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Implementation Of The Policy On Unlicensed Gold Mining (Peti) Against Environmental Damage In Paguyaman District, Boalemo Regency

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ABSTRACT

This study aims to analyze the implementation of Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining in controlling Unlicensed Gold Mining (PETI) activities in Paguyaman District and identify factors that hinder its implementation. This study uses a descriptive approach with case studies and qualitative research types. The research was carried out in Paguyaman District, Boalemo Regency, Gorontalo Province, from January 23 to February 23, 2026. Data was obtained through in-depth interviews, field observations, and documentation studies involving local government officials, law enforcement officials, community leaders, and communities involved or affected by PETI. Data analysis was carried out thematically and narratively through the stages of data reduction, data presentation, conclusion drawn, and verification by triangulation of sources. The results of the study show that the implementation of Regional Regulation No. 5 of 2014 has not been carried out effectively. Based on the theory of Van Meter and Van Horn, weaknesses were found in the clarity of operational objectives, limited resources, unstructured inter-organizational communication, fragmentation of the authority of implementing agencies, attitudes of officials who tend to be ambivalent, and social, economic, and political conditions that are not conducive. Meanwhile, Daniel W. Bromley's institutional perspective shows that the weak rules of the game, the unavailability of People's Mining Areas (WPR), inconsistent enforcement of sanctions, and the strong informal norms of the community regarding mining rights are the main factors that maintain PETI activities. Therefore, PETI control in Paguyaman District requires strengthening institutions and resources, more integrated inter-agency coordination, consistent law enforcement, land conflict resolution, and providing alternative livelihoods and legal people's mining locations.

INTRODUCTION

Indonesia is one of the countries that is blessed with extraordinary natural resource wealth, especially in the mineral and coal mining sector. Various strategic commodities such as gold, nickel, copper, coal, tin, and bauxite are spread throughout the archipelago and make Indonesia one of the largest mineral producers in the world. The mining sector has made a significant contribution to the national economy, including the country's foreign exchange income, Non-Tax State Revenue (PNBP), Regional Original Revenue (PAD), and the absorption of a large number of workers (Marleno & Rumihin, 2026). In the context of regional economic development, local governments in various regions of Indonesia have made the mining sector one of the mainstays in encouraging local economic growth and improving people's welfare.

However, behind the great economic potential offered, the mining sector holds a paradox that cannot be ignored. (Prasetyo et al., 2025) in their comprehensive study, they emphasized that the exploitation of mineral resources through mining activities in Indonesia provides significant economic benefits, but at the same time causes various negative impacts on the environment and the socio-economic life of local communities. Common environmental damage includes deforestation, soil erosion, water, soil, and air pollution, as well as a decline in biodiversity. Nur Efendi et al. (2023) emphasized that illegal gold mining activities globally have a significant impact not only on the preservation of environmental ecosystems, but also on the livelihoods of people living around mining, including the risk of accidents, and the spread of diseases caused by soil and water pollution with harmful chemicals. This condition shows how important it is to have good, responsible, and environmentally sustainable mining governance.

More specifically, the impact of environmental damage due to mining is multidimensional and depends on the type of commodity and mining method used. In sand mining, for example, excavation activities on mountain slopes or hills have been proven to cause soil erosion, landslides, decreased spring discharge, and damage to the surrounding community's agricultural land (Prasetyo et al., 2025) In coal mining with the open pit mining method, the impacts tend to be wider and heavier, including drastic changes in landscapes, surface water and groundwater pollution, and air pollution due to dust and gas emissions from heavy equipment operations. As for small-scale or small-scale gold mining, the greatest threat comes from the use of mercury in the gold ore processing process, which results in serious soil and water pollution, and even has the potential to contaminate the food chain and cause long-term health problems in humans, including damage to the nervous system known as minamata disease (Prasetyo et al., 2025). Nur Efendi et al. (2023) noted that illegal gold mining activities globally are estimated to release an average of 727 tons of mercury per year into the environment, a figure that is of serious concern to the international community.

Among the various problems in mining governance in Indonesia, unlicensed mining (PETI) or also known as illegal mining is one of the most crucial issues faced. Ahmad, Laliyo, and Mangga (2024) define unlicensed gold mining as mining activities carried out by certain individuals or groups without obtaining official permission from the government as the holder of state power over mining materials. Nur Efendi et al. (2023) group the driving factors for the presence of PETI into three dimensions, namely social factors such as mining activities that have been carried out for generations by local communities; legal factors such as public ignorance of applicable laws and regulations in the mining sector and weaknesses in law enforcement and supervision; as well as economic factors such as limited employment, poverty, and prolonged economic crises. The existence of PETI not only harms the state in terms of tax revenues and uncollected royalties, but also causes severe environmental damage, causes social conflicts, and endangers public health around the mine site (Marleno & Rumihin, 2026).

The Indonesian government has actually built a fairly comprehensive legal framework to regulate the mining sector and tackle the practice of PETI. Marleno and Rumihin (2026) explained that the legal basis for natural resource management and mining in Indonesia is based on Article 33 Paragraph (3) of the 1945 Constitution which emphasizes that the earth, water, and natural resources contained in it are controlled by the state to be used as much as possible for the prosperity of the people. As an implementation, the state regulates mining management through Law Number 4 of 2009 concerning Mineral and Coal Mining (Mineral and Coal Law) which was later updated with (Law Number 3 of 2020 concerning Amendments to Law Number 4 of 2009 concerning Mineral and Coal Mining, 2020). In Article 158 of the Mineral and Mineral Law, it is expressly stated that every person who conducts mining without a permit can be subject to criminal sanctions of imprisonment for a maximum of five years and a maximum fine of one hundred billion rupiah. In addition, (Law Number 32 of 2009 concerning Environmental Protection and Management, 2009) concerning Environmental Protection and Management (PPLH Law) also regulates the prohibition of activities that have the potential to pollute or damage the environment without a valid permit, with the threat of administrative and criminal sanctions for violators.

