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## Evaluating the Implementation of Government Regulation No. 22 of 2021 on Environmental Protection and Management: A Study of AMDAL Compliance in Sand Mining

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### **Abstract:**

*Poorly managed sand mining activities can lead to environmental degradation, including land degradation, water pollution, and ecosystem disruption. Government Regulation No. 22 of 2021 mandates the preparation of Environmental Impact Assessments (AMDAL) as part of environmental protection and management. This study aims to examine the implementation of this regulation, particularly the AMDAL requirement in sand mining activities in Pancanegara Village, Pabuaran District, Serang Regency. It also analyzes the positive and negative impacts of such activities on the local community. This research employs an empirical juridical method, combining a statutory and field approach. Data were collected*

*through literature review and field research and analyzed qualitatively. The findings reveal that the implementation of the AMDAL requirement under Government Regulation No. 22 of 2021 has not been optimal. Contributing factors include limited supervision by authorities, low awareness among business actors, and administrative challenges in the licensing process. While sand mining contributes to local economic development, it also results in environmental damage, pollution, and social changes within the community.*

**Keywords:** *Government Regulation No. 22 of 2021, AMDAL, sand mining, environmental protection, law enforcement.*

## A. INTRODUCTION

The environment is a gift from God Almighty, as human beings, we are obliged to preserve and develop it so that it can be a source and help support life for current and future generations. However, human life that often carries out development can actually be threatening because it causes pollution and even damage to the environment. Developing countries have several major problems related to environmental health, this is due to the growing population and the rapid development of science.<sup>1</sup>

In the procedure of making a Regional Regulation, the public has the right to comment orally or in writing in connection with the development or processing of the draft law, which must be based on the provisions of the law. Regional regulations can come from the DPRD, the governor or head of state/mayor. If the DPRD and the governor or head of state/mayor submit a draft Regional Regulation with the same material in one session, the draft Regional Regulation submitted by the governor is discussed. The Governor / or the Mayor is used as a process material.<sup>2</sup>

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<sup>1</sup>Akib, Muhammad, Environmental Law from a Global and National Perspective, Jakarta: Rajawali 2014) p.10

<sup>2</sup>Serang Regency Regional Regulation Number 8 of 2011 concerning Environmental Protection and Management.

Regional regulations such as the Serang Regency Regional Regulation No. 8 of 2011 concerning Environmental Protection and Management. The environment is currently a hotly debated topic. The greater the investment in development, the greater the impact on the environment. This situation encourages environmental impact management to minimize risks to the environment. Negative impacts of environmental degradation, or due to pollution or depletion of natural resources, include the emergence of threats or negative influences on health, a decrease in aesthetic value, economic losses (economic collapse), and disturbances to natural *systems*.<sup>3</sup>

From the stage of social change, development is something that cannot be avoided by humans. However, the constructive spirit of humans has an impact on environmental damage and causes changes in people's behavior. Environmental damage continues to increase every day and is increasing in rural Indonesia, both in protected areas and in areas with limited carrying capacity of natural resources. The damage was caused by commercial companies holding Mining Business Permits (IUP) or People's Mining Permits (IPR) or individuals without permits.

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<sup>3</sup> Wahyudi, Wawan, et al. "Sustainable Sea Sand Mining Management Strategies (Tunda Island Case Study, Banten Province)." *Journal of Tropical Marine Science and Technology*, vol. 10, no. 2, 2018

Mining is a basic human activity that was first developed along with agriculture. Therefore, the existence of mining cannot be kept away from life and human civilization. Mining is also referred to as a unique activity because mineral deposits in the earth's crust are mostly unevenly distributed both in terms of type, quantity, quality, and properties of the minerals mined.

Several regions in Indonesia have good mining potential, one of which is Banten Province. Mining in the Banten area includes gold, coal, silver, sand, and many more. Serang Regency, which is part of the Banten area, is also a location for sand mining, especially in Pancanegara Village. Mining can be a source of investment because existing excavated materials can be the mainstay of the region that can be developed in large quantities.<sup>4</sup>

Sandstone mining around the community not only brings benefits and benefits, but also poses problems. Sandstone mining operations that use heavy equipment to dredge materials on the plains and rock surfaces cause environmental and social problems for the surrounding environment. This certainly happens in Pancanegara village. Based on the results of the interview with the Head of Pancanegara Village, Mr. H.Ade Suhendra said:

