

# ANALYSIS OF BUTON ASPHALT UTILIZATION IN SOUTHEAST SULAWESI

Buhardiman<sup>1</sup>, Sahta Ginting<sup>2</sup>, Magribi<sup>3</sup>, Nasrul<sup>4</sup>

1.Halu Oleo University, Post Graduate, Engineering Management Science, Indonesia

2.Halu Oleo University, Post Graduate, Agricultural Science, Indonesia

3.Halu Oleo University, Faculty of Engineering, Civil Engineering Department, Indonesia

4.Halu Oleo University, Post Graduate, Management Science, Indonesia

## ABSTRACT

The research question of this study was how is the analysis of Buton Asphalt utilization in Southeast Sulawesi? The purpose of the study was to analyze Buton Asphalt utilization in Southeast Sulawesi. This study was a qualitative research with data analysis techniques using SWOT analysis. Data collection was carried out by using documentation studies and Focus Group Discussion (FGD) technique which conducted on service providers, government and academics totaling 14 people. FGD participants were determined by *purposive sampling*. The results showed that there were two main factors that influenced the Buton Asphalt utilization strategy in Southeast Sulawesi, namely internal factors and external factors. Internal factors consisted of two indicators, namely: (1) aspects of strength, includes a large reserve of natural asphalt resources in Southeast Sulawesi, and (2) aspects of weakness, includes lack of coordination between interested in parties. External factors consisted of two indicators, namely: (1) aspects of opportunity, includes the existence of policies and the basis of legalization of Buton Asphalt utilization from the government, and (2) aspects of threats, includes the certification of quality assurance of Buton Asphalt products has not been applied. The conclusion of this study is optimization of Buton Asphalt utilization can be done in Southeast Sulawesi. The suggestions raised are: (1) Buton Asphalt utilization so that it can be carried out by applying quality assurance certification, (2) the need for increased coordination between various interested in parties so as optimalization the utilization of road quality in Southeast Sulawesi.

**Keywords:** Buton Asphalt, SWOT Analysis, Internal Factors, External Factors.

## INTRODUCTION

One of the well-known natural resources in Indonesia is natural asphalt found in Buton Island. The material is known as Buton Asphalt. Natural asphalt in Buton Island is the only natural asphalt in Indonesia. Other natural asphalt deposits are also found in the Island of Trinidad, Albania and Iraq. By Suroso, B (2006) stated that measured Buton asphalt reserves are estimated to reach 650 million tons from a total of 2 billion tons of survey results from the Directorate of Energy and Mineral Resources of Republic of Indonesia.

According to Subagio (2005) that extensives maintenance and betterment of Indonesia road network, involves the use of very large quantities of bitumen material. Much of which is imported from another country. Affandi,F (2009) stated that since 1987 the use of Buton Asphalt has been stopped because of the lack of success in the quality of asphalt construction using Buton Asphalt. This failure is due to the production of Buton Asphalt material which is not uniform in quality. Sometimes there is still high water content. This is usually due to packaging being in bulk form.

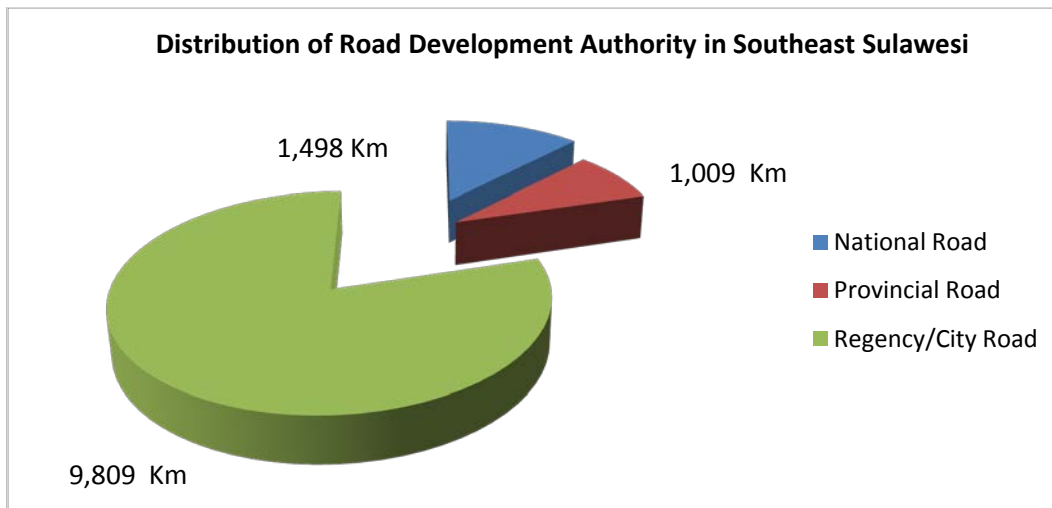
Hadi. Y.M (2010), the use of Buton Asphalt can now be used as a flexible asphalt material with good results. The causes of failure in the field implementation are still many factors that cannot be recorded during laboratory testing.