From a socio-economic perspective, the existence of PETI is actually a complex and ambivalent phenomenon. On the one hand, Ahmad et al. (2024) identified that mining activities can provide more value to the communities around the mine, including through job creation, increasing local community income, improving infrastructure, and contributing to regional revenue. Nur Efendi et al. (2023) noted that globally, an estimated 100 million people consisting of miners, family members, and communities depend on illegal gold mining as a source of livelihood, a fact that shows how deep the socio-economic roots of this phenomenon are. However, on the other

hand, the negative value caused by PETI is much greater and long-term, including noise disturbance due to mining equipment, pollution of soil and well water quality, increased occupational health and safety risks for miners, and reduced community social participation in village activities (Ahmad et al., 2024). (Prasetyo et al., 2025) added that socio-economically, uncontrolled mining increases social conflicts, health problems, and changes in the livelihoods of residents who previously depended on the agriculture, plantation, and fisheries sectors. Nur Efendi et al. (2023) also found a social impact that often goes unnoticed, namely the increase in the number of students who drop out of school because they prefer to work as gold miners, which has an impact on the low level of education of the community around the mine in the long term.

Especially in the context of unlicensed gold mining, the most serious environmental threat comes from the use of mercury in the gold ore processing process. Ahmad et al. (2024) in their study of the case study of the pollution of the Tulabolo River in Bone Bolango Regency, Gorontalo, revealed that river pollution due to PETI has resulted in river water being contaminated so that it is not suitable for use, the number of fish is decreasing, and a number of residents complain of health problems. Mercury entering the river is a long-term threat because it can accumulate in the food chain and ultimately endanger human health. (Prasetyo et al., 2025) strengthens this finding by explaining that mercury waste produced from the gold processing process by smallholder miners is directly exposed to the environment without adequate security systems, thus contaminating the soil and wells of residents. (Yurdaningsih et al., 2025) also found that the environmental impact of illegal gold mining in Kuantan Singingi Regency is quite significant, especially related to river water pollution and land degradation due to the use of harmful chemicals such as mercury and cyanide in the gold extraction process.

The problem of unlicensed mining described above also occurs in Boalemo Regency, especially in Paguyaman District, Gorontalo Province. This area is one of the locations that faces a serious PETI problem, with illegal mining activities that are growing rapidly in a number of villages such as Saripi and Batu Keramat, although all these activities take place outside the official licensing system of the local government. The use of traditional methods and the dominance of wallet machines have also accelerated the growth of PETI because it is considered to be able to provide instant income for the community. The massive PETI activity in Paguyaman District has caused significant and alarming environmental impacts. Referring to the findings (Prasetyo et al., 2025) and Nur Efendi et al. (2023) regarding the general pattern of environmental damage due to mining in Indonesia, similar conditions can be identified in Paguyaman, which include landscape changes due to massive excavation, land degradation, soil and water source pollution, and damage to local vegetation due to mining activities that do not follow technical rules. Excavated pits are generally left without a reclamation process, exacerbating soil damage and hindering the natural restoration of ecosystems. Rivers around PETI sites often experience turbidity due to sediment runoff, while the use of hazardous chemicals in gold processing has the potential to permanently pollute water and soil. This condition is directly contrary to the provisions in the Regency Regional Regulation (Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining, 2014) concerning the Management of Mineral and Coal Mining which requires mining actors to maintain environmental sustainability.

As an effort to control the rampant PETI in its area, (Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining, 2014) This Regional Regulation regulates various aspects of mining management, ranging from licensing mechanisms, supervision, obligations of business actors, to sanctions provisions for violators. The Regional Regulation is designed as a legal instrument to create orderly, legal, and sustainable mining governance at the district level, as mandated by the Mineral and Mineral Law and the PPLH Law at the national level. However, in practice, the existence of these regulations has not been fully able to suppress PETI activities in the field. (Nugraha et al., 2025) reminded that regional regulations that are not in line with national policies can actually create a vacuum of norms that weaken the effectiveness of law enforcement, a condition that is very likely to occur in Boalemo Regency if there is no clear coordination mechanism between the local government and the central government in the supervision of people's mining. This condition is also in line with the findings of Marleno and Rumihin (2026) who concluded that although the existing mining regulations are quite strict, their implementation still encounters various obstacles, especially regarding the weak supervisory capacity of the apparatus at the local level, low public legal awareness, and lack of coordination between local government agencies.

Law enforcement efforts against PETI in Paguyaman District that have been carried out, including through joint control operations, have not shown sustainable results. The fact that some PETI sites are back in operation in a relatively short time after the dismantling of equipment indicates that a repressive approach alone is not enough to solve the root of the problem. (Yurdaningsih et al., 2025) recommends that PETI countermeasures should be carried out through a multidimensional approach that includes stricter law enforcement, alternative economic programs for communities that have been dependent on illegal mining, and intensive education on the impact of PETI on the environment and health. (Prasetyo et al., 2025) emphasized that handling environmental damage due to mining requires an integrated approach, including law enforcement against illegal activities, the implementation of reclamation and rehabilitation, the application of impact mitigation technology, and the active involvement of local communities in environmental management. Ahmad et al. (2024) similarly recommend the need for increased supervision, local community empowerment, and the implementation of more firm and integrated policies to

overcome illegal mining practices that are still rampant in Indonesia.

