



Projection Forecasting Policy of Buton Asphalted Mining Management in Indonesia

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Abstract

Asphalt, which is the result of lubricating coal minerals (non-renewable), requires effective management from the government which is realized through rational policies. Efficient policy planning is needed to overcome policy problems without causing major consequences. This research aims to develop selected policy alternatives through selecting alternative policies for managing Buton asphalt mines in Buton Regency. The focus of this research is public policy analysis, namely methods for identifying problems, determining goals, evaluating alternative options, selecting alternatives, and measuring policy performance. This research, only focusing on the best alternative for management policies for the Buton asphalt mine in Kab. Buton. This research aims to analyze and identify: selected policy alternatives to be recommended in the management of asphalt mines in Kab. Buton. The approach used is mixed method. In problem formulation, using descriptive qualitative, to project policy alternatives using public policy analysis techniques through three stages (I), problem formulation techniques (hierarchy), developing into the Projection Forecasting method (extrapolative), ending with alternative selection based on Franklin's criteria. Alternative method looks at the consequences of each policy are equivalent to scoring based on technical, economic, financial and administrative feasibility. The research results show that there are three alternatives developed based on projection forecasting (extrapolative) assessments, namely: structuring institutional authority in asphalt mining management (2.36), strengthening Buton asphalt policy as a leading sector in Buton Regency (2.82), consistency policy in the preparation of Buton asphalt mine management policies (3.18). The selection of consistent alternatives for developing Buton asphalt mine management policies is the most prominent and has a fairly high probability of success and can be carried out. Where policy consistency through social mapping and domestic policy obligations increasing a larger portion for optimal domestic use (distribution to regions for use of State roads) can encourage the use of Buton asphalt nationally. If this condition continues, economic growth can continue. Alternative consistency in preparing Buton asphalt mine management policies in making Buton asphalt mine management policies is the best alternative choice for Buton asphalt mine management policies in Buton Regency.

Keywords: *Public Policy; Asphalt Mining; Policy Alternatives*

Introduction

Mining management policies in Indonesia are at an alarming point. The failure of policies marks by inconsistencies in policy implementation and overlapping resulting in low economic growth which is indicated by the lack of Original Local Government Revenues and low levels of community welfare. This failure marked by the issuance of several mining policies that deemed contrary to the mandate of the 1945 Constitution in which the level of use of mining products was regulated to prevent waste of potential resources to optimise income to obtain maximum benefit for the prosperity of the people (Sumantoro, 2018). One of the most obvious areas facing these problems is Buton Island, the 129th largest island in the world and Indonesia's 19th largest island that has a massive reserve of natural asphalt and several other minerals. In 2017, the Regional Government Budget of Buton Island reached IDR 706 billion with the Gross-Revenue from asphalt-mining results IDR 115 trillion. In the same year, the percentage of people living below the poverty line reached 7.39% (Buton District Government, 2017). Indonesian Minister of Public Works Regulation No. 35 of 2006 concerning increasing utilisation of Buton asphalt for maintenance and construction of national roads is considered weak and inconsistent in its application. Therefore, there needs to be a breakthrough in policy forecasting techniques in predicting future social situations, especially intended to control, plan and determine policies so that getting the best action, can be chosen among the various possibilities offered by the future (Sözen, Gülseven, & Arcaklioğlu, 2007). The forecasting technique chosen is a technique that is considered capable of understanding and controlling the human and social environment, given the competitive advantage for a country is determined by how capable the country creates an environment that fosters the competitiveness of every actor in it, especially economic actors (Porter, 2011). The choice of policy forecast is the right step to provide a solution to the failure of Buton asphalt mining policy. Policy forecasting can control a larger policy problem situation because with a broad policy understanding of some experience it can give consequence to future policies. The argument is very reasonable because basically the future is determined by the past, but the prediction allows us to form the future also actively regardless of what happened in the past.