Halimi, et al. (2014), Indonesia should not be dependent on oil asphalt imports, given the abundant natural resources of Buton Asphalt. Buton asphalt can be produced into bitumen materials around 1.5 million tons per year. Then, Mahmud, et al. (2015) stated, *Buton is one of the administrative regions of southeast Sulawesi Province which*

*has the potential of natural resources and promising to community life. However, where mining asphalt in Buton has not brought prosperity to the people of Buton.*

Road infrastructure is one of the basic infrastructures in supporting the national and regional economy. Based on the Law of the Republic of Indonesia Number 38 of 2004 concerning Roads, road operators are parties who make arrangements, coaching, construction and supervision of roads in accordance with their authority. In this provision, the division of authority for roads development are divided into; (a) National Roads; the authority to administer is carried out by the Government through the Minister of Public Works and Public Housing, (b) Provincial Roads; the authority of the organization is carried out by the Provincial Government, (c) District/Village Roads; implementation authority is carried out by the District Government, (d) City Roads; Organizing authority is carried out by the Mayor.

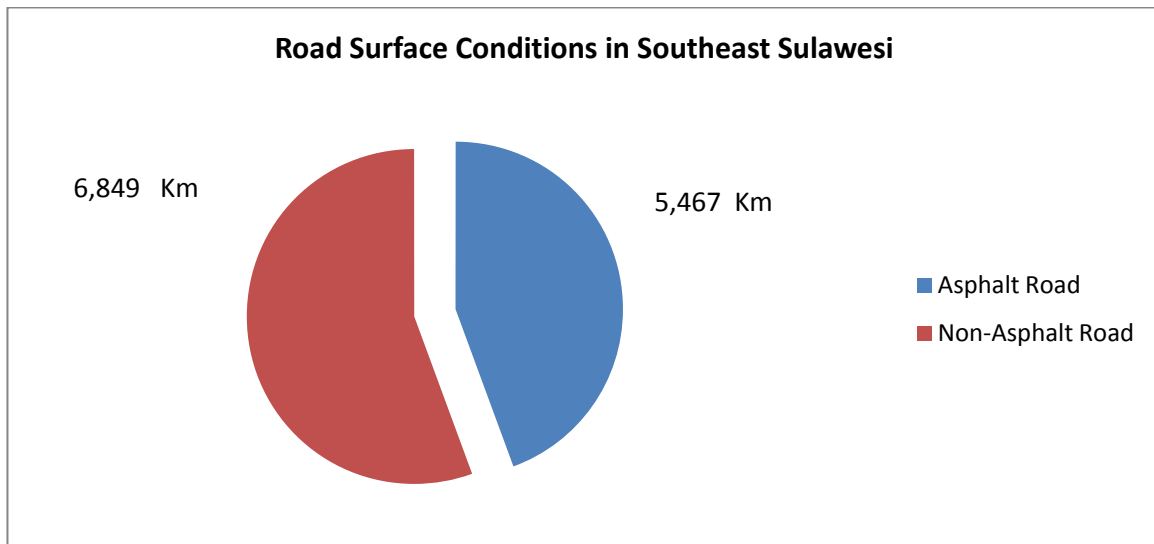
Based on data from the Central Bureau of Statistics of Southeast Sulawesi Province (2017), the length of road in Southeast Sulawesi is 12,316 km consisting of the status of 1,498 km of national roads, 1,009 km of provincial roads and 9,809 km of regency/city road. The division of authority for road development in the Southeast Sulawesi region can be seen in Figure 1 below.



Source: Central Bureau of Statistics of Southeast Sulawesi, 2017

Figure.1. Division of road development authority in Southeast Sulawesi

From these data, the condition of the road surface that has been asphalted is 5,467 km and has not been asphalted is 6,849 km. From the data on the condition of the asphalt road, 5,467 km consists of the status of the national road 1,457 km, the status of the provincial road 542 km and the status of the regency/city road 3,468 km. Data for road conditions that have not been asphalted from a number of 6,849 km consist of 41 km national road status, provincial road status 467 km and regency/city road status reaching 6,341 km. Total road length with asphalt and non-asphalt surface conditions in Southeast Sulawesi according to Figure 2.