One of the biggest challenges in controlling PETI in Paguyaman District is the socio-economic dimension behind community involvement in these activities. Most of the PETI actors come from community groups that have no other job options, so illegal mining is a main source of livelihood that is difficult to abandon even though the legal and environmental risks are very large. Ahmad et al. (2024) note that illegal mining activities have broad legal and security implications, but on the other hand they also play a role as informal employment providers for vulnerable community groups. Nur Efendi et al. (2023) added that economic and political interests play a very large role in unlicensed gold mining activities, where there are parties who profit from illegal gold mining, ranging from miners, financiers, to officials who provide protection to PETI perpetrators. This creates a complex policy dilemma: on the one hand, the government is obliged to enforce the law and protect the environment, but on the other hand, it must also consider the economic needs of the communities involved. Without comprehensive socio-economic empowerment programs and the provision of viable livelihood alternatives, law enforcement against PETI will continue to face public resistance that undermines the effectiveness of policies.

Based on the description above, it can be concluded that the problem of unlicensed mining in Paguyaman District is a complex, multidimensional, and urgent problem that needs to be studied scientifically. On the one hand, PETI activities continue to grow because they are driven by the economic needs of the community, weak government supervision, limited livelihood alternatives, and regulatory disharmony between the central and regional governments as identified by (Nugraha et al., 2025). On the other hand, the environmental damage caused by it is increasingly massive and threatens the sustainability of the local ecosystem and the health of the surrounding community. The regulations that have been available, both at the national and regional levels, have not shown optimal effectiveness in controlling the practice of PETI. Therefore, this research is important to be carried out to evaluate the extent to which the Regency Regional Regulation (Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining, 2014) is effectively implemented in limiting unlicensed mining and protecting the environment in Paguyaman District, as well as identifying factors that hinder the implementation of these policies and formulating recommendations that are applicable to policy makers. The findings of this research are expected to make a meaningful scientific contribution to the development of mining policy implementation studies in the regions, as well as become input material for local governments in strengthening legal instruments and strategies for implementing PETI control that are more effective, humanistic, and sustainable.

RESEARCH METHODS

This research was carried out in Paguyaman District, Boalemo Regency, Gorontalo Province, with a research period of January 23 to February 23, 2026. The location was chosen because the area is still facing the problem of Unauthorized Gold Mining (PETI) which has an impact on the environment and social life of the community. The research uses a descriptive approach with case studies and qualitative research types. This approach is used to systematically and in-depth describe the implementation of Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining, including the role of government officials, community responses, socio-economic conditions, and factors that affect the effectiveness of the PETI policy.

The research data sources consist of primary data and secondary data. Primary data was obtained through direct interaction with informants including local government officials, law enforcement officials, community leaders, and residents involved in or affected by PETI activities. Meanwhile, secondary data was obtained from laws and regulations, especially Boalemo Regency Regulation Number 5 of 2014, government documents, agency archives, journals, books, and previous research results. Data collection techniques were carried out through in-depth interviews, field observations, and documentation studies to obtain information on policy implementation, environmental conditions, PETI activities, and community responses.

Data analysis was carried out qualitatively using thematic and narrative analysis. Data was analyzed through the stages of data reduction, presentation of data in the form of narrative descriptions, matrices, or thematic tables, then drawing conclusions and verification. The analysis focused on the effectiveness of policy implementation, the role of government officials, community response, and the impact of PETI on the environment. The findings of the research were then associated with the policy implementation theory of Van Meter and Van Horn (1975) and the institutional theory of Daniel W. Bromley, then verified through triangulation of sources to ensure the validity of the data and produce a comprehensive understanding of the implementation of the PETI policy in Paguyaman District.

HAS AND DISCUSSION

Policy Implementation Analysis Based on Van Meter and Van Horn Theory

Clarity of Policy Objectives

The indicator of clarity of policy objectives is related to the extent to which the objectives, objectives, and standards of policy implementation are clearly understood by the implementers in the field. Based on the results of interviews with all resource persons, it was found that the existence of the Boalemo Regency Regulation Number

5 of 2014 has been known by government officials and the community, but its understanding and operationalization in the field is very varied and not uniform.

The Head of the Environment Division of DLH (H) stated that his task in the context of PETI is to monitor and issue appeals, while referring to the licensing authority to the Provincial Mining Office:

"The role of the current Environmental Agency in handling it is to monitor the environment in the field. Then the activity is in the form of giving an appeal to the person in charge of the miner to coordinate with the permitting agency, in this case the Provincial Mining Office." (H, Head of DLH Boalemo Division)

The Secretary of the Paguyaman Sub-district (JW) stated that the socialization of Regional Regulation No. 5 of 2014 has been carried out repeatedly to the community in Saripi and Batu Kramat Villages, but acknowledged that until now there has been no determination of official mining locations that are part of the implementation of the regional regulation:

"Even though the Regional Regulation already exists, the official location that is allowed for mining activities is not clear until now. So far, the community has only been active in areas owned by Rajawali." (JW, Secretary of Paguyaman Sub-district)

The Head of Saripi Village (SP) and the Head of Batu Kramat Village (NA) both confirmed that the socialization of the regional regulation had been carried out through the Forkopimda forum and village meetings. All community resource persons (IN, RM, JA, JK, DP) stated that they were aware of the PETI ban from the village and sub-district governments, but continued to do mining due to the pressure of economic needs.

