

Legal Protection of the Sustainability of Angus Stone as a Geopark Protected Area in Ternate City

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ABSTRACT

This research explores the sustainable legal control and protection of Angus Stone (Batu Angus) utilization in Ternate City. Angus Stone is a unique geological formation with significant historical, cultural, and scientific value, recognized as part of the Geopark Protected Area and categorized as a national strategic asset. The study aims to analyze the legal mechanisms governing its management, covering planning, implementation, supervision, and monitoring, within the framework of sustainable development. Employing an empirical legal research method, this study focuses on Ternate City through purposive sampling interviews, field observations, documentation, and review of relevant legislation, supported by secondary data from scholarly sources. The findings indicate that current management is regulated by national legal provisions but lacks systematic implementation aligned with sustainable principles. Drawing from Gustav Radbruch's theory of legal objectives, the research emphasizes the necessity for regulatory structures that are just, orderly, and transparent. These structures must prevent exploitative practices while respecting local wisdom and maximizing community benefits. The study recommends that a successful legal protection framework must incorporate sustainable planning, enforce management practices that align with sustainability standards, and ensure ongoing and effective supervision. Such a framework would not only preserve Angus Stone as a natural heritage but also contribute to the economic, social, and cultural development of Ternate City.

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INTRODUCTION

Land is a strategic asset and a fundamental resource that supports the life, development, and identity of a nation. In Indonesia, the importance of land ownership and management has been regulated through various regulations, especially in the Basic Agrarian Law (UUPA) which emphasizes the socio-economic function of land (Amale, 2017). As an archipelagic country with limited land resources, land management in Indonesia is often colored by conflicts between development interests, indigenous peoples' rights, and environmental conservation efforts. These conflicts become more complicated when a region has significant ecological and cultural values, requiring a legal approach that not only considers economic aspects, but also social and environmental values (Dzulhijjah, 2015).

Protected areas are one of the land areas that are determined to protect environmental sustainability, biodiversity, and natural heritage that have scientific, historical, and cultural values. The concept arises from global and national awareness of the importance of nature conservation to maintain the balance of the ecosystem and support sustainable development. In Indonesia, the regulation of protected areas is carried out through various legal instruments, including the Environmental Law and local regulations that regulate the management of natural resources with an environmentally friendly approach. Geoparks, as a type of protected area, focus on preserving geological values while encouraging the sustainable use of natural resources through education and development of geotourism-based tourism.

Angus stone is one of the important geological symbols in Ternate City, which has unique and strategic value as part of natural heritage. The formation process is related to the volcanic activity of Mount Gamalama, so that Batu Angus has distinctive geological characteristics and the potential to be used as an educational and ecotourism destination. In addition to its scientific value, Batu Angus also contains historical and cultural values that are closely related to the identity of the people of Ternate. Its existence not only serves as an object of geological research, but also as a symbol of local natural and cultural wealth that needs to be preserved. The recognition of Batu Angus as part of the geopark protected area emphasizes the importance of legal protection to maintain the integrity and sustainability of this site so that it is not affected by development or exploitation activities that are not environmentally friendly.

In North Maluku, especially in the sub-district of North Ternate city, there is a land of Lava Sedimentary Rocks that stretches widely from Tubo, Tabam, Sango to Kulaba Village, which the residents of Ternate Island refer to as "Angus Rock". This lava was formed due to the eruption of Mount Gamalama in 1737 which then formed angus rocks in Kulaba, also in 1763 formed angus rocks in Tubo Tugurara, and in 1907 formed angus rocks between the back of Sultan Babullah Airport to Tarau, North Ternate district. The distribution of Batu angus lava was exposed in North Ternate and West Ternate districts with a total area of 1,232 Ha (One Thousand Two Hundred and Thirty-Two Hectares) (Team, 2023).

The rocky land has been used for generations as a material mining area for building materials, both for its own use and for sale, even this former mining area has been encroached on to be used as a residential land and a place of business whose control has lasted for decades. It is often found that the interests of certain parties who seek to exercise physical control over state land even though it causes legal problems and gives birth to disputes with local residents, such as what happened in Sango Village, which involves village/sub-district level government officials. Land conflicts related to the issue of land control and ownership due to differences in perceptions, values or opinions, interests regarding the status of ownership of certain land that are not or have not been attached to rights (state land), or that have been attached to rights by certain parties.

