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Brong Exhaust Policy Implementation by the Purbalingga Police: A Public Administration Perspective

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Abstract

Background: *Brong* exhaust modification has not only been widespread in Purbalingga but has also caused noise pollution and public inconvenience, as well as constituting a criminal offense. In response, the Purbalingga Police released a *brong* exhaust handling policy referring to Police Chief Regulation Number 5 of 2022.
Objective: This research aimed to assess the effect of policy implementation from the perspective of public administration.
Methods: The research method used was qualitative descriptive, involving seven informants from the Purbalingga Police Traffic Unit and affected motorists, with data collected through in-depth interviews with police officers from the Purbalingga Police Traffic Unit and motorists affected by raids, field observations, and document studies. The data were analyzed using the Miles and Huberman interactive model.
Results: Results show that the policy is largely suboptimal in its current form. Challenges such as a lack of human resources and the absence of noise-measuring instruments were identified. Coordination between related agencies such as *Dishub* was also suboptimal, and public awareness of legal obligations remains low. From a public administration perspective, the key factors identified are communication, resources, and implementer disposition.
Conclusion: The implementation of the *brong* exhaust policy by the Purbalingga Police has not been fully optimal due to limited personnel, the absence of noise-measuring instruments, and suboptimal cross-sector coordination. Officer discretion plays a significant role in shaping enforcement outcomes. Policy reform should prioritize technical capacity building, structured inter-agency collaboration, and contextual enforcement strategies that balance law enforcement with the protection of Purbalingga's *brong* exhaust industry as a key local livelihood.

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INTRODUCTION

The use of exhaust that does not meet technical specifications or popularly called "broken exhaust" has become a problem that has troubled people in various regions in Indonesia. The noise caused not only disrupts order and comfort, but also has the potential to endanger the safety of other riders. Data from the National Police Korlantas recorded that throughout January 2024 alone, as many as 430 thousand broken exhausts were confiscated throughout Indonesia (Republika.co.id, 2024). In the Central Java Regional Police, the crackdown reached 338,551 vehicles with 203,952 exhausts secured during the 2022-2024 period.

The government has regulated the prohibition of the use of non-standard exhaust through Law Number 22 of 2009 concerning Road Traffic and Transportation. Article 285 Paragraph (1) threatens violators with imprisonment for a maximum of one month or a maximum fine of Rp 250,000. As a follow-up, the Police through various Regulations of the National Police Chief are given the authority to take action, including discretion in their implementation.

Purbalingga Regency has its own uniqueness in this context. This area is known as the largest center of the exhaust industry in Indonesia, with industrial clusters that have developed naturally since the 1950s. There are 42 tenants at the Purbalingga Metal Industry Development Unit who produce exhaust, even penetrating the international market. This industry is the main livelihood for most residents, especially in Purbalingga Lor Village and Pesayangan Village. As an appreciation, the local government even built the Exhaust Monument which has become an icon of Purbalingga Regency

This condition creates a dilemma in the implementation of the policy of handling broken exhaust. On the one hand, the Purbalingga Police are obliged to enforce the law and respond to public complaints due to noise. Data shows that for one week in early January 2024, the Purbalingga Police Task Force secured 596 broken exhausts, while the ranks of the Police added 233 exhausts. On the other hand, massive crackdowns have the potential to kill local industries that have become the identity and economic backbone of the community. This case is a concrete example of the clash between the interests of law enforcement and the protection of the people's economy.

Research on the implementation of the brong exhaust policy has been mostly carried out in urban areas without considering the local economic context. Studies in Purbalingga, which is the center of the exhaust industry, are still very limited. In fact, an understanding of how the authorities balance law enforcement with the sustainability of the local industry is essential to formulate more contextual policies. Therefore, this study aims to evaluate the implementation of the policy on handling broken exhaust by the Purbalingga Police from the perspective of public administration

Numerous studies have been conducted on the implementation of traffic policies. Castillo-Manzano et al. (2024) examined the optimization of traffic police resource management to reduce the number of violations and fatalities on Spanish roads. Mayo et al. (2022) analyzed the factors influencing the implementation of transportation policies on road user safety in developing cities in the Philippines. Prakash Giri et al. (2024) examined the status of traffic regulation enforcement from the perspective of police officers in developing countries, finding that inadequate penalties are a major factor in the weakening of policy enforcement.