Source: Central Bureau of Statistics of Southeast Sulawesi, 2017

Figure 2. Road surface conditions in Southeast Sulawesi

In 2006, the Ministry of Public Works of the Republic of Indonesia has sought to optimize Buton Asphalt utilization with the issuance of the Minister of Public Works Regulation No. 35/PRT/M/2006 concerning Increasing the Use of Buton Asphalt for Road Construction and Maintenance. The publication of the Regulation of the Minister of Public Works is expected to be one of the efforts to encourage the utilization of domestic Buton Asphalt technology.

As a follow-up to the Minister of Public Works policy that mentioned above, Southeast Sulawesi Provincial Government has issued Regional Regulation No. 02 of 2010 concerning Utilization of Buton Asphalt for the Road Development and Maintenance of Provincial Roads and Regency/City Road in Southeast Sulawesi. However, based on observations in the field, there are still some obstacles in the

implementation of road asphalt work using Buton Asphalt material in Southeast Sulawesi.

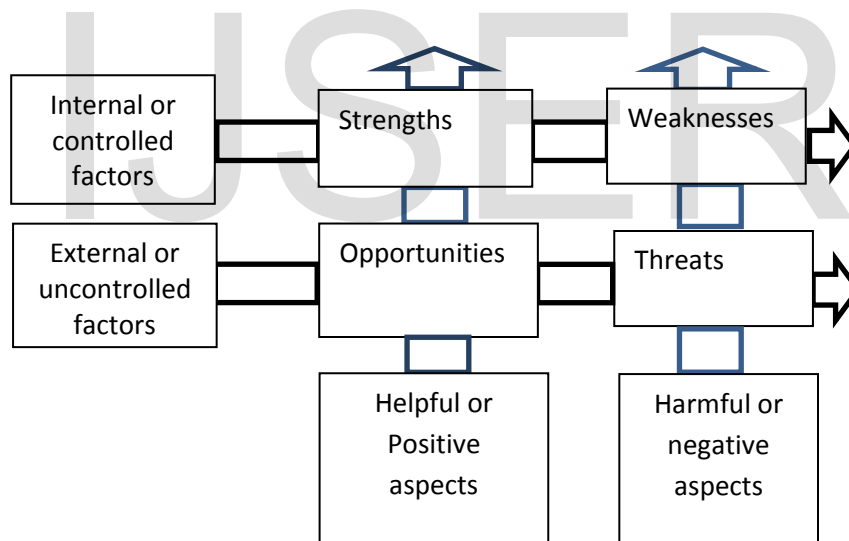
Analysis of Buton Asphalt utilization can use SWOT analysis. Ronchetti (2006) stated “A SWOT analysis is a tool used to collect stakeholder input and objectively examine the organization’s operating advantages and barriers to effectiveness. What makes this tool so powerful is that it can help an organization identify internal operating strengths and external opportunities that are easy to pursue. Likewise, by understanding its weaknesses an organization identifies what processes could be improved and is made aware of possible external threats, giving that organization an opportunity to manage or eliminate them”.

Fine, L.G (2009) stated that “many people wrongly assume a SWOT analysis is only relevant for businesses, but it can be invaluable for individuals, organizations and even for team building. There is another benefit from completing a SWOT analysis, and this is when you complete the analysis on behalf of your competitors.”

SWOT Analysis is an abbreviation of Strengths, Weakness, Opportunities, and Threats that can systematically identify various factors to formulate an organization's strategy. By David, F.R (2015), external opportunities and external threats refer to the economic, social, cultural, demographic, environmental, political, legal, governance, technological, and competitive trends and events that may significantly benefit or harm the organization in the future. Internal strengths and internal weaknesses are controlled organizational activities carried out either good or bad. These two things arise in

management, marketing, financial/accounting, production/operations, research and development activities, and information management systems in business.

The benefits of SWOT analysis by an organization can determine the position of the organization against a competitor; identify the best opportunities for the future, and the view of a threat. The basic principle in determining internal factors and external factors can be seen in Figure 3 .



Source: Sarsby, 2012

Figure 3. Basic Diagram of SWOT Analysis

Sarsby (2012: 10) stated as follows “internal factors are those that you or your organization have control over. Strengths and weakness are internal factors. External

factor are those which you or your organization has little or no control over. Opportunities and threats are external factors. Helpful factors are those that assist your success. Harmful factor are those that impede or block your success.”

Organizational performance is determined by resources divided into 3 categories: a). physical resources; b) human resources; c) organizational resources. The approach with internal resource-based review is more important in a company than external factors in achieving competitive advantage (David, F.R, 2015). Then, by Pearce and Robinson (2013) stated that strength is a resource or capability that is controlled by a company that makes the company relatively superior, while weakness is a limitation in one or more resources of a company that becomes an obstacle in meeting customer needs.