In the practice of managing protected areas such as Batu Angus, there are still a number of problems related to the application of environmental law principles. One of them is the weak coordination between related institutions responsible for management, so that there is often an overlap of authority and policy. In addition, the application of the *precautionary principle* and state *responsibility* faces pressure from interested parties in the use of land for economic purposes (Qurbani Ilham Dwi, 2022). The inconsistency between laws and regulations and their implementation in the field causes the protection of Batu Angus not to run optimally. The

conflict of interest between environmental conservation and economic development requires a review of management strategies that are truly based on the principles of law and social justice. Therefore, a multidimensional approach involving legal studies, community participation, and strict supervision is needed to ensure that the management of geopark protected areas can be carried out effectively and sustainably.

Previous studies have explored the legal complexity of land use and environmental protection in Indonesia, especially in the context of customary land rights and protected areas. For instance, Yustitia and Afifah (2021) examined the legal framework surrounding the protection of natural heritage in Indonesia, highlighting the disconnect between statutory provisions and enforcement practices in ecologically sensitive regions. Similarly, Nurhidayat and Hadi (2019) investigated legal conflicts over state-controlled land use and underscored the role of overlapping authority and weak institutional coordination. Building upon these studies, the present research focuses specifically on Angus Stone (Batu Angus) as a geopark protected area with strong geological, historical, and socio-cultural value, located in Ternate City. The novelty of this study lies in its integrative approach to sustainable legal protection that evaluates not only statutory compliance and land use control, but also the practical implications of institutional coordination, community-based monitoring, and the implementation of Gustav Radbruch's legal values—justice, utility, and legal certainty—within the local context. This provides a more grounded and holistic legal framework for the sustainable management of geological heritage in Indonesia.

The objective of this study is to examine the legal mechanisms governing the control, utilization, and protection of Angus Stone in Ternate City, with an emphasis on sustainability. Specifically, this research investigates the planning, implementation, and supervision aspects of legal governance within the framework of environmental law and social justice. The benefits of this study include providing a legal model for protecting geopark heritage areas that balances ecological preservation, community involvement, and responsible tourism development. It also aims to strengthen policy recommendations for local governments and stakeholders to enhance institutional coordination and legal enforcement for the sustainable management of natural heritage.

RESEARCH METHODS

This research is included in the type of empirical legal research, with a juridical-empirical approach, namely looking at the suitability of substance in a regulation and its application in the field (Efendi Jhonny, 2016). The data collection method was carried out through interviews using the *purposive sampling* method, observation, documentation, and related laws and regulations as primary data. Furthermore, this research is supported by literature data including, books, scientific papers, news, and other sources that support the analysis in this study. The data analysis technique uses a descriptive-qualitative model, which is to look at the content of legal rules that are a reference in solving the problems that are the object of study (Ali, 2019).

RESULTS AND DISCUSSION

Mastery and Utilization of Batu Angus Geological Resources Around the Geopark Protected Area in Ternate City

Angus Rock is one of the geological sites that has significant historical, cultural, and scientific value in Ternate City. The location is within the protected area of the Geopark, which is designated to protect and preserve the geological heritage. This is a potential that essentially has several functions including social, economic, and cultural. Therefore, the development of the geopark area is a national strategic plan in the context of the management and utilization of natural resources for various aspects of life (Hutabarat, 2023). The management of geological resources in the area is normatively regulated by various related regulations, including the Basic Agrarian Law (UUPA) which emphasizes that all land and natural resources are national assets that must be managed for the welfare of the people. In addition, the Environmental Law also mandates environmental protection to support sustainable development.

Special regulations, such as Presidential Regulation Number 9 of 2019 concerning the Development of Earth Parks (Geoparks), provide a legal basis for the management of geopark areas, including the determination of boundaries, functions, and supervision mechanisms that must be implemented by the central and regional governments. Article 3 of the Presidential Regulation states that:

This Presidential Regulation aims to carry out Geopark Development Governance to realize the preservation of Geo heritage, *Biodiversity*, and *Cultural Diversity* which is carried out jointly between the Central Government, Regional Governments, and Stakeholders through 3 (three) pillars including conservation, education, and economic development efforts for the community Sustainable.

From the above objectives, it is clear that the management of Angus Rock as a geological heritage requires an integrated approach, starting from the utilization planning phase, continuing with operational management, and ending with continuous supervision. This is in accordance with the provisions of Article 5 of Presidential Decree No. 9 of 2019 which states that the development of Geoparks is carried out through the following stages: a) determination of Geological Heritage (*Geoheritage*); b) Geopark planning; c) determination of Geopark status; and d) Geopark management.

