy
- Involvement of rural communities in the form of self-help

A Weakness in the implementation of the construction of rural road networks is:

- Limited funds
  - Development process
  - Lack of community participation
- As an opportunity in the implementation of the construction of rural road networks are:
- Society participation
  - innovation to improve people's skills and understanding of problems

As a Threat to the implementation of the construction of rural road networks is:

- Organization and Management
- Natural conditions

So that as the main force so that the construction of rural road networks in North Gorontalo District is well implemented is the availability of village funds from the central government for development, which must be monitored and evaluated by the government through the BPKP and the DPRD and the community.

**V. CONCLUSIONS AND SUGGESTIONS**

**A. Conclusion**

In conclusion, this research is as follows: Success in building a rural road network requires a good strategy so that the implementation of development can be carried out to improve community accessibility.

The Development Strategy of the Rural Road Network in the North Gorontalo District of Gorontalo

Province is outlined in the form of a policy as follows:

- 1) Rural areas in North Gorontalo District are involved in the use of APBN funds
- 2) Policy of North Gorontalo District government in the construction of rural road networks
- 3) Government policy to involve technical agencies and universities in providing training to rural communities on how to develop village roads in accordance with applicable regulations in Indonesia.

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### **B. Suggestion**

As a suggestion in this study is:

Increased community skills and understanding of road network development so that the government and rural communities need to work together with [12]

relevant parties to provide training in village road networks.

Empowerment of rural communities and their involvement in the development process are very important for improving the community's skills and welfare.

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