Van Meter and Van Horn assert that clarity of policy objectives includes two main components: clarity of substance (what it seeks to achieve) and operational clarity (how to achieve it). Policies that have substantively clear objectives but lack concrete operational guidance will result in differences in interpretation among implementers. In an ideal standard of implementation, a policy should provide measurable standards, including permitted locations, sanction mechanisms, and publicly accessible licensing procedures.

The results of the interviews show that Regional Regulation No. 5 of 2014 has weaknesses in the aspect of operational clarity. Although the regional regulation substantively prohibits PETI and regulates the licensing mechanism, there is no operational guide that provides a community mining location that can be used legally. As a result, each implementing agency interprets its duties differently: DLH interprets itself only as an environmental supervisor, the sub-district as a socializer, and the village government as a social facilitator. None of the three explicitly carry out the function of law enforcement.

The most critical operational gap is the unavailability of an official People's Mining Area (WPR). This unavailability creates a condition where legal prohibitions cannot be combined with legal alternatives, so that the community has no other choice but to continue PETI. The socialization that has been carried out has also become ineffective because it is not accompanied by concrete solutions that can be accessed by the public.

This condition is in accordance with the proposition of Van Meter and Van Horn that the lack of clarity of policy operational standards will give birth to wide discretion of implementers, so that policy implementation becomes non-uniform. When implementers have the freedom to interpret their respective tasks without standard guidance, policy implementation tends to be fragmentary and does not produce the expected behavioral changes. In the context of PETI in Paguyaman, this fragmentation of interpretation is the main factor that causes local regulations to be ineffective in the field.

The indicator of clarity of policy objectives in the implementation of Regional Regulation No. 5 of 2014 has not been adequately met. The existence of the Regional Regulation has been known, but it does not have clear operational guidelines, especially related to official mining locations as a legal alternative for the community. This condition causes the implementation to run partially and does not result in effective PETI control.

Resource Availability

Aspects of resource availability include human resources (HR), budget, infrastructure, and the legitimacy of legal authority owned by the implementing institution. The Head of the Environment Division of DLH (H) explicitly acknowledged the limitations experienced by his institution:

"For now, the Boalemo Environment has not had adequate resources, both from the level of supervisors and environmental investigators. We are only limited to carrying out duties in the field of law enforcement by monitoring the level of use of tools, which can be used for management and which ones cannot." (H, Head of DLH Boalemo Division)

DLH also admitted that it was unable to identify financiers or mine managers who could be directed to the licensing process, because it did not have adequate investigative capacity. From the sub-district side, the Secretary of the Sub-district (JW) explained that the control of heavy equipment that had been carried out was entirely dependent on the Police and Police, not the sub-district's independent initiative. In addition, JW revealed that the central government's budget efficiency policy has reduced village funds from around one billion rupiah to around three hundred million rupiah, which has had an impact on reducing village development activities and job losses for local workers, thus encouraging more people to enter the PETI sector.

Van Meter and Van Horn explained that resources are one of the most decisive factors in policy implementation. The resources in question include competent and adequate implementing personnel, financial

support that meets operational needs, facilities and infrastructure needed for supervision and enforcement, and legal authority or authority to take action. Without these four components, policies will remain at a normative level with no real impact on the ground.

The findings of the study show a resource deficit that occurs simultaneously in all components. DLH does not have adequate environmental investigators, so it cannot carry out law enforcement independently.

The absence of these investigators is not only an administrative shortcoming, but also causes the absence of actors who are legally authorized to process violations of local regulations into real legal actions. Districts do not have their own control budgets and must rely on law enforcement institutions (Polres/Polsek) that have different task priorities. Village governments, with a dwindling budget due to national efficiency policies, are even under pressure from two directions: weakening control capacity and increasing economic needs of the community that must be addressed.

This condition creates an implementation deficit, which is a real distance between what should be done according to the local regulation and what is factually capable of being done by the available apparatus. This deficit then becomes an empty space filled by PETI activities without significant obstacles.

Van Meter and Van Horn unequivocally state that insufficient resources are the most direct and perceived obstacles to implementation. In the case of Paguyaman, no single implementing agency has a complete combination of trained human resources, sufficient budget, and full legal authority to implement the regional regulation comprehensively. This is entirely consistent with the theoretical prediction that policies without adequate resource support will not succeed in changing the behavior of policy targets.

Indicators of the availability of resources in the implementation of Regional Regulation No. 5 of 2014 are in very inadequate conditions. The absence of environmental investigators, the dependence on the police, and the reduction of the village budget together result in an implementation deficit that causes the regional regulation to be unable to be effectively operationalized in the field.

Interorganizational Communication

Communication and coordination between organizations is related to how information, instructions, and responsibilities are communicated among all institutions involved in policy implementation. The Head of DLH (H) stated that coordination is carried out with Muspika for the purposes of data collection and control:

"For data collection, we often coordinate with Muspika (the sub-district), both the Sub-district Head, the Police, and the village government. This data collection includes mining communities, both immigrants and locals, as well as what tools are used in mining." (H, Head of DLH Boalemo)

The Secretary of the Sub-district Head (JW) confirmed that coordination with the Regent and Forkopimda has been carried out through several meetings to discuss mining issues. However, coordination with the central government for the determination of the location of people's mining has not yet resulted in clarity. The two village heads gave contrasting views on coordination with DLH. The Head of Saripi Village (SP) stated:

"For now, the relationship between the sub-district and the environmental agency does not exist so far, but the sub-district knows about the existing mining." (SP, Head of Sarapi Village)

Meanwhile, the Head of Batu Kramat Village (NA) gave a different picture, that the village usually monitors and reports PETI activities to the sub-district which is then forwarded to the relevant agencies, and DLH goes to the field if there is a serious report.