Quy Nguyen-Phuoc et al. (2024) question the effectiveness of legal sanctions in promoting motorcyclists' compliance with traffic regulations. Truelove et al. (2023) investigate drivers' discretion in evading traffic law enforcement through the use of digital technology. Yasanthi et al. (2024) conduct a narrative study on the factors determining traffic safety enforcement behavior by police officers. Cheranchery & Greeshma (2025) evaluate the effectiveness of an AI-powered enforcement system in influencing driver behavior and improving traffic compliance.

However, such studies are generally conducted in large urban areas and have not taken into account the context in which the exhaust industry is the main livelihood of the community. In fact, local socio-economic characteristics greatly affect the dynamics of policy implementation.

This study fills this gap by evaluating the implementation of the policy of handling broken exhaust in Purbalingga Regency which is the center of the exhaust industry, using a public administration perspective that integrates the theories of Van Meter & Van Horn and Lipsky.

Although studies on the implementation of traffic policies have been widely conducted, most of the research focuses on aspects of law enforcement in large cities and ignores the local socio-economic context. Especially for the policy of handling broken exhaust, there has been no research that specifically evaluates its implementation in areas that are the center of the exhaust industry (Ammaliasari et al., 2024; Elmira & Anisykurlillah, 2024; Firmansyah & Puspitosari, 2022). In fact, these unique characteristics create a different implementation dilemma: the apparatus is not only dealing with individual offenders, but also with industries that are the backbone of society's economy. Thus, research on policy implementation in Purbalingga is important to fill this gap, as well as provide more contextual policy recommendations for regions

with similar characteristics.

Referring to the background above, the three research questions in this study are: (1) how the Purbalingga Police implement the broken exhaust handling policy reviewed through pre-emptive (socialization), preventive (patrol), and repressive (enforcement) aspects; (2) what factors influence the policy implementation based on the Van Meter and Van Horn model, including standards and objectives, resources, inter-organizational communication, characteristics of implementing agents, disposition of the implementers, and socio-economic environmental conditions, and (3) how does the discretion of street-level bureaucracy (officers) in output (the number of actions) and outcomes (community compliance and the impact on the local exhaust industry). Thus, this study intends to encompass (1) describe and analyze the policy implementation in terms of pre-emptive, preventive, and repressive perspectives; (2) discover and elaborate upon the factors that influence the implementation with Van Meter & Van Horn (1975) framework; (3) analyze officer discretion on the output and outcome; and (4) propose a recommendation in order to improve this policy governance in a contextual approach between law enforcement and protecting local economy enterprise.

Theoretically, this research contributes to the development of policy implementation theory, especially in the context of law enforcement in regions with unique socio-economic characteristics.

First, this study tested and enriched the policy implementation model of Van Meter & Van Horn (1975) by including local context variables that have received little attention so far. Van Meter and Van Horn have indeed mentioned "environmental conditions" as one of the variables, but previous studies have tended to interpret environmental conditions narrowly as political support or pressure from interest groups. This study shows that environmental conditions also include structural socio-economic factors, such as the existence of the exhaust industry which is the main livelihood of the community, which significantly affects the dynamics of implementation.

Second, this study integrates the street-level bureaucracy theory of Lipsky (2010) with the Van Meter & Van Horn model, which is rarely used in the study of traffic policy implementation in Indonesia. This integration allows for a more comprehensive analysis, not only at the level of structure and procedures, but also at the level of micro-interactions between officers and the community that determine the success of policies.

Third, this research contributes to the development of public policy studies in Indonesia, especially those related to technical policies that have an impact on the people's economy. So far, traffic policy studies have focused more on the law enforcement aspect alone, without considering its impact on the informal sector and local industries. This research offers a new, more holistic perspective in evaluating public policy.

Practically, for the Purbalingga Resort police, this study can provide concrete input for the Purbalingga Police in increasing the effectiveness of the implementation of the policy on handling broken exhaust. Identification of inhibiting factors such as limited personnel, absence of noise meters (sound level meters), and suboptimal coordination across sectors can be the basis for planning to strengthen institutional capacity. In addition, recommendations on the need for a more contextual approach, taking into account the existence of the local exhaust industry, can assist the Police in formulating a more prudent and sustainable law enforcement strategy.

Second, for the National Police Education and Training Institute, findings on the importance of discretion and the ability to read local contexts in enforcement can be input for the development of the police education curriculum, especially in courses related to traffic law enforcement and community services. This is in line with the need to produce officers who not only understand the procedural aspects, but are also sensitive to the socio-economic dynamics of the Society.