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<sup>4</sup>Adrian Sutedi, Mining Law, Sinar Grafika, Jakarta, 2011, p.43

"Indeed, the existence of sand mining in Pancanegara village has a positive and negative impact on the community and the village itself, the positive impact is such as the village community can buy sand at a cheaper and affordable price, for the negative of sand mining such as increasing pollution in the surrounding village, whether it is during the dry season or rainy season" <sup>5</sup>

Development in Pancanegara Village, Serang Regency, Banten, still requires a lot of materials, one of which is sand to be used as a requirement for building material. Sand material is obtained from the sea in Pancanegara Village, Serang Regency, Banten. Pancanegara Village was chosen because it is able to provide sand that can support development in Serang Regency. In addition, government policies that focus on infrastructure development, so that development in Pancanegara Village, Serang Regency, Banten is increasingly unstoppable every day. Mr. H. Ade Suhendra also said:

"This sand mining is indeed a good goal, opening up business opportunities, opening job vacancies for the community. Besides that, this sand mining is not only for the people of Pancanegara Village, but many from other

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<sup>5</sup> The results of the interview with Mr. H. Ade Suhendra, the Head of Pancanegara village, on April 7, 2026, at 10.00 WIB

regions who buy in this mining, so the delivery of this sand is quite wide inside and outside the city." <sup>6</sup>

Therefore, the development process in Pancanegara Village, Serang Regency, Banten urgently needs a supply of sand materials. Pancanegara Village, which is located in Serang Regency, is used as one of the locations for sand mining. However, if sand mining activities in its management do not run well, it will hurt the balance of marine structures and ecosystems.<sup>7</sup> Environmental damage due to sand mining in Pancanegara Village, Serang Regency, Banten, causes the surrounding community to have a very real physical environmental impact that is very bad.

Persistent permit mining can cause environmental damage if not done correctly, especially unlicensed mining. The operation of licensed and unlicensed mines has proven to be detrimental to the community, based on the results of an interview with the Head of Pancanegara Village, Mr. H.Ade Suhendra, said:

"For sand mining permits in Pancanegara Village, there are 3 companies that are actively operating, but what is known is that the village government for permits

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<sup>6</sup> The results of the interview with Mr. H. Ade Suhendra, the Head of Pancanegara village, on April 7, 2026, at 10.00 WIB

<sup>7</sup>Banten Provincial Environment and Forestry Service, Environmental Damage Due to Mining Business/Activities

related to sand mining is only 2, of which we do not know anymore, even though the owner of this sand mining comes from residents themselves, because indeed in Pancanegara Village from one end of the village to another, have family ties, all brothers, so thank God the workforce is from the community itself from the beginning of the establishment of this sand mining, maybe only the operation and engineering part from outside, the rest are workers from this village" <sup>8</sup>

Mining not only has an impact on environmental damage, but also on road damage, such as road sections damaged by stone quarrying in the area, and shared on social media. Some mining activities can also damage infrastructure, such as public roads.<sup>9</sup>

Mr. H. Ade Suhendra also said:

"For road damage due to the negative impact of sand mining, of course, we are also trying to make improvements to reduce the negative impact. We also plant corn, in the fasting month, we also planted suri

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<sup>8</sup> The results of the interview with Mr. H. Ade Suhendra, the Head of Pancanegara village, on April 7, 2026, at 10.00 WIB

<sup>9</sup>Salim HS, *Mining Law in Indonesia*, (RadjaGrafindo, Jakarta, 5th ed., 2010).p.12

cucumbers, besides that, there is also the planting of albasiah trees for the long term."<sup>10</sup>

All environmental management activities and results carried out by the state government or private industry must be accountable to the community in accordance with laws and regulations. Thus, these issues and problems are very relevant to be studied about how the government implements Government Regulation Number 22 of 2021 concerning the protection and management of the hudup environment (PPLH) related to the EIA from sand mining in Pancanegara Village.

## **RESULTS AND DISCUSSION**

### **B. Implementation of Government Regulation Number 22 of 2021 concerning environmental protection and management (PPLH) related to the obligation to prepare AMDAL in sand mining in Pancanegara Village, Pabuaran District, Serang Regency**

The implementation of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management (PPLH) is part of the reform of environmental regulations after the enactment of the Job Creation Law. One of the crucial aspects of this regulation is the obligation to prepare an

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<sup>10</sup> The results of the interview with Mr. H. Ade Suhendra, the Head of Pancanegara village, on April 7, 2026, at 10.00 WIB

Environmental Impact Analysis (EIA) for every business plan and/or activity that has the potential to have an important impact on the environment, including sand mining activities. In the context of sand mining in Pancanegara Village, Pabuaran District, Serang Regency, the discussion of the formulation of this issue is focused on the extent to which the provisions in Government Regulation No. 22 of 2021 have been implemented effectively, especially related to the obligation to prepare AMDAL.