Van Meter and Van Horn emphasize that effective communication between organizations requires three things: the transmission of accurate information from policymakers to implementers, the consistency of the messages received by all parties involved, and clarity regarding the division of roles and responsibilities of each institution. When any of these three conditions are not met, coordination will be fragmented and result in inconsistent field responses.

A comparison of information between the Head of Saripi Village and the Head of Batu Kramat Village revealed significant inconsistencies in the coordination pattern. Saripi Village felt that there was almost no coordination with DLH, while Batu Kramat Village felt that coordination was quite running through the reporting mechanism.

This inconsistency indicates that the existing coordination is ad hoc and reactive, not structured and proactive. DLH coordinates based on incoming reports, not based on routine monitoring schedules that involve all villages equally.

Vertical coordination between the local and central governments also shows serious weaknesses. The Regent has confirmed the determination of people's mining land to the central government several times, but has not obtained clarity. This condition shows that the communication chain between the regional and central levels is not running productively, so crucial decisions needed to complete the implementation of local regulations continue to be delayed.

These findings fully confirm Van Meter and Van Horn's proposition that inconsistent communication between organizations will result in inconsistencies in policy implementation on the ground. When implementing agencies do not have a uniform understanding of coordination flows and role divisions, each will act on its own perceptions. The result is an uncoordinated response, overlap in some areas, and gaps in other areas that need

intervention the most.

Indicators of inter-organizational communication in the implementation of Regional Regulation No. 5 of 2014 are partially and inconsistent. Coordination is reactive and uneven between village areas, while vertical coordination with the central government has not resulted in the necessary operational decisions. This condition weakens synergy between institutions and reduces the effectiveness of PETI control as a whole.

Characteristics of Implementing Institutions

The characteristics of the implementing institution include the bureaucratic structure, technical capacity, organizational culture, and the clarity of the authority possessed by each institution in carrying out its mandate. The Head of DLH (H) described the position of DLH as a supervisory institution that does not have direct authority in mining licensing matters, which is under the Provincial Mining Office. This creates a situation where DLH has an environmental supervision mandate but does not have a licensing instrument that can be used to direct miners to legal channels.

The Secretary of the Sub-district (JW) described the position of the sub-district as a party that can only provide appeals and socialization, not carry out direct legal regulation:

"We from the sub-district have tried to continue to remind the community about the mining activities that occur. However, in this case we cannot directly prohibit it, because it is feared that it will actually cause new problems in the field." (JW, Secretary of Paguyaman Sub-district)

The Head of Saripi Village (SP) described the village government's most limited position, namely that it cannot stop PETI because 90% of the villagers are miners. The Head of Batu Kramat Village (NA) also emphasized that the authority of the village is very limited, and the problem is increasingly complex because most of the miners come from outside the village and even outside the district.

Van Meter and Van Horn emphasized that the characteristics of implementing agencies, including bureaucratic structure and clarity of authority, greatly determine the agency's ability to implement policies. Institutions with clear authority and adequate technical capacity will be able to implement policies effectively. Conversely, institutions that do not have firm authority and must rely on other institutions to take action will tend to result in weak and inconsistent implementation.

The findings of the study reveal a condition that public administration experts call fragmented authority, which is an authority that is spread among several institutions without any one having the full capacity to carry out policies comprehensively. DLH is authorized in environmental supervision but not in mining licensing. Sub-district is authorized in government coordination but not in law enforcement. Village governments are authorized in village administration but not in cracking down on illegal mining activities.

This fragmentation of authority is compounded by the absence of a mechanism that integrates the work of all these institutions in one clear command.

As a result, the control that has occurred is not the result of the work of a structured institutional system, but incidental actions initiated by the Police/Police based on the escalation of the situation in the field.

This condition of fragmented authority is directly in accordance with the prediction of Van Meter and Van Horn that an institutional structure that does not integrate authority adequately will always result in sub-optimal implementation. When there is no single institution that is fully responsible for the implementation of a policy, then each institution tends to define its task limits minimally, so that there is a gray zone that is not handled by anyone. This gray zone is the living space for PETI in Paguyaman.

Indicators of the characteristics of the implementing institutions show serious structural weaknesses in the form of fragmentation of authority among DLH, sub-districts, and village governments. No single institution has the complete capacity and authority to implement the regional regulation comprehensively. This condition results in an unclear zone of responsibility, which ultimately becomes a major structural factor in the failure of PETI control.

Attitude of the Apparatus (Disposition of the Implementer)

The disposition or attitude of the implementing apparatus reflects their commitment, motivation, and value orientation towards the implemented policies. The Head of DLH (H) shows commitment to the regional regulation through routine supervision activities, but implicitly acknowledges the limitations of enforcement capabilities. The most representative attitude of this dimension is shown by the apparatus at the village level.

The Head of Saripi Village (SP) conveyed his position clearly:

"If you want to control it, the village government is indeed a bit difficult because of the needs of the community as well. That's why we as the village government are not to support, but to see the existing position, the village government cannot stop it." (SP, Head of Sarapi Village)

The Head of Batu Kramat Village (NA) showed a similar attitude but was more dilemmatic, because he realized that miners outside the area took the wealth of the village's natural resources, while prohibiting local miners felt unfair if outside miners were still allowed. The Secretary of the Sub-district (JW) also implied an ambivalent attitude by emphasizing that the economic conditions of the community which are on average low must be considered in every control action.