Third, for the Regional Government of Purbalingga Regency, this research provides an understanding of the complexity of the problem of broken exhaust which is not solely a legal issue, but also related to the livelihood of thousands of residents. The results of the research can be considered for local governments to formulate more integrated policies, for example by facilitating the exhaust industry to produce exhaust that meets standards (environmentally friendly and does not exceed the noise threshold), so that the industry continues to run but does not violate the law.

Fourth, for the community and industry players, this research provides a voice for the interests of the community and industry players who have been perhaps neglected in the discourse of law enforcement. Understanding that cracking down on broken exhaust is not merely a "war on violators" but also has an impact on livelihoods, it is hoped that a more constructive dialogue will emerge between law enforcement officials, local governments, industry players, and the motor vehicle user community.

LITERATURE REVIEW

Policy Implementation Concept (Van Meter and Van Horn)

Van Meter & Van Horn (1975) define policy implementation as actions taken by individuals (or officials) and government and private groups directed at achieving the goals that have been set in previous policy decisions (Van Meter & Van Horn, 1975). They offer a model that links policy performance with various variables such as the following. First, standards and objectives: clarity of policy objectives is an absolute prerequisite for effective implementation. Second, resources include adequate authority, funds, facilities, information, and personnel; the effectiveness of the Purbalingga Police in cracking down on brong exhaust is highly dependent on the availability of resources. Third, interorganizational communication and enforcement activities: this variable emphasizes the importance of effective and consistent communication between the institutions involved (such as the National Police, the Transportation Service, and Samsat). Fourth, the characteristics of the implementing agencies, which include the bureaucratic structure, norms, and relationship patterns in the implementing organization, are hierarchical, rigid, and less responsive than flexible bureaucracies. Fifth, the disposition of implementers: the attitudes, values, and perceptions of the police as policy implementers are very decisive. Sixth, social, economic, and political conditions: pressure from the public, automotive enthusiast groups, and local political elites can affect policy implementation. Broad community support will facilitate implementation, while protests from certain groups can be a hindrance.

Street-Level Bureaucracy (Lipsky)

The Van Meter and Van Horn theories are significantly enriched by the concept of Street-Level Bureaucracy introduced by Lipsky (2010). Lipsky argues that frontline workers (such as police, teachers, and social workers) are essentially policymakers because they have discretion in carrying out their duties. They face pressures such as limited resources, unlimited service requests, and ambiguous policy objectives.

The traffic police, in the view of the street-level bureaucrat, have the discretion to decide whether to crack down on a brong exhaust motor vehicle or let it go whether to issue a warning or immediately issue a traffic citation. Lipsky (2010) states, "The discretion of frontline workers implies that the decisions of individual workers, their routines, and the creation of their work mechanisms to effectively cope with uncertainty and work pressures become the public policies they pursue" (p. xii). They may develop "routines" and "stereotypes" for managing workloads, such as focusing on a specific location or time, or on a specific type of rider. This behavior directly affects the output (number of citations issued) and outcome (reduction in road noise levels) of the policy.

Frame of Mind

The background of the problem: the rampant use of exhaust pipes that cause noise pollution, 430 thousand exhausts are secured nationally, Purbalingga as the largest exhaust industry center in Indonesia, law enforcement vs economic protection.

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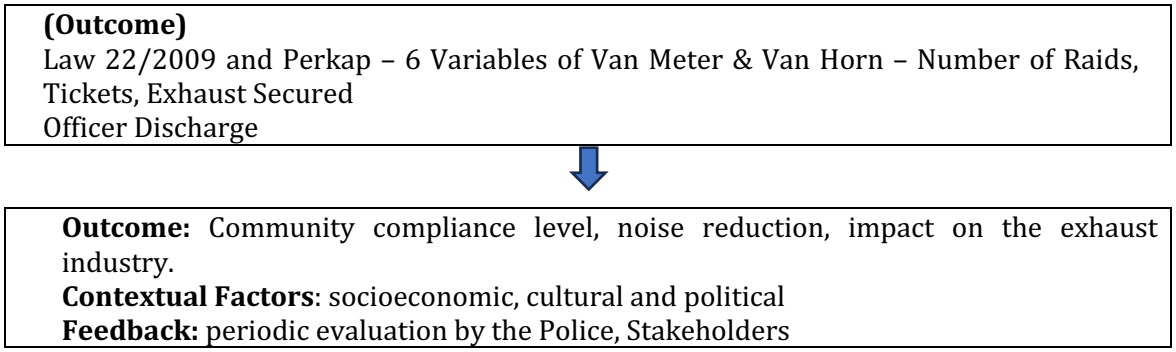
Theoretical Foundations: Van Meter and Van Horn (6-variable Implementation model), Lipsky (1980) on Street-level bureaucracy (**Theoretical Integration)**