One example of a real case is discussed by Bedi (2015) in his work entitled "Right to food, right to mine? Competing for human rights claims in Bangladesh "which tells the failure of the Bangladesh government to carry out mining policies. It marked by the resistance of people around the mining area. The government is more focused on solving the problem of mine exploration resistance. In global competition, the public sector must create an environment played by the relevant actors (Porter, 2011). Economic approaches through diplomatic access (actors) use as an excuse to optimise mine management. The findings of this study conclude that the weak policies produced are more likely to be subjective, and have not been able to overcome the existing problems. Hence, this study aims to provide the best choice for the similar case of the Buton asphalt mining managing policy in Buton District to improve the failure of that policy using the policy forecasting techniques and to contribute to addressing ineffective mining policy problems through policy forecasting. One policy analysis that is suitable and applicable to overcome this situation is projection forecasting, namely extrapolative forecasting techniques, which based on the analysis of numerical data collected at several points in time and displayed chronologically. Hopefully, the testing of the forecasting policy implementation can solve similar mining problems that occur in mining areas in developing countries spread throughout the world.

Context of the Topic Under Discussion

The Policy Analysis as The Policy-Making Process

The condition of the world today is full of puzzles and tends to have complicated problems. Every problem can solve by the application of reason and human knowledge (Parson, 1995). The vast of

problem's scope and quantity will affect the solutions and abilities needed to solve them. Knowledge and facts gathering is needed to formulate the best solution (Camerer & Weber, 1992). Public problems require a different approach to solving the problem. Not only requires facts and data, but proof of truth done by conducting policy analysis. Policy analysis is an intellectual and practical activity aimed at creating, assessing and communicating knowledge in the policy-making process (Dunn, 1981). Policy analysis should be put by state and political policies, as part of policy-making activities (Parson, 1995). Policy analysis requires the use of various techniques to improve rationality in the policy-making process (Quade & Carter, 1989). Patton & Sawicki (1993) describe the policy formulation process in Figure 1.

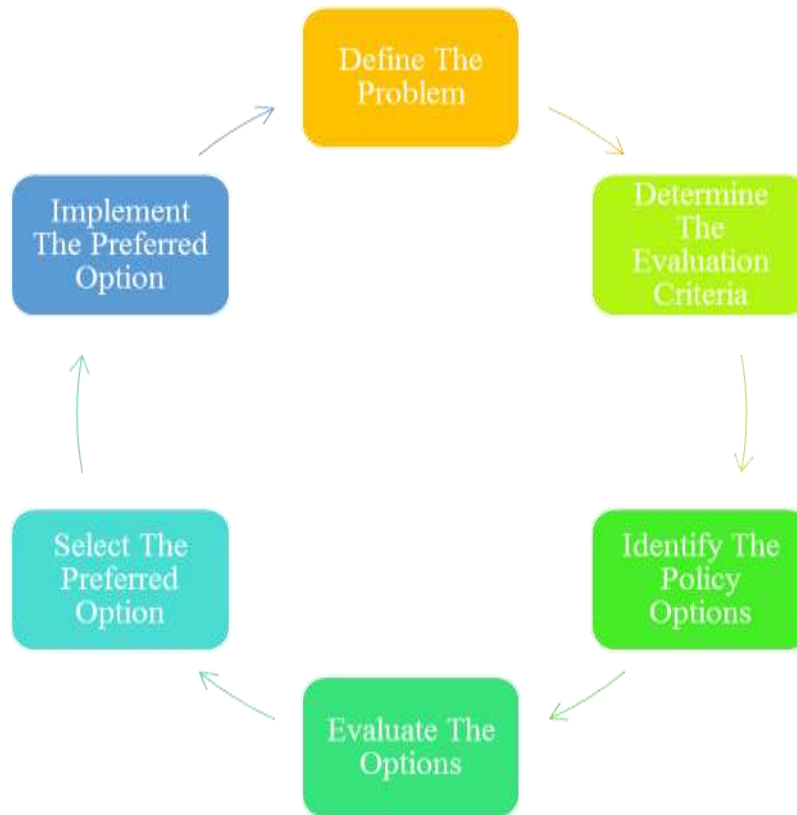


Figure 1. Simple Rational Model of Policy Formulation
Source: Patton & Sawicki (1993)

In various literature, policy analysis has a fairly limited reference. The word "policy analysis" is more synonymous with the word "design" which refers to several alternative solutions.