Van Meter and Van Horn emphasize that the attitude or disposition of the implementer is a factor that greatly determines the quality of implementation. Implementers who have a strong commitment to policy objectives will strive to carry out their mandate despite facing obstacles. On the other hand, implementers who are negative or ambivalent towards policies tend to look for excuses not to implement policies in full, or to execute them minimally just to fulfill formal obligations.

The findings of the study show that the dominant attitude among implementing officials is not active rejection of local regulations, but ambivalence based on empathy for the economic conditions of the community. All officials interviewed verbally support the objectives of the regional regulations and acknowledge the negative impact of PETI on the environment. However, in practice, they choose not to take decisive action for fear of causing social conflicts.

This ambivalent attitude is different from active rejection and is more difficult to overcome, because there are no obvious procedural violations that can be used as a basis for performance evaluation. Officials formally continue to carry out their duties (socialization, appeals, monitoring), but do not take the actions that are actually necessary to change the behavior of miners. This creates what can be called pseudo-compliance with the implementation mandate.

This condition is in accordance with the prediction of Van Meter and Van Horn that a weak or ambivalent disposition of the implementer will systematically reduce the quality of implementation. When the authorities choose the least confrontational approach in implementing policies that have the potential to cause public resistance, the results of implementation will not be much different from the absence of policies at all. In the case of Paguyaman, permissive attitudes wrapped in social empathy have become a factor that tacitly weakens the effectiveness of local regulations from within the implementation system itself.

Indicators of the attitude of the apparatus show the dominance of ambivalence among all levels of implementers. Although there is no active rejection of the regional regulation, the reluctance to take decisive action due to socio-economic considerations has resulted in pseudo-compliance that does not change the behavior of miners in real terms. This attitude is one of the internal factors that most weakens the effectiveness of the implementation of local regulations from within.

Social, Economic, and Political Conditions

Social, economic, and political environmental factors are contextual variables that encompass the implementation of policies and can strengthen or weaken their effectiveness. The findings of the study identified three main conditions that directly affect the implementation of local regulations in Paguyaman.

From the economic dimension, all the speakers agreed that the economic pressure of the community is the main driving factor of PETI. The Head of Batu Kramat Village (NA) described this situation straightforwardly:

"These people need food. Even though they know that illegal mining is very risky, but again it goes back to the stomach, that the community they are looking for to eat." (NA, Head of Batu Kramat Village)

The Secretary of the Sub-district (JW) added a political-policy dimension that aggravated this condition: the reduction in the allocation of village funds due to the central government's budget efficiency policy caused village development projects to decrease, labor employment decreased, and the community turned to the mining sector. From the social dimension, the dominance of miners from outside the village and even outside the district makes it difficult to control because the village government only has moral legitimacy over its own citizens. The Head of Batu Kramat Village (NA) revealed the dilemma he felt:

"When we prohibit our community, the outside community who mining, while this is the wealth of our village that is taken by the outside community, so that they think that they are spectators, while they also need it, then they force themselves to still mine even though it is forbidden." (NA, Head of Batu Kramat Village)

From the dimension of land conflicts, the position of the mining area in the HGU of PT Rajawali creates legal uncertainty. In 2025, the Rajawali party will show a certificate of ownership that triggers friction between the community and the company. People who feel they have historical rights to the land since 1965 do not want to immediately leave the area.

Van Meter and Van Horn emphasized that social, economic, and political conditions are environmental variables that are external but greatly determine the space for policy implementation. Policies that seek to change people's economic behavior will always face resistance if they do not consider the socio-economic conditions behind these behaviors.

This theory also emphasizes that political pressure from various interests that intersect with policy can put implementers in a dilemmatic position.

The three main conditions found are poverty and limited employment, reduction in village funds, and HGU land conflicts reinforce each other in creating a conducive environment for PETI. Poverty encourages individuals to seek quick income from mining. Reduction in village funds eliminates employment alternatives from development projects. Land conflicts reinforce the moral claims of communities that they have the right to mine in the area. These three factors together create social pressures that are far beyond the ability of the authorities to overcome them through mere appeals and socialization.

The political dimension in the form of central budget efficiency policies is a particularly significant finding in this study. Policies made at the national level for completely different purposes (state spending efficiency) turned out to have an indirect impact that worsened the condition of PETI at the village level. This shows that the implementation of regional regulations does not take place in a vacuum, but is influenced by other policies that interact at various levels of government.

These findings confirm the view of Van Meter and Van Horn that policy implementation cannot be separated from the social, economic, and political context that surrounds it. PETI control policies designed only from a regulative-legal perspective will not succeed without considering the economic realities of the community that make PETI a rational choice. In addition, the interaction between regional policies and national policies (budget efficiency) that are not taken into account in the design of regional regulations shows that policy implementation at the local level is very vulnerable to changes in contexts that originate from outside the regional system.

Indicators of social, economic, and political conditions show that the implementation environment of Regional Regulation No. 5 of 2014 in Paguyaman District is very unconducive to the success of PETI control. Structural poverty, reduction in village funds, dominance of miners from outside the region, and HGU land conflicts together create social pressures that exceed the capacity of the apparatus implementation. Without complementary socio-economic policies, PETI control through local regulations alone will not result in sustainable change

Analysis Based on Daniel W. Bromley's Theory

Institutions as Rules of the Game

Bromley places institutions both in the form of formal regulations and social norms as the rules of the game that shape people's behavior in utilizing natural resources. The findings of the study show that the available formal institutions (Regional Regulation No. 5 of 2014) exist normatively but are weak operationally, while informal institutions (social norms about mining rights) actually influence people's behavior more strongly.