As for the sand mining in Pancanegara Village, Pabuaran District, Serang Regency, it is certainly a pro and con in the licensing process, especially from the surrounding community. Mining that can indeed be done is mostly by local businessmen. According to Mr. H. Ade Suhendra, as the Head of Pancanegara Village, there are indeed many positive and negative sides to the existence of sand mining, but mining continues to run and carry out activities as usual.<sup>11</sup>

Based on the provisions of Law Number 32 of 2009 concerning Environmental Protection and Management, Environmental Impact Analysis (EIA) is an important instrument in efforts to prevent pollution and/or environmental damage. The EIA is the main requirement in obtaining an environmental permit for every business

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<sup>11</sup> Results of the interview with the Head of Pancanegara Village on April 13, 2026 at 10.30 WIB

activity that has the potential to have an important impact on the environment, including sand mining activities.

In carrying out mining, of course, entrepreneurs and the authorities must pay attention to all aspects, both from the positive and negative sides. According to the Head of Village H. Ade Suhendra, said that in Pancanegara Village there are 3 companies, namely:

- a. PT Telaga Kencana Prima
- b. PT Wahyu Putra Mulya
- c. CV Bumi Pabuaran Sentosa

The three mining companies above 2 companies that have been licensed to do mining in Pancanegara Village, but there is 1 that is not yet known for its licensing by the Village Government, although there are many pros and cons, and the community, some even go so far as to demonstrate to the parties involved, but this can be resolved peacefully.<sup>12</sup>

This provision was then strengthened through Government Regulation Number 22 of 2021, which stipulates that AMDAL is part of the risk-based business licensing system. In this case, based on the results of an interview with an environmental supervisor from the Environment Agency, Mr. Dionisius Andhika, P. S.T., M.Si information was obtained that in the environmental

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<sup>12</sup> The results of the interview with the Head of Pancanegara Village on April 13, 2026 at 10.35 WIB.

licensing process there are three main components that must be met by business actors, namely spatial suitability, environmental approval, and basic permits.<sup>13</sup>

### **1. Spatial suitability**

Spatial suitability is the initial stage that determines whether a business activity can be carried out in a certain location in accordance with the regional spatial plan. Based on the results of an interview with an environmental supervisor from the Environment Agency, Mr. Dionisius Andhika, P. S.T., M.Si said that:

"In the context of sand mining in Pancanegara Village, spatial suitability is very important considering that mining activities have great potential for landscape change and environmental damage." <sup>14</sup>

In the context of environmental law, spatial suitability serves as the initial stage to ensure that a business activity is not carried out in areas that are contrary to the spatial designation, such as protected areas, water catchment areas, or areas that have certain ecological functions. Thus, the suitability of spatial planning becomes a preventive instrument to prevent

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<sup>13</sup> The results of the interview with the Environmental Supervisor, Banten Provincial Environment and Forestry Service, Dionisius Andhika, P. S.T., M.Si on April 13, 2026, at 11.30 WIB.

<sup>14</sup> The results of the interview with the Environmental Supervisor, Banten Provincial Environment and Forestry Service, Dionisius Andhika, P. S.T., M.Si on April 13, 2026, at 11.30 WIB.

environmental damage from the planning stage.<sup>15</sup> However, in practice in the field, there are still mining activities that are suspected of not fully paying attention to the suitability of spatial planning. This condition shows that there is a discrepancy between legal provisions and implementation in the field, which has the potential to have a negative impact on the environment. Therefore, spatial suitability not only functions as an administrative requirement but also as an important instrument in realizing sustainable development and environmental protection.