“The literature on policy analysis contains few references to design. The word “design” is notably missing in the index of prominent textbooks on policy analysis, use the term to refer to the design of alternative strategies or solutions as an important phase or activity in policy analysis.” (Thissen & Walker, 2013)

The importance of policy analysis in policy formulation can help policymakers make better choices (Parsons, 1995). Policy analysis needs to be done to avoid mistakes and failures of current and future policies. One method of choosing the most effective policy alternative is policy forecasting.

Projection Forecasting as a Technique and Method in Developing Selected Policy

Projection forecasting is a procedure for making factual information about future social situations based on existing information which is the impact of implementing a policy (Dunn, 1981). The projection forecasting is an activity to determine factual information about the future situation of information in the present (Subarsono, 2005). Projection forecasting has three main forms, namely projections, predictions, and estimates (Dunn, 1981). Miller (2002) describes projections, predictions, and estimates used in estimating three types of future social situations, namely potential future, plausible future, and normative future. The potential future called the alternative future while plausible future is a future situation of assumptions about the relationship between the environment and society, which is believed to take place if policymakers do not intervene to change the direction of an event. Conversely, a normative future is a potential and plausible future that is consistent with the concept of analysis of the needs, values, and opportunities that exist in the future. The rate for predicting policy implementation is very important for the success of policy analysis and improvement of policymaking itself (Dunn, 1981) because the determination and implementation of policies have an unavoidable impact on all citizens (Winarno, 2007).

Meanwhile, there are three approaches and techniques used in projection forecasting, namely extrusion, theoretical, and valuation forecasting (Dunn, 1981). Extrapolation / extrapolative forecasting leads to projections based on current and past data. This method based on time-series analysis, which is the analysis of numeric data collected at several time points that are displayed chronologically. Projection forecasting in policy recommendations should provide greater control over policy because of past policy understanding and its consequences (the past largely determines the future), in the sense that projection forecasting can create, shape and evaluate certain situations for the future to come (Dunn, 1981). Predictions that lead are not complete unless there is an evaluation of alternatives to the expected future (Dunn, 1981). As such an opinion, the development of projection forecasting is the determination of policy alternatives. The determination of the most superior policy alternatives based on several rational criteria and assumptions. The process of selecting policy alternatives requires careful attention so that policymakers do not get caught up in the choice of choice for certain groups of particular interests over political bias. The aspect of rationality and acceptability of an alternative is the main consideration in choosing alternatives, but on the other hand, various other aspects are ignored (Subarsono, 2005). Evaluators need to focus their attention on policy alternatives and emphasise the influence of policy administrators on the recipient of policies that will derail policies (Campbell, 1979).

Method

This study uses a mixed method / concurrent approach (Creswell, Plano Clark, Gutmann, & Hanson, 2003) with public policy analysis, namely the problem formulation technique of hierarchical analysis, a method for structuring problems based on possible causes of problem situations (Armstrong & Taylor, 2000). Then, researchers developed the results of previous analyses into the Projection Forecasting method with extrapolative forecasting techniques that allow an analyst to make projections by analysing numerical data collected at some point in time and displayed chronologically (Dunn, 1981). In closing, the choice that will recommend is develop by selecting several alternative policies using several criteria in the Franklin Method and Equivalent Alternative Method. Franklin Method is a method for selecting and comparing various alternatives by inventorying various positive reasons by looking at the consequences of each identified policy. Equivalent Alternative Method (Sugiyono, 2014), is the application of a scoring system to each policy alternative based on several criteria, namely Technical feasibility (Effectiveness and Adequacy), Economic and Financial (Economic efficiency and Cost-effectiveness), Political Risks (Acceptabilities, Responsiveness, Legal, and Equity), as well as Administration (Authority, Capability, Organizational support) (Patton & Sawicki, 1993).