The Head of DLH (H) admitted that his institution did not succeed in bringing mine managers into the formal licensing process:

"Our main obstacle is the difficulty of identifying financiers or mining managers to be directed to the licensing process. Until now, there is nothing we can direct because the activities are still local and we have not yet found the person in charge." (H, Head of DLH Boalemo)

The Head of Saripi Village (SP) confirmed that the community has a historical belief that the mining area is an area that they can cultivate for generations, considering that mining activities in Saripi have been going on since 1965. This belief is an informal institution as opposed to the formal institution enforced by the local regulation, and in reality on the ground, the informal institution is more adhered to.

Bromley explained that institutions as rules of the game will only be effective if they meet three conditions: (1) the rules are understood and accepted by all parties involved; (2) there is a consistent enforcement mechanism; and (3) the rules provide certainty of rights that are accessible to all parties. When these three conditions are not met, people's behavior will tend to follow the logic of open access, where anyone exploits resources while they still can.

Analysis of field findings shows that Regional Regulation No. 5 of 2014 fails to meet the three institutional effectiveness requirements proposed by Bromley. First, even though the regional regulation is formally socialized, the community does not accept it as a legitimate rule because it does not provide a legal alternative that they can access. Prohibition without an alternative is not accepted as a fair rule. Second, there is no consistent enforcement mechanism that is sporadic and does not continue to the legal process that is arbitrary. Third, the regional regulation does not provide certainty of the right to mining locations that can be used by the community legally, so that the condition of open access for anyone to mine anywhere as long as there is no control action becomes a de facto order in Paguyaman.

The informal norm that the Saripi area is a "mining area" that has been known since 1965 further strengthens the logic of open access. The community builds their economic identity on this informal norm, so that the intervention of the regional regulation is considered a threat to the long-standing source of livelihood.

This condition is fully in line with Bromley's proposition that the destruction of natural resources occurs not because society does not know the rules, but because the formal institutional system fails to create an effective, fair, and accessible rules of the game. When formal institutions are unable to replace entrenched informal norms, then exploitative behavior will continue even if normative regulation is in place. In the case of Paguyaman, formal institutions (perda) and informal institutions (historical mining norms) are in tension, and informal institutions prove to be stronger because they are more in line with the direct economic interests of the community.

From Bromley's perspective, institutions as the rules of the game in mining management in Paguyaman are in a weak and fragmented condition. Regional Regulation No. 5 of 2014 has not succeeded in becoming an effective rule of the game because it is unable to provide certainty of rights, is not supported by consistent enforcement, and clashes with stronger informal norms. This institutional weakness is the root of the continuation of PETI even though formal regulations are available.

The Role of Government

In Bromley's framework, the government plays the role of the maker as well as the guarantor of the rules of the game in natural resource management. This role includes the ability to create an incentive system that encourages sustainable use and a sanction system that prevents overexploitation. The findings of the study show that the role of the government in Paguyaman is limited to the appeal function, has not yet reached the level of enforcement and provision of real alternatives.

The Secretary of the Sub-district (JW) described the government's position that is sandwiched between the obligation to enforce the rules and the social reality that cannot be ignored:

"The local government, including the Regent, plans to find a suitable and legal location to be used as a people's mining area. However, until now the location is not available." (JW, Secretary of Paguyaman Sub-district)

From the community's side, the IN resource person admitted that the government has made efforts but has not succeeded in stopping PETI completely. The JA resource person from Batu Kramat Village said that the government has made efforts such as the control of heavy equipment and appeals to the community, but these actions were not followed by systemic follow-up steps. None of the community resource persons mentioned that there were legal sanctions imposed on miners in their area.

Bromley asserts that the effective role of government in the management of natural resources encompasses three dimensions: first, as a clear and enforceable rulemaker; second, as a provider of incentives for sustainable use; and third, as a guarantor of the consistency of the application of sanctions for violations. Without these three dimensions functioning simultaneously, environmental policies will only result in partial compliance that does not fundamentally change patterns of resource exploitation.

The analysis of the findings shows that the government at various levels only carries out a small part of the role expected by Bromley. The rule-making dimension has been implemented through the issuance of Regional Regulation No. 5 of 2014. However, the dimension of incentive providers in the form of the determination of WPR as a legal alternative has not been realized at all. The dimension of ensuring the consistency of sanctions is also not working, because the regulation that occurs is sporadic and does not continue to the legal process that provides a deterrent effect.

The government's inability to provide legal people's mining sites is the most fundamental failure of the role. Without the WPR, the government is actually asking people to quit their only source of income without offering a replacement. In Bromley's logic, a government that is unable to provide alternative incentives does not have a strong enough legitimacy to consistently enforce the ban.

These findings confirm Bromley's view that the incomplete role of the government in the natural resource management system will result in what he calls institutional failures that are not caused by bad intentions, but by the incompleteness of the necessary policy tools. The Boalemo government has the intention to control PETI (as evidenced by the existence of local regulations and various socialization efforts), but it does not have the necessary role to effectively realize such control.