## **2. Environmental approval**

Environmental approval is obtained through the preparation of environmental documents, such as AMDAL or UKL (Environmental Management Efforts) – UPL (Environmental Monitoring Efforts), which serve to identify and analyze environmental impacts that may arise. Based on the results of an interview with an environmental supervisor from the Environment and Forestry Service, Mr. Dionisius Andhika, P. S.T., M.Si said that: "The EIA does not stand alone, but becomes part of the overall environmental licensing system that must be fulfilled before a business can operate. " Environmental approval is not only understood as a form

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<sup>15</sup>Takdir Rahmadi, *Environmental Law in Indonesia*, Jakarta: Rajawali Pers, 2015, p. 15

of administrative permitting, but also as a preventive control mechanism. This is because, before something is implemented, the government first assesses environmental feasibility through an EIA document. This process involves identifying, analyzing, and evaluating the significant impacts that may arise from such business activities. Based on the results of an interview with an environmental supervisor from the Environment Agency, Mr. Dionisius Andhika, P. S.T., M.Si, said:

"The EIA is a form of environmental approval which is to see whether the risk is high or medium for the surrounding environment, such as in sand mining, how the impact is, and how the EIA must be carried out." <sup>16</sup>

In the context of sand mining in Pancanegara Village, environmental approval through the AMDAL mechanism is very important considering that consideration activities have great potential in changing landscapes, reducing environmental quality, and disrupting the balance of the ecosystem. Therefore, the existence of AMDAL should be the main instrument in ensuring that mining activities are carried out

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<sup>16</sup> The results of the interview with the Environmental Supervisor, Banten Provincial Environment and Forestry Service, Dionisius Andhika, P. S.T., M.Si on April 13, 2026, at 11.30 WIB.

responsibly and sustainably.<sup>17</sup> However, based on the results of research in the field, it is still found that the implementation of environmental approvals has not been running optimally. This can be seen from the existence of mining activities that are fully supported by adequate EIA documents. This condition shows that the function of AMDAL as a preventive instrument has not been fully implemented effectively.

### **3. Basic Permissions**

Basic permits are an advanced stage that can only be granted if all previous requirements have been met, including environmental approvals. Thus, it can be understood that AMDAL has a very strategic position in determining the legality of a business activity. Based on the results of an interview with an environmental supervisor from the Environment Agency, Mr. Dionisius Andhika, P. S.T., M.Si, said:

"This basic permit is a very important thing in licensing, especially in this sand mining, where there are requirements, documents, activities, what are the activities, now the EIA is also included in the permit in the approval of the business, besides that it must also be considered when he tries other aspects such

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<sup>17</sup> Otto Soemarwanto, *Analysis of Environmental Impacts*, Yogyakarta: Gadjah Mada University Press, 2003, pp. 35-37

as the spatial layout, what type of EIA, it must be very considered" <sup>18</sup>

This basic permit is a form of formal legality that gives authority to business actors to carry out their business activities legally according to the law. Thus, the basic permit cannot be separated from the process of fulfilling environmental obligations; a business activity cannot obtain a permit to operate. In the context of environmental law, a basic permit not only functions as an administrative instrument, but also as a means of control that ensures that every business activity is subject to environmental protection standards before the activity is carried out. This shows that there is a close relationship between the business licensing system and environmental protection instruments, where the EIA is one of the main requirements in determining whether a business is worthy of being granted a license or not. <sup>19</sup>

The position of AMDAL in the licensing process is very strategic because AMDAL serves as a basis for consideration in decision-making by the government regarding the environmental feasibility of a business or activity. Through the EIA, the government can

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<sup>18</sup> The results of the interview with the Environmental Supervisor, Banten Provincial Environment and Forestry Service, Dionisius Andhika, P. S.T., M.Si on April 13, 2026, at 11.30 WIB.

<sup>19</sup> Fadli, M." Environmental Licensing as an Instrument for Preventing Environmental Damage" *Indonesian Environmental Law Journal*, Vol. 7 No.2, 2021, p.145

comprehensively assess the potential impacts that will be caused, as well as determine mitigation measures that must be taken by business actors. Thus, the EIA not only functions as a tactical document but also as a policy instrument that affects the granting of business licenses.<sup>20</sup>

In addition, in practice, the linkage between the EIA and the basic permit reflects the application of the principles of sustainable development, where economic, social, and environmental aspects must be considered in a balanced manner in every development activity. If the EIA is not implemented optimally, the granting of basic permits has the potential to have a negative impact on the environment, which in the end can be detrimental to the granting of business licenses.<sup>21</sup> In the aspect of supervision, based on the results of interviews with the Environment Agency, it is known that supervision is carried out in several ways, including:

#### **4. Environmental Document Conformity**

Conformity of environmental documents and conformity to applicable laws and regulations. Supervision of document conformity aims to ensure that business actors have prepared AMDAL in accordance

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<sup>20</sup> Sari, N. "The Position of AMDAL in the Risk-Based Business Licensing System" *Journal of Environmental Law Development*, Vol.6 No. 1, 2022, p.78

<sup>21</sup> Prasetyo, A. "Application of Sustainable Development Principles in Environmental Licensing" *IUS Journal of Law and Justice Studies*, Vol. 10 No.1 , 2023, p.52

with applicable regulations, both in terms of substance and procedure. Meanwhile, supervision of the conformity of regulations is carried out to ensure that business activities are carried out in accordance with the applicable legal provisions.