The study locates in Buton District (the largest asphalt mine in Indonesia). Site selection base on the Regional Original Revenue from asphalt mining results which are only in the range of IDR 17 billion per year while the net revenue generated reaches IDR 115 billion per year. The level of poverty in the region also reached 67.29% (Buton District Government, 2017). Specifically, the samples used were Lawele sub-district and Bajo market district (Kabongka). Both regions choose because they are the largest asphalt-producing area in Buton District but with the second and third highest poverty rates in the district so that they are considered to represent the purpose of this study.

The focus of this research is an alternative policy of Buton asphalt mining management obtained through projection forecasting. Beginning with identifying alternative policies by structuring the problems obtained through hierarchical structures. The hierarchical structure obtains by studying the structure and character of the problems that exist from several past problems regarding the management of Buton asphalt mines. The hierarchical structure must be able to solve the mining problem issues that exist in Buton Regency and then analysed through Taylor's hierarchical techniques (Subarsono, 2005), so that brings the alternative options offered for adoption in the research area. Alternative criteria measure four important aspects, namely technical, economic & financial, political, and administrative. The data comes from the samples and informants. In confirming the preference for alternative policies, the population consists of actors in the Buton asphalt mining policy system, namely:

1. The Regent;
2. The Head of City of Clerk's Office of Buton District;
3. The Head of the Mineral Energy Office of Buton Regency and their staff;
4. The Southeast Sulawesi Mining and Energy Agency and their staff;
5. The Head of Category A Mining Division;
6. The Mining business group and asphalt mining processors located in 2 target areas;
7. The Head of Buton asphalt mining tax levy and their staff;
8. The Mining experts;
9. The Contractors;
10. CEO of PT. Sarana Karya (Persero) (A State-owned Enterprise that has a single license to manage Buton asphalt);
11. CEO of PT. Wijaya Karya (Persero) (A State-owned Enterprise which is engaged in civil construction and is one of the main consumers of Buton asphalt); and
12. The Community Leaders who live around the mine.

The sample took purposively and representative of the system based on the criteria of the actor's type. The power of the resources possessed by the actors influences the management policy of Buton asphalt mine. This study uses questionnaire instruments, reference interviews, and documents.

Discussion

The problems faced by the Buton District government related to the utilisation of Buton asphalt mining management optimally, as formulated in the Buton asphalt mine management policy, did not work effectively. The low Regional Original Revenue has implications for the level of welfare of the people in Buton District. Buton Regency, an area that has the greatest potential for natural asphalt mining in the world, has an estimated potential of 677 million tons of asphalt with a mining area of 70,000 hectares (Department of Energy and Mineral Mining, 2016). The Buton district has poor economic growth, namely the Original Local Revenue for Buton Asphalt mining is only IDR 6,354,605,250 - in 2012, IDR 8,146,549,567 - in 2013, and IDR 10,115,291,794 - in 2014 with the poverty rate is quite high 67.55% (in 2015) and rose to 68.07% (in 2016) (Buton District Government, 2017). The government is considered a failure and gives disappointment to the community for the problems that exist. Instrument policies

prepared by the central government such as the policy of the Minister of Public Works Regulation No. 35 of 2006 which regulates the use of Buton asphalt, plus an increase in their national demand for asphalt of 2.2 million tons per year, is the hope of the Buton Government to arrange the asphalt mining. The existing policies are not working properly. Law No. 23 concerning regional autonomy weakens the implementation of central government policies in the regions furthermore. The local government has no power in managing Buton asphalt mining. This issue has become a substantive problem which has caused the management of Buton asphalt mining to be not optimal. Hierarchically, the source of the problem describes as follows:

1. The weak effect arrangement of authority and institutions in related mining management.
 - a. There is no communication between provinces and districts related to the arrangement of exploration and exploitation activities, especially regarding the granting of mining business licenses;
 - b. The absence of a mining management agency in the district for Buton asphalt, including the procurement of human resources mine inspectors;
 - c. Establish partnerships with similar companies (build investment climate).
2. The inconsistency in the preparation of the Buton asphalt mining policy is related to the weak mapping of the utilisation of each type and the release of Buton asphalt mining area (social conflict);
 - a. Policies in the mining sector and across sectors that have the potential to overlap;
 - b. Domestic obligation policy by increasing a larger portion for domestic use optimally (distribution to districts for the use of state roads);
3. Policies that make Buton asphalt as a leading sector, especially the problem of marketing and infrastructure (smelters and the use of technology for the management of Buton asphalt) which are not yet available.