↓

Framework of Analysis: Input (Policy) – Process (Implementation) – Output



This research departs from the empirical reality that the use of broken exhaust has become a national problem that is troubling the community because of noise pollution and its disturbance to public order. However, Purbalingga Regency has a unique context that distinguishes it from other regions: it is the largest center of the exhaust industry in Indonesia, with an industry that has developed from generation to generation since the 1950s and has become a regional icon (Tugu Knalpot). This condition creates a policy dilemma on the one hand, the Police must enforce the law; on the other hand, mass action has the potential to kill the local industry that is the livelihood of thousands of citizens.

The theoretical foundation uses two theories in an integrated manner, namely the policy implementation model of Van Meter & Van Horn (1975), which covers the standards and objectives regarding clear rules for exhaust (Article 285 of Law 22/2009), the availability of personnel, budgets, and technical tools, the coordination of the Police with the Transportation Department, DLH, and related agencies, the characteristics of implementing agents/bureaucratic structure and the work culture of the police department, the disposition of the implementer such as attitudes, values, and perceptions of officers toward violations, and environmental conditions (local socioeconomic, cultural, and political factors). The second theory is Lipsky (2010) street-level bureaucracy, which emphasizes that frontline officers (polantas) have discretion as policymakers. This is supplemented with the framework of input–process–outcome analysis, contextual factors as mediating variables (socioeconomic, cultural, and political), and feedback (which is cyclical, not linear).

METHOD

Approaches and Types of Research

This study employed a qualitative descriptive approach to explore the implementation of the policy of handling brong exhaust by the Purbalingga Police by entering the object of the problem and exploring through open-ended questions, so that the researcher obtained an overview of the use of brong exhaust in Purbalingga Regency as the center of the exhaust industry, the implementation of the brong exhaust handling policy by the Purbalingga Police, and the obstacles faced in the implementation of the brong exhaust handling policy by the Purbalingga Police. Data to find the meaning of each of these acts could only be explored by qualitative methods using in-depth interview techniques, observation, and document analysis.

Location and Time

The research was carried out by emphasizing field research by going directly to the research object. The author used the field research method because the author collected data directly by going into the field and collecting data from members in the field and parties involved in the implementation of the policy of handling brong exhaust by the Purbalingga Police.

Research Informant

The researcher became an active participant with the object being studied. Here, the researcher tried to see a phenomenon in the field structurally and functionally. The structural intent here is that the researcher must look at social phenomena without dissociating himself from the structure of the building that is related to other structures, while the functional intent is that the researcher must be able to understand a phenomenon from the point of view of its

function in relation to other phenomena. Qualitative research is a scientific endeavor that aims to understand a phenomenon in a social context naturally.

Data Collection Techniques

The primary data source was the object that was observed directly in the field, and the researcher found direct informants to be interviewed. Primary data is data obtained directly at the research location through an interview process with informants. In addition to the informants, the researcher/author also collected secondary data, namely document data, archives, and all written sources including laws and regulations, Perkap, and other articles and photos that supported the research.

Data Analysis Techniques

This study used qualitative data analysis techniques with reference to the interactive analysis model developed (Saldana, 2014). This model was chosen because it is in accordance with the characteristics of qualitative research, which is inductive, interactive, and takes place simultaneously from data collection to conclusion drawing. Data analysis in this study was carried out through three interrelated activity flows: data condensation, data display, and conclusion drawing/verification. The three flows took place interactively and continuously throughout the research process, forming a cycle that repeated until it reached the point of information saturation.

Data condensation refers to the process of selecting, simplifying, abstracting, and transforming data that approximates the entire portion of written field records, interview transcripts, documents, and other empirical materials (Saldana, 2014). This process took place continuously throughout the research. The researcher selected data that were relevant to the research focus based on the problem formulation and theoretical framework that had been set. Data that were not relevant to the implementation of the brong exhaust handling policy, the factors that affected it, and its impact on the local industry were set aside or not used.