In the planning phase, it is important to conduct a comprehensive analysis involving various stakeholders, including central and local governments, research institutions, and local communities (Permana Hanang et al., 2020). This planning process must combine aspects of spatial planning, ecological values, and the economic and social potential that exists in Batu Angus, so that every utilization plan made not only focuses on economic growth, but also seeks to preserve geological heritage and environmental sustainability (Imelda, 2024).

Furthermore, in the management phase, the implementation of the plan must be carried out by implementing optimal management standards, which emphasize the use of technology and efficient conservation practices. Integrated management means that every activity, whether for educational tourism purposes, research, or other economic activities, must be carried out in accordance with the guidelines that have been set and in line with the principles of sustainable development. This approach ensures that the utilization of Angus Stone does not damage the

integrity of its geological structure and ecological function, but rather contributes to the improvement of community well-being without disturbing the balance of the ecosystem.

Structured and sustainable monitoring is an important aspect in maintaining the integrity of geological heritage management. The supervision process needs to involve a clear and participatory monitoring mechanism, so that any deviations or violations of the regulations that have been set can be detected and dealt with immediately. The involvement of law enforcement officials, supervisory agencies, and the active participation of local communities in the monitoring process will strengthen accountability and ensure that the management of Batu Angus is carried out in accordance with conservation and sustainable development goals. It is undeniable that the Batu Angus Geopark Area in the city of Ternate is included in the National Strategic Area as stipulated in Law Number 26 of 2007 concerning Spatial Planning, Article 4 which states:

"Spatial arrangement is classified based on the system, the main functions of the area, the administrative area, the activities of the area, and the strategic value of the area."

Although the regulation has provided a comprehensive legal framework, its implementation in the field often faces various obstacles. Coordination between institutions, such as the Ministry of Energy and Mineral Resources, the Ministry of Environment, and local governments, has experienced overlapping authority, resulting in policies not running synergistically. In addition, weak law enforcement, such as a lack of effective supervision and inadequate sanctions mechanisms for violations, also affects the success of the implementation of regulations (Lestari Ira, 2022). The technical regulation has been regulated in the Minister of Energy and Mineral Resources Regulation No. 31 of 2021 concerning the Determination of Earth Parks (National Geoparks).

The management of Batu Angus in Ternate City still faces various significant challenges because its implementation has not been well organized. Currently, coordination between various government agencies, both at the central and regional levels, as well as the role of other related parties such as the community, research institutes has not reached the optimal level, which results in ineffective management of the area, including: 1) facilities and infrastructure factors; 2) Human Resources factor; and 3) coordination between sectors (Damiasih Nurul Jannah, 2024). These irregularities have implications for inconsistent spatial arrangements, where spatial aspects and ecological dimensions are not fully considered in policy planning and implementation. This causes the boundaries of areas, conservation zones, and utilization activities that should be based on ecological considerations and environmental sustainability to be distorted by the urgent interests of economic development (Cahyani, 2020). In addition, the lack of systematic monitoring and evaluation mechanisms exacerbates the situation, thereby increasing the risk of ecosystem damage and land-use conflicts (Sumardjono, 2008).

There is a need for comprehensive spatial reform, by integrating ecological dimensions in every management policy, so that the management of Batu Angus can take place sustainably and support the balance between environmental conservation and sustainable development. Local community participation in decision-making is often not optimal, even though their involvement is critical to ensure that policies are in line with local conditions and needs and can prevent exploitative practices that harm the environment.

From the perspective of utilizing Batu Angus geological resources, the integration of human rights aspects is very important. Economically, the development of the geopark area

that includes Batu Angus has the potential to improve the local economy through the development of educational tourism and research, which in turn can create jobs and increase people's income (Ikbal, 2015). However, this economic growth must be in line with the principle of sustainable development, where every economic activity must consider environmental sustainability. Socially, people living around the geopark area have the right to be involved in the management and utilization of natural resources, so that the benefits produced can be distributed fairly and maintain the cultural identity and historical heritage in Batu Angus (Hartanto Dista Amelia et al., 2022). Community involvement is also very important to avoid conflicts of interest between the private sector, the government, and the community that often arise due to non-inclusive resource management policies.

In the environmental aspect, every effort to utilize geological resources must be based on the principles of prudence and sustainability. Protected areas such as Geopark in Ternate are set to preserve geological, biological, and cultural diversity, so the management of Batu Angus must pay attention to the limits of the carrying capacity of the ecosystem and prevent environmental damage that can disturb the balance of nature and negatively impact the condition of the surrounding area. A holistic and integrated management approach between economic, social, and environmental aspects is expected to create an effective protected area management model, where development and conservation can go hand in hand without harming each other.