This weakness provides an opportunity for the government as a "decision maker" to make improvements by placing a position on the search to identify and select policy alternatives that apply in the management of Buton asphalt. Based on the structure of the problem, the management of Buton asphalt develops through the success structure of mining management policies by improving the management of Buton asphalt mines. For this reason, these steps described in the following diagram:

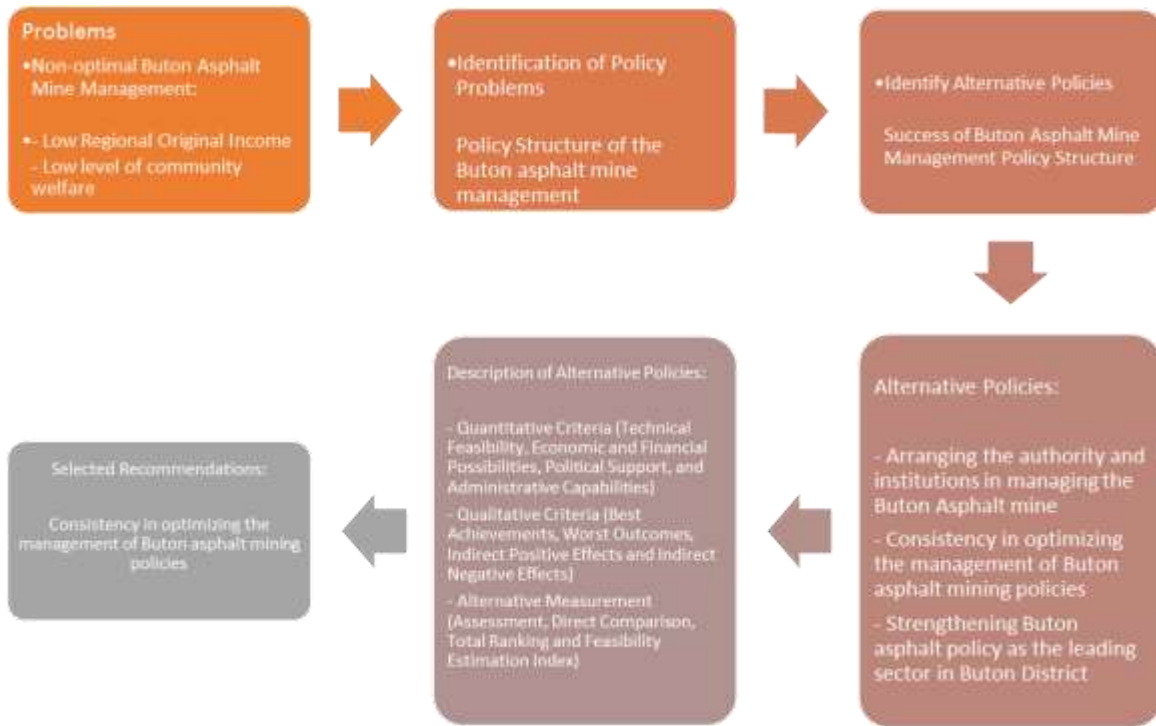


Figure 2. Diagram of Buton Asphalt Mine Management Projection Forecasting Policy

This success structure is intended to improve conditions in the next 10-20 years by maximising the impact of positive effects and minimising the negative effects of recommended policy alternatives.