Sarsby, A (2012) concluded there are four generic strategy approaches from the results of the SWOT analysis, namely:

- 1) *Growth strategies (Opportunity - Strengths); the essence of a growth based strategy is to match the opportunity to your existing strengths and do more of what you are already good at.*
- 2) *Internal development strategies (Opportunity – Weakness); the main consideration in this type of strategy is to convert weakness to strength so they can be matched to an opportunity.*
- 3) *External development strategies (Threats – Strength); this type of strategy is based on using your existing strength to convert a threat in to an opportunity.*



**RESEARCH METHOD**

This research is a qualitative research with data analysis techniques using SWOT analysis. Data collection was carried out by document study and using Focus Group Discussion (FGD) technique conducted on service providers, government and academics totaling 14 people. The FGD participants were determined by purposive sampling, with the consideration that the FGD participants met the requirements of expertise and experience in the field of work and research on Buton Asphalt.

**RESULTS AND DISCUSSION**

The results of the Focus Group Discussion are as follows:

<p>Internal factors</p> <p>External factors</p>	<p>Strength:</p> <ol style="list-style-type: none"> <li>1. There is a large potential of Buton Asphalt deposits in Southeast Sulawesi.</li> <li>2. The existence of provincial regulations Southeast Sulawesi Number 2 of 2010 concerning Utilization of Buton Asphalt for the Development and Maintenance of Provincial Roads and District / City Roads in Southeast Sulawesi.</li> </ol>	<p>Weakness (Weakness):</p> <ol style="list-style-type: none"> <li>1. Lack of coordination between the Regional Government of Southeast Sulawesi Province, Ministry of Public Works &amp; PR, Ministry of Industry, and BPKP to ensure the firmness of Buton Asphalt utilization.</li> <li>2. Quality control has not been done optimally.</li> </ol>
<p>Opportunities:</p> <ol style="list-style-type: none"> <li>1. The readiness of Buton Asphalt producers to produce full Buton Asphalt extraction.</li> </ol>	<p>Utilize the potential of large Buton Asphalt in Southeast Sulawesi by utilizing the readiness of producers to carry out full</p>	<p>Overcome the weak coordination between the Southeast Sulawesi Provincial Government, the Ministry of Public Works</p>

<p>2. The Policy of Minister of Public Works Regulation No. 35 / PRT / 2006 concerning Increasing Utilization of Buton Asphalt for Road Construction and Maintenance.</p>	<p>Buton Asphalt production <b>(Growth strategies)</b></p>	<p>and Public Housing, the Ministry of Industry, and the Supreme Audit Agency to ensure the firmness of the Buton Asphalt Utilization Program by utilizing the Minister of Public Works Regulation Number 35 / M / 2006 concerning Increasing Utilization of Buton Asphalt For Development and Road Maintenance <b>(Internal development strategies)</b></p>
<p>Threats: 1. The absence of quality assurance certification for Buton Asphalt products. 2. Limited readiness of personnel/human resources of service providers who have the competence to carry out Buton Asphalt work.</p>	<p>Optimizing the implementation of Regional Regulation No. 2 of 2010 &amp; its amendments by trying to overcome the absence of quality assurance certification for Buton Asphalt products. <b>(External development strategies)</b></p>	<p>Overcome the not yet optimal quality control in Buton Asphalt construction project work by overcoming the limited human resource competency of contractor service providers, consultants in the implementation of Buton Asphalt work. <b>(Survival strategies)</b></p>

Source: Data, 2018

The results of this study support several results of previous studies which stated that the extraction results of Buton Asphalt can be used as a hot asphalt mixture. The results of research by Gauss, et al (2015) stated that the quality of Buton Asphalt mixture is better when compared with mixtures using oil asphalt. Zamhari,et al ((2014) stated that BRA ( Buton Rock Asphalt ) in granular form can also be utilized as a good

binder. This research analysis can provide guidance for all parties concerned to solve problems in an effort to optimize the use of Buton Asphalt.

## **CONCLUSION**

The conclusion of the study is that the efforts of Buton Asphalt utilization in Southeast Sulawesi can be done with four analytical approaches, namely: 1). Growth strategies; 2). Internal development strategies; 3). External development strategies; 4) Survival strategies.

## **SUGGESTION**

The suggestions raised are:

1. Optimization of Buton Asphalt utilization in Southeast Sulawesi so that it can be done by applying quality assurance certification for Buton Asphalt products;
2. The need for increased coordination between various stakeholders so that optimization of utilization can be achieved to improve the quality of roads in Southeast Sulawesi.

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