The Head of the Purbalingga Police explained in an interview:

"We focus on operational data such as the number of raids, tickets, and exhaust secured. Other data that is not directly related to the enforcement is usually not recorded by us specifically." (I2, interview February 12, 2025)

This statement served as a guideline for the researchers to prioritize data related to law enforcement activities. The researchers focused the data on the six variables of the Van Meter & Van Horn (1975) model and the street-level bureaucracy concept of (Lipsky, 2010). Data related to objective standards, resources, interorganizational communication, agent characteristics, implementer disposition, and environmental conditions were the priorities of the analysis. For example, when an informant mentioned personnel limitations, the researcher directly attributed it to the resource variables in the Van Meter and Van Horn framework. When informants recounted the differences in how officers took action, the researchers linked it to the concept of discretion in Lipsky's theory.

The researcher made summaries of each interview transcript, observation notes, and documents that had been collected. These summaries were in the form of the essence or main points of the informants' thoughts without eliminating important substance. For example, an informant explained that the operation to crack down on brong exhaust was carried out routinely every week but was constrained by the number of personnel, which was only 39 people for 14 sub-districts. Priority operations were focused on vulnerable points based on community reports.

The researchers transformed raw data into more systematic and analysis-ready records. The transformation was carried out by coding each relevant unit of information (open coding, axial coding) and entering the data into the presentation stage. The researcher presented the data in the form of a systematic, flowing, and easy-to-understand descriptive narrative. Each finding was presented in clear language and supported by direct quotes from the informants.

Table 1. Summary of Implementation Variables Based on Van Meter & Van Horn Model in Purbalingga Regency

Variable	Indicator	Field Findings
Standards and Objectives	Clarity of technical rules	The rules exist, but they are not operational because there are no measuring instruments
Resources	Number of personnel	39 people for 14 sub-districts
Resources	Technical facilities	Not having an adequate sound level meter
Communication	Coordination with stakeholders (dishub)	Not optimal, still incidental
Characteristics of agents	Bureaucratic structure	Hierarchical, waiting for the leader's orders
Disposition	Officers' attitudes	Variative (firm/tolerant
Environmental conditions	Local industry	Exhaust industry center

The researcher presented direct quotes from the informants to provide empirical evidence and "voices" from the field. Each quote was assigned an informant code and interview time. Drawing conclusions was the activity of formulating the meaning of the data that had been presented by looking for patterns, themes, relationships, similarities, and differences that frequently appeared. The initial conclusions presented were still provisional and would change if strong evidence was found to support the next stage of data collection (Saldana, 2014). Verification of the conclusions was carried out during the study by triangulation, comparing data from various sources, member checking, discussion with colleagues, and looking for cases that contradicted the provisional conclusions.

Data Validity

In qualitative research, data validity or trustworthiness refers to the level of trust in the research results. Lincoln et al. (1985) put forward four main criteria to ensure the validity of qualitative research data: credibility, transferability, dependability, and confirmability.

RESULT AND DISCUSSION

Result

Policy Context Overview

For one week in early January 2024, the National Police Traffic Corps (Korlantas) confiscated 430,000 noisy or brong exhausts (Republika.co.id, 2024). In the Central Java Regional Police area itself, throughout 2022 to January 13, 2024, the Central Java Regional Police Directorate acted against 338,551 vehicles, with 203,952 brong exhausts secured as evidence. Meanwhile, there were 149,184 motorcycles that were secured because they used brong exhausts. There are five police stations that had the highest levels of enforcement on the use of brong exhausts in the Central Java region: the Banyumas Police with 31,193 brong exhausts, the Surakarta Police (24,907 exhausts), the Temanggung Police (23,307 exhausts), the Semarang Police (21,912 exhausts), and the Sukoharjo Police (19,462 exhausts).

The exhaust industry cluster in Purbalingga Regency is an industrial cluster that was initially formed naturally. The center of the Purbalingga exhaust industry is located in a special area under the Regional Technical Implementation Unit (UPTD) of the Purbalingga Metal Industry Development. The Purbalingga exhaust industry center is inhabited by 42 tenants engaged in exhaust production, motorcycle body modification, electroplating, and metal staining. In addition, there are SMEs that produce telecommunication spare parts, construction workshops, raw metal material providers, lathe workshops, and construction services. This center was built and developed from the Special Allocation Fund (DAK) for IKM centers.

The noise produced by the brong exhaust of a motorcycle can be said to violate the technical and roadworthy requirements of motorcycle vehicles that have been listed in the Road Traffic and Transportation Law. Article 285 Paragraph (1) and Article 48 Paragraph (1) affirm that "every Motor Vehicle operated on the Road must meet technical and roadworthy

requirements, as in Article 48 Paragraph (3) which includes noise, efficiency of the main brake system, and so on." Vehicles that do not meet technical requirements, such as the exhaust described in Article 285 of the Road Traffic and Transportation Law, can be sanctioned with imprisonment for a maximum of one (1) month or a maximum fine of Rp 250,000 (two hundred and fifty thousand rupiah).