• **Positive Impact and Policy Alternatives’ Requirement**

By the method described previously, the selection of policy alternatives in this study is the Franklin Method and the Equivalent Alternative Method. For the use of these two methods, a recapitulation of the impact assessment on 3 (three) alternatives to Buton asphalt management policy obtain as follows:

Table 1. Recapitulation of positive impact assessment and alternative prerequisites for the management policy of Buton asphalt as the main Original Local Revenue and community welfare improvement in Buton District (the Year 2017-2026)

No.	Alternative Policy	Policy Variables			
		Positive Impact	Cost	Probability of Success	Difficulty Level
1	Arranging the authority and institutions in managing the Buton Asphalt mine	Great	High	Fair	Intermediate
2	Consistency in optimising the management of Buton asphalt mining policies	Major	Low	High	Intermediate
3	Strengthening Buton asphalt policy as the leading sector in Buton District	Major	Fair	Fair	Intermediate

Source: Results of Primary and Secondary Data Analysis, 2023

The results of the ranking show that the consistency in optimising the policy formulation gets the highest score, followed by strengthening of Buton asphalt as the leading sector which considers having a fairly good/efficient probability, while the institutional arrangement for Buton asphalt mining management is considered to have a probability result that is not effective to be implemented. Furthermore, the ranking of economic and financial impacts and criteria on the two alternatives with the highest value has little in common. Consistency alternative has a greater probability of success with moderate technical difficulties, strategic geographical location, natural resource potential, ongoing mining business processing activities, and great expectations from the government and people of Buton District to develop. However, efforts to realise this policy need firm support and commitment from the central government to seriously utilise Buton asphalt as a national project. The use of Buton asphalt for a larger portion of national projects is considered representative.

• **Assessment of Selected Recommendation**

The final result of this research is a recommendation of one of the necessary policy alternatives by using Equivalent Alternative Methods. Criteria for assessment of the method, as conveyed by Patton, Sawicki & Clark (2015), include technical feasibility, economic and financial possibilities, political viability, and administrative feasibility that describe as following:

Table 2. Recapitulation of Consistency Policy Scores in the Preparation of Policy for Management of Buton Asphalt Mine in Buton District

No.	Criteria/Assessment	Alternatif Kebijakan		
		I	II	III
1	Technical			
	Effectiveness	3	4	3
	Sufficiency	3	3	3
2	Economic and Financial			
	Economic efficiency	2	3	3
	Cost effectiveness	2	3	3
3	Politic			
	Acceptability	3	4	3
	Responsiveness	2	4	3
	Legal	3	3	3
	Equity	2	3	3
4	Administrative			
	Authority	2	3	3
	Capability	2	3	2
	Organizational support	2	2	2
	Amount	26	35	31
	Mean	2,36	3,18	2,82

Source: Primary Data Analysis, 2023

Based on the results of the scoring, the ranking of alternative policy assessments is:

1. The first rank is an alternative policy to increase consistency in the formulation of policy for Buton asphalt mining management in Buton District with a total score of 35 from all criteria or having a weighting of 3.18 which means it is effective enough to be applied.

2. The second rank is an alternative policy for Buton asphalt policy strengthening as a leading sector in Buton District with a total score of 31 from all criteria or having a consideration of criteria 2.82 which means it is effective enough to be applied.
3. The third rank is an alternative policy to increase the authority and institutional arrangement for the management of Buton asphalt mining in Buton District with a total score of 26 from all criteria or having a consideration of criteria 2.36 which means that it is still effective enough to be applied.

Therefore, the best policy alternative to be recommended in the management of Buton asphalt mining in Buton Regency over the next ten years (2017-2026) is to increase consistency in the preparation of Buton asphalt mining management policies. The development will be a great opportunity to encourage the use of Buton asphalt through national and local projects, and as the guarantees for investors. However, the policy made is complex, and there is a development chain for the management of Buton asphalt mining. So actually, policy goals can only be achieved optimally by implementing synergistically or combining policy alternatives in the framework of developing Buton asphalt mining management.