Based on the comprehensive analysis above, it can be concluded that the implementation of the Boalemo Regency Regional Regulation Number 5 of 2014 in controlling PETI in Paguyaman District has not been carried out effectively. The six indicators of Van Meter and Van Horn's theory show weaknesses that exacerbate each other: non-operational clarity of objectives, inadequate resources, fragmented inter-organizational communication, characteristics of institutions with limited authority, ambivalent attitudes of officials, and socio-economic conditions that place PETI as the main choice of the community.

Bromley's perspective complements this analysis by showing that at the structural level, institutional failure to provide a clear alternative to resource management rights is the main cause of PETI. The environmental damage identified by river water pollution, land degradation, and reduced water resources are direct consequences of such institutional failures.

Resolving the PETI problem in Paguyaman District requires a holistic approach, not only through law enforcement, but also through institutional reform, capacity building, provision of economic alternatives, and fair land conflict resolution. Without such a comprehensive approach, the cycle of PETI and the accompanying environmental damage will continue.

CONCLUSION

Based on the results of the research and discussion that has been described in depth in sections 4.2.1 and 4.2.2, it can be concluded that the implementation of Boalemo Regency Regional Regulation Number 5 of 2014 concerning the Management of Mineral and Coal Mining in controlling Unlicensed Gold Mining (PETI) activities in Paguyaman District has not been carried out effectively. This is evidenced by the continued massive PETI activities in Saripi Village and Batu Kramat Village, even after a joint control operation involving the Boalemo Police and the Gorontalo Police Crime Directorate in October 2025. Field findings show that there is a significant gap between the policy provisions that are formally available and the reality of their implementation on the ground, a condition that reflects a systemic implementation failure, not just incidental.

Answering the formulation of the first problem, the analysis using the theoretical framework of Van Meter and Van Horn reveals that the six implementation variables show weaknesses that aggravate each other. First, from

the aspect of clarity of policy objectives: although Regional Regulation No. 5 of 2014 has normatively established prohibitions and sanctions on PETI, the division of operational authority between the Boalemo Regency DLH and the Gorontalo Provincial Mining Office is not strictly defined, so no agency feels fully responsible for enforcement in the field. In addition, the absence of a legitimate People's Mining Area (WPR) makes the prohibition stand alone without legal alternatives that are accessible to the public. Second, from the aspect of resource availability: the Boalemo Regency DLH explicitly acknowledges the inadequacy of the number of supervisors and the absence of certified environmental investigators, while the capacity of the sub-district government to conduct self-regulation is also very limited. The reduction in village funds due to the national budget efficiency policy has also weakened the ability of villages to provide alternative programs for miners.

Third, from the aspect of inter-organizational communication: coordination between DLH, Paguyaman District, Boalemo Police, and the village government is reactive and unstructured. Saripi Village even reported the absence of routine coordination with DLH, while Batu Kramat Village reported better coordination, indicating systemic inconsistencies in inter-institutional communication patterns. Fourth, from the aspect of the characteristics of the implementing agency: DLH only plays the role of an appealer, not an active law enforcer, while the sub-district does not have an independent enforcement authority. The existing bureaucratic structure is not designed to deal with PETI involving hundreds of actors from various regions. Fifth, from the aspect of the disposition of the apparatus: all levels of implementers show ambivalence based on empathy for the economic conditions of the community. The apparatus carries out its duties procedurally through socialization and appeals, but avoids decisive actions that risk causing social conflicts, resulting in pseudo-compliance that does not change the behavior of miners. Sixth, from the aspects of social, economic, and political conditions: structural poverty, limited formal employment, reduction in village funds, dominance of miners from outside the region, and land conflicts between the community and HGU PT Rajawali jointly create an implementation environment that is very unconducive.

Answering the formulation of the second problem, the analysis using Daniel W. Bromley's institutional theory identifies three categories of structural inhibiting factors. First, from the institutional aspect as a rule of the game: Regional Regulation No. 5 of 2014 fails to meet the three requirements of institutional effectiveness according to Bromley, namely acceptance by all parties, consistent enforcement mechanisms, and certainty of accessible rights. The informal norms of the community that views the Paguyaman area as a "mining area" since 1965 have proven to be stronger than formal regulations. Second, from the aspect of the government's role: the government only performs the role of a rule-maker, but has not carried out the role of providing alternative incentives through the establishment of WPR or the role of ensuring the consistency of sanctions. The incompleteness of this role is a form of institutional failure that causes the PETI ban to not have strong enough legitimacy to be complied with. Third, from the aspect of environmental problems as an institutional problem: the damage to the Saripi River due to sediment runoff, the degradation of agricultural land and plantations around the HGU area, and the significant reduction in the volume of reservoir water are empirical evidence that institutional failures produce inevitable environmental externalities. The open access conditions created due to the land ownership conflict between the community and PT Rajawali exacerbated the damage because neither party felt obliged to protect the area.

Thus, the two formulations of this research problem have been comprehensively answered. The first problem formulation is answered with the finding that the implementation of the policy has not been effective due to weaknesses in the six variables of the implementation of Van Meter and Van Horn which interact with each other and aggravate each other. The second problem formulation is answered by identifying inhibiting factors which include the institutional dimension (unclear authority, absence of WPR, stronger informal norms), resource dimension (limited supervisory human resources, lack of budget, reduction in village funds), coordination dimension (reactive and unstructured communication), and socio-economic-political dimension (structural poverty, HGU land conflict, and the entry of miners from outside the region). The purpose of the study, namely to analyze the implementation of Regional Regulation No. 5 of 2014 and identify its inhibiting factors in Paguyaman District, has been achieved through a case-based qualitative approach that integrates Van Meter and Van Horn theories with Bromley institutional theory.

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