The consistency of the document in this case includes several important aspects, including the completeness of the documents, the accuracy of the data used, and the suitability of the environmental impact analysis methodology applied. A good EIA document must be able to comprehensively describe the potential impacts that will arise, both in terms of physical, biotic, and social impacts, as well as contain a clear and measurable environmental management and monitoring plan.<sup>22</sup> In addition, supervision of environmental documents also aims to ensure that the documents are not only compiled as an administrative formality, but are actually used as guidelines in the implementation of business activities. In practice, it is often found that AMDAL documents are only used as a condition for obtaining permits, without being implemented in real terms in operational activities.<sup>23</sup> However, based on results in the field, especially in Pancanegara Village, it

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<sup>22</sup> Emil Salim, *Sustainable Development: Environmental Perspective*, Jakarta: LP3ES, 2010, p. 67

<sup>23</sup> Wibowo, A. "The Effectiveness of EIA Documents in Environmental Impact Control" *Journal of Environmental Science*, vol. 18 No. 2, 2020, p. 123

was found that the implementation of these provisions had not been running optimally. There are still sand mining activities that have not fulfilled the licensing obligations, this was revealed by the Head of Pancanegara Village, Mr. H.Edi who said that:

"For sand mining in our village, there are indeed 3, but what we know is that only 2 have permits, 1 of which the village government does not know about the sand mining permits" <sup>24</sup>

This condition shows that there is a gap between the applicable legal provisions (*das sollen*) and the practice in the field (*das sein*). Normatively, every business activity that has the potential to have an important impact on the environment must have an EIA as a form of environmental protection. However, in practice, there are still business actors who have not fulfilled these obligations. From an environmental law perspective, the weak supervision of the conformity of this document has implications for the suboptimal function of the EIA as a preventive instrument. The EIA should be the main tool in preventing environmental damage, but if the document is prepared and supervised properly, the potential negative impact on the

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<sup>24</sup> Results of the interview with the Head of Pancanegara Village, H.Edi Suhendar, on April 13, 2026, at 10.00 WIB at the Pancanegara Village Kanto

environment becomes difficult to control from the beginning of the activity.<sup>25</sup>

## **5. Compliance with applicable regulations**

In addition to supervising the adjustment of documents, the Environment Agency also supervises the suitability of business activities with applicable laws and regulations. This supervision aims to ensure that the implementation of business activities does not deviate from the legal provisions that have been set, both related to environmental protection and business licensing.

Compliance with regulations includes compliance of business actors in carrying out environmental obligations, such as the implementation of environmental management plans (RKL) and environmental management plans (RPL), as well as compliance with the limits that have been set in the EIA document. Thus, this supervision is not only administrative, but also substantial in assessing the implementation of activities in the field.<sup>26</sup> This condition again shows that there is a gap between legal norms and practices in the field. Normatively, laws and regulations have clearly regulated the obligations of business actors in maintaining

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<sup>25</sup> Kurniawan, D "Evaluation of the Implementation of AMDAL in Environmental Protection" *Journal of Law and Development*, Vol. 52 No. 1, year 2022, p. 98

<sup>26</sup> Muhammad Akib, *Environmental Law: Global and National Perspectives*, Jakarta: RajaGrafindo Persada, 2014, p. 142

environmental sustainability. But in practice, compliance with these provisions is still low.

From the perspective of environmental law, this condition shows that the application of the *precautionary principle* and the principle of *sustainable development* has not been optimal. These two principles emphasize that every business activity must pay attention to environmental impact from the planning stage and ensure environmental sustainability for future generations.<sup>27</sup> Thus, it can be concluded that although regulations have comprehensively regulated environmental protection and management through the EIA instrument, in practice implementation in the field still faces various obstacles. Therefore, it is necessary to increase supervision and law enforcement by the government, as well as increase the awareness of business actors so that provisions regarding AMDAL can be implemented optimally.