• Analysis of Selected Policy Through Projected Forecasting

For the Buton asphalt mining management policy in Buton District to increase Regional Original Revenue and community welfare, it is necessary to strengthen analysis through projection forecasting to give birth to the best policy (Dunn, 1981). Based on the results of the analysts, there are three alternative policy proposals to improve Buton asphalt mining management, namely the policy of structuring authority and institutions (communication, establishment of institutions, and partnerships), consistency of policy making (social mapping and domestic obligation policy), and policy strengthening for Buton asphalt as a leading sector (technology, marketing distribution and infrastructure). Increased policy consistency through social mapping and strengthening of domestic bonds are selected alternatives to improve Buton asphalt mining management in Buton District. The management of Buton asphalt mining management policies is still not optimal, so the central and regional governments as policymakers have to provide optimum benefits for the community (Nugroho, 2015). The choice of rational methods of analysis and policy planning needs to be strengthened and become a study in the policy formulation process (Dye, 1976). Extrapolative projection forecasting (Dunn, 1981) and support for the selection of the best alternatives (Patton, Sawicki & Clark, 2015) becomes an important instrument in selecting the four policy alternatives and a solution to the problem of Buton asphalt mining.

• The Consistency of Policy Formulation as Selected Alternative

Based on the extrapolative projection forecasting method (Dunn, 1981), the results of the selected alternative policies were considered appropriate and effective, namely increasing consistency in the preparation of Buton asphalt mining management policies through improved social mapping and increasing the domestic obligation policy. The implementation is increasing a larger portion for national use, in the form of distribution to regions for the use of state roads). That result is considered the best policy and is considered more efficient to set. The importance of periodic consistency in the formulation of policies for managing Buton asphalt mining is very important. Sabatier & Mazmanian (1980) stated that the policy could be said to be wrong if the contents of the policy are not clear and inconsistent so the policy rules will give rise to distortions in policy implementation.

• Social Mapping

Social Mapping factually illustrates the occurrence of conflicts, disputes, and misunderstandings in land acquisition in Buton District, especially in several mining areas such as Lawele District. This conflict occurred because of the existence of the seizure of forest land that was deemed by the community

that was claimed unilaterally by one of the asphalt mining companies. This unilateral ownership is claimed to be legal and has legal provisions from the government with the issuance of a Mining Business License from the Buton District government. The land is claimed to be one of the residents as their family's property because it is a land that has been hereditary for their families which is legally valid in the state and customary law (Wita, 2016). This condition raises the potential for major conflicts to date and continues at the court. There has been no settlement of compensation suitable for community land. Identical to previous research by Lynd & Lynd (1937), that socio-economic conflicts in the district happen because of the dominance of government alignments with mining companies which have an impact on conditions of social instability and resistance of communities around the mine area. As stated by Kettner & McMurtry (1993) that the three main reasons why practitioners of social work need a systemic approach to social mapping are:

1. The person-in-environment is a community development practice;
2. Understanding of history, development of a society, and analysis of the status of the community;
3. Constant change in society.

The importance of problem mapping from this point of view requires social mapping as a method of exploring the potential of community resources through understanding cultural values and traditions that exist in the community. Understanding the traditional values inherent in the community in the area of the mine can help mining companies to commit to mutually maintaining existing cultural values. This condition certainly can provide benefits and benefits for all parties (community, government and mining companies). The lives of local people can usually change constantly; there are individuals or groups of people who want to move towards changes in power, structure, economy, funding sources, and the role of the population. Problem mapping can help in understanding and interpreting these changes (Rudito & Famiola, 2008).