The use of non-standard exhaust systems on motorcycles has a number of negative impacts that have been confirmed by recent scientific research. Small, low-cost engines, such as those used in motorcycles, are known to contribute disproportionately high levels of fine particulate matter, hydrocarbons (HC), and carbon monoxide (CO) compared to other vehicles in their class. Pechout et al. (2022) confirm that inadequate exhaust system conditions including those resulting from exhaust modifications as well as irregular and improper maintenance are the primary factors causing motorcycle exhaust emissions to exceed established thresholds, while also significantly reducing fuel efficiency. Regarding noise, suboptimal muffler design results in extremely high sound pressure levels (SPL); conversely, muffler redesign has been shown to reduce SPL by up to 6.5 dB at 3,000 rpm while safely increasing the maximum exposure time for the operator (Sedighi et al., 2024). Furthermore, emissions from motorcycles are linked to serious health impacts such as respiratory diseases, cardiovascular disorders, and increased oxidative stress, while fuel consumption exhibits high variability depending on the technology and condition of the vehicle's exhaust system. According to Regulation of the Minister of the Environment No. 7 of 2009 on noise limits for motor vehicles, the established noise limits are 77 dB for motorcycles with engine capacities up to 80 cc, 80 dB for engine capacities between 80 and 175 cc, and 83 dB for motorcycles with engine capacities above 175 cc.

"One of the violations related to technical requirements and roadworthiness is the use of racing/non-standard exhausts, which directly shows an attitude of disregard for traffic ethics, where the use of a 'brong exhaust' violates Law Number 22 of 2009 concerning Road Traffic and Transportation; this article is the basis for the police to issue tickets for motorcyclists who use non-standard exhausts." "Unfit means not meeting the requirements as outlined in Law No. 22 of 2009, Article 285, Paragraph (1)." Legal sanctions for users of racing exhaust motorcycle modifications have been implemented based on Law Number 22 of 2009, but they are not optimal.

The function of the police is fundamental in human life in society and the state (Rinaldi Ramadhan, Mahmud Mulyadi, 2021). The function of the police must be seen in the perspective that the individual, society, and the state are each a system that, as a whole, processes the inputs of development programs to produce outputs in the form of prosperity, justice, and welfare.

The handling of brong exhausts as a social problem uses its discretionary authority. Meanwhile, the authority to exercise discretion is implicitly regulated in several articles in Law Number 2 of 2002 concerning the National Police of the Republic of Indonesia, among others contained in Article 18 of Law Number 2 of 2002 concerning the National Police of the Republic of Indonesia, Paragraph (1), which explains that in the public interest, officials of the National Police of the Republic of Indonesia in carrying out their duties and authorities can act according to their own judgment; and further, in Paragraph (2), it is explained that the implementation of the provisions as intended in Paragraph (1) can be carried out in urgent circumstances by paying attention to the laws and regulations and the code of ethics of the National Police of the Republic of Indonesia. Article 18 gives discretionary authority to National Police officials to take actions based on their own judgments, founded on the public interest, professional code of ethics, and conditions that are very necessary.

Based on data from the Central Statistics Agency of Purbalingga Regency in 2021, there are 43 large industries and 76 small industries, including false eyelashes, home industries, and local exhaust industries. The exhaust industry cluster continues to increase as shown below:

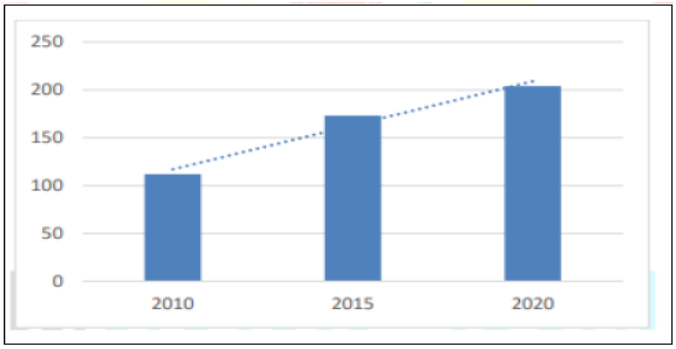


Figure 1. Growth of the Exhaust Industry in Purbalingga Regency 2010–2020
Source: Purbalingga Regency Industry and Trade