### **C. Negative and positive impacts of sand mining in Pancanegara Village, Pabuaran District, Serang Regency**

#### **a. The Positive Impact of Sand Mining**

Sand mining activities make a significant contribution to the economic and social aspects of the community. Based on various research, sand mining is

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<sup>27</sup> Fauzi, A. "The Principle of Prudence in Life Protection Law" *Journal of Rechts Vinding*, Vol.9 No.1, 2020, p. 45.

one of the sectors that is able to improve people's welfare, especially in rural areas.

One of the main positive impacts of sand mining activities is the increase in community income by creating jobs. Mining activities provide job opportunities for the surrounding community, both as miners, transporters, and other support workers. This makes sand mining a promising alternative livelihood for the local community. In addition, mining activities can also encourage local economic growth. Economic turnover increased through sand buying and selling activities, transportation, and other services related to mining activities. In some cases, this activity has even become the main source of income for the region.

Another positive impact is the availability of development raw materials. On the other hand, sand mining activities also cause various significant negative impacts, especially on the environment and ecosystem sustainability.

#### **b. Negative Impacts of Sand Mining**

One of the main impacts is the damage to the physical environment, such as landscape changes, erosion, and soil quality degradation. Sand-digging activities can cause the loss of fertile soil layers, resulting in a decrease in post-mining land productivity. In addition, sand mining can also lead to a decrease in

water and air quality. Mining activities often cause turbidity of river water due to sedimentation, as well as air pollution due to dust from excavation and transportation activities. Another impact that is no less important is the damage to the ecosystem. Mining activities can disrupt the balance of ecosystems, both on land and in water. For example, the disturbance of the habitat of aquatic organisms due to turbidity of water and changes in the structure of rivers. In addition to environmental impacts, there are also social impacts, such as conflicts between communities, disturbances in comfort due to dust and noise, and damage to road infrastructure due to mining vehicles. Road damage due to sand transportation activities is one of the real impacts that often occur in mining areas. Furthermore, if mining activities are carried out without good management, it can cause long-term impacts, such as environmental degradation that is difficult to recover and a decrease in the quality of life of the surrounding community.

Based on this description, it can be analyzed that sand mining activities have a dual impact, namely providing economic benefits on the one hand, but also causing environmental damage on the other hand. From an environmental law perspective, this condition must be controlled through the EIA instrument so that the negative impact can be minimized. This is in line with the concept of sustainable development that emphasizes the

balance between economic interests and environmental sustainability. In the context of Pancanegara Village, the results of previous interviews show that negative impacts such as air pollution and road damage have begun to be felt by the community. This reinforces the finding that mining activities that are not optimally managed can cause serious environmental problems. Therefore, strict supervision, compliance with the EIA and the active role of the government and the community are needed so that sand mining activities can provide benefits without excessively damaging the environment.

#### **D. CONCLUSION**

Based on the analysis of the implementation of Government Regulation No. 22 of 2021 concerning Environmental Protection and Management in relation to the obligation to prepare Environmental Impact Assessment (AMDAL) for sand mining activities in Pancanegara Village, Pabuaran District, Serang Regency, it can be concluded that the implementation of AMDAL requirements remains suboptimal. Although the regulation clearly mandates AMDAL as a prerequisite for business activities with significant environmental impacts, its enforcement in practice has not been fully effective. Several sand mining operations are still conducted without proper AMDAL documentation, indicating weak regulatory compliance.

This condition is influenced by several factors, including low legal awareness among business actors, cost and time considerations in preparing AMDAL documents, and a profit-oriented approach that tends to disregard environmental obligations. In addition, the effectiveness of supervision and law enforcement by relevant authorities is limited by inadequate human resources, weak inter-agency coordination, and inconsistent enforcement practices. Community participation in environmental monitoring and AMDAL-related processes is also still minimal, resulting in limited social control over mining activities.

Furthermore, sand mining activities in the research area generate both positive and negative impacts. On the positive side, these activities contribute to local economic development through job creation, increased community income, and the growth of supporting small-scale businesses, as well as potential contributions to regional revenue. However, the negative impacts are more significant and long-term, including land degradation, erosion, landscape changes, water pollution, infrastructure damage, and potential social conflicts.

Overall, the findings indicate that while sand mining provides economic benefits to the local community, its environmental and social risks are substantial when not accompanied by strict compliance with AMDAL obligations. Therefore, stronger

implementation of environmental regulations is essential to ensure that economic development does not compromise environmental sustainability.

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