• Domestic Obligation Policy

Strengthening the domestic obligation policy aims to regulate the use and distribution of Buton asphalt distribution evenly for the needs of national highways. Buton Asphalt has a significant amount of deposits to meet the needs of building and maintaining highways at 760 million tons. If it continues to the exploration stage, the reserves will run out in approximately 370 years, and even then if it is used 1.2-2 million tons to meet national needs where half of the value supplied to PT. Pertamina (Persero) and the rest exports to world oil-producing countries through Singapore. The problem of asphalt export-import becomes very crucial and sensitive considering PT. Pertamina (Persero) stated that in 2010 it could no longer produce oil asphalt. At present we have become importers of 100% oil asphalt from other countries. In a rough matter, the total import value of our asphalt reaches IDR 6 trillion per year. This value does not include other costs such as packaging costs, distribution costs and transportation costs. The next fact, the use of Buton asphalt has not received full support from the central government. The inconsistency of the central government in encouraging the distribution of Buton asphalt utilisation through Ministerial Regulation No. 11 of 2006 concerning the Use of Buton Asphalt in National Road Development, and then continued with the Minister of Public Works Regulation No. 35 of 2006 which proclaimed the use of Buton asphalt for massive domestic needs. This use and utilisation corroborate by the statement of the Head of the Clerk's Office of Buton District, namely:

"The transfer of Buton asphalt utilisation is intended to spur the use of local raw materials to save foreign exchange, encourage the use and research and development of Buton asphalt to become more advanced. Therefore, to explore and resolve import issues you should look at Buton asphalt which has sufficient domestic availability. "Head of Buton District Clerk's Office (2016, November 5). (Rahmawati, Interviewers)

This policy hopes to distribute Buton asphalt evenly in various regions in Indonesia. As the largest asphalt producer in the world, Buton asphalt is expected to distribute and use as a supplier of asphalt for national roads and surrounding areas. The government as a decision maker should fully understand the issue. The grand design of the 2025 energy policy clearly illustrates that the government must be able to manage energy, both regarding supply and demand. Supply-side policies are related to the provision of primary energy in the upstream (upstream), while the core policy of the side of the supply of energy demand comes down to consumers, including verified business, efficiency, and conservation.

Conclusion

The results showed that increasing the consistency of policy formulation of Buton asphalt mining management (3.18) was the most prominent alternative, had a high probability of success, and applied immediately. This choice is considered to have met the criteria of the assessment instrument used. Technical, economic, financial and administrative assessments are considered the best and most efficient. Judging from the positive impact and its consequences, this choice has a greater probability level because it can neutralize the problems of social conflict in the area of the mine, better control of supervision, the settlement of Buton asphalt export-import problems, the formation of contributions to the region and the country, the state savings, encourage economic growth and development at the central and regional levels, as well as guarantee the sustainability of Buton asphalt management independently. The consistency of policies through social mapping and the domestic obligation policy can provide a larger portion of the use of Buton asphalt in the country (Indonesia) optimally. Distribution to regions for the use of state roads is considered to be able to encourage the use of Buton asphalt nationally which has implications for sustainable economic growth.

The results of this study are expected to contribute to the completion of the failure of mining management policies, not only the problem of Buton asphalt in Indonesia, but also similar problems throughout the world. Although mining policy has been written and researched by some previous researchers (Kajimo-Shakantu, 2007; Bebbington, Hinojosa, Bebbington, Burneo & Warnaars, 2008; Bush, 2009; Nem Singh, 2010) concerning the failure of mining policies. However, this research contribution has a more recent, complete, and structured offer. The empirical evidence lies in the field, where there are three alternative offers with forecasting methods. On the other hand, there are new theoretical findings on assessment instruments from the alternative criteria used in this study. Socio-economic instruments that are considered to be used as a complement to assess alternative criteria used. The use of previous alternative criteria instruments by Patton, Sawicki & Clark (2015) consider incomplete because it is deemed not yet representative of the instruments offered. Socio-economic selection as an alternative criterion is considered to be able to complement the results of research on the management policy of Buton asphalt mining. Socio-economic criteria are considered necessary, with the consideration that socio-economic conditions are often seen as an instrument to resolve conflicts between various groups in society, as well as between the government and the private sector. One source of conflict in developed societies generally comes from economic activity. In the context of Buton asphalt mining policy in Indonesia, the offer of socio-economic instruments use as a compliment in completing existing policies. Cultural characteristics are very strong and rapid industrial growth can synergise harmoniously in overcoming the failure of current mining policies.

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