The control and utilization of Batu Angus geological resources in the Ternate City Geopark Protected Area based on several regulations shows that the Batu Angus Geopark Area is included in the National Strategic Area, namely Geological Heritage (Geoheritage) which has value because it refers to the existing definition, the area and resources are classified as areas with elements of Biodiversity (*Biodiversity*), and Cultural *Diversity* which has many benefits. By paying attention to these various aspects, the control and management of angus stones in the Ternate City Geopark Area must be in accordance with the provisions of laws and regulations related to Land, Spatial Planning, Environment, and special regulations related to the protection of geological areas.

Legal Protection for the Sustainability of Angus Stone Around the Geopark Protected Area in Ternate City

In the context of the theory of legal objectives proposed by Gustav Radburch, legal protection efforts for the preservation of Angus Stone need to be focused on the value of legal certainty as one of the main goals of law. This aims to ensure that existing regulations can be enforced clearly, consistently, and predictably by all parties involved. Radburch argued that the ideal law must meet three fundamental values, namely justice, utility, and legal certainty (Leawoods, 2000). In a situation where the three values are in conflict, the concept of justice must be the first priority, followed by utility, and finally legal certainty. In this context, legal certainty shows that the concept related to the norms governing the management of Batu Angus must be systematically arranged, clearly written, and unambiguous, so that the community and stakeholders have a uniform understanding of their rights and obligations.

In practical terms, the regulations governing the management of Batu Angus—which is part of the Geopark protected area in Ternate City—must be designed in such a way that it contains a high level of legal certainty. So in terms of management, utilization, and protection

of Angus Stone, it can be done based on clear and measurable guidelines to achieve proportionality both in terms of certainty, justice, and utility. This legal certainty will prevent overlapping authorities or differences in interpretation, as well as provide consistent protection for the environment and the surrounding community.

Context analysis using the theory of purpose, it can be clearly seen how the purpose of the implementation of regulations on the management of Batu Angus should not cause a conflict between the principle of legal certainty and the values of justice and utility. Regulations should ideally be able to ensure that every legal provision is not only formal and written, but also reflects the essence of justice that can accommodate people's aspirations and provide real benefits for the welfare of the people. For example, regulations regarding the use of geological resources in Batu Angus must ensure that economic activities such as tourism or research do not harm environmental sustainability, so that the sustainability of nature can be maintained without sacrificing local economic growth.

However, if there is a discrepancy between management regulations and the principle of legal objectives, especially in terms of legal certainty, this can lead to ambiguity in the application of the rules which ultimately undermines the function of legal protection itself. If existing regulations are frequently changed or have a wide scope for interpretation, legal certainty – which is a fundamental element in ensuring the protection of rights and obligations – will be threatened, and the public will not get certainty about legal actions related to the management of Batu Angus. In such a situation, the law can be considered "dull" or even become a source of unwanted conflict, it is a function of the law as a means of controlling society (Fuady, 2013).

Therefore, in an ideal context, the harmony between Batu Angus management regulations and the principle of legal objectives needs to be realized through the development of regulations that are integrative, consistent, and transparent. This underlines the principle of legal certainty without overriding the values of justice and the usefulness of the application of the law itself. In this case, it is necessary to synergize a law that is built based on a system, as described by Lawrence Friedman into three, namely: 1) Legal Substance; 2) Legal Structure; and Legal Culture (Friedman, 2013). The three aspects include regulations or legal content, facilities and apparatus as legal structures and legal culture in society related to how rules must be applied. In this way, legal protection for the preservation of Batu Angus will be more effective, in line with the legal goal of not only focusing on the creation of rules, but also on the realization of justice and welfare for the entire community.

CONCLUSION

The conclusion of this study shows that although a national regulatory framework for the management and protection of Angus Stone already exists, its implementation in the field is still not coordinated and systematic. There is an overlap of authority among government agencies, as well as law enforcement mechanisms that have not been optimally implemented, which leads to uncertainty in spatial planning and management of ecological aspects of the region. This results in the use of geological resources that are often not in line with the principles of sustainability and environmental protection, thus potentially damaging the historical, cultural, and scientific value of Batu Angus. In the context of the theory of legal objectives put forward by Gustav Radburch, legal certainty is one of the fundamental pillars

that must be upheld in every policy. Ideal regulations must not only be formal and well-structured, but also reflect justice and provide benefits to society. The management of Batu Angus as a geological heritage needs to be designed integratively starting from the planning, implementation, to supervision stages by paying attention to the active participation of the community and synchronization between government agencies. This step will ensure that every policy implemented not only provides legal certainty, but also accommodates the needs of conservation and environmentally sound economic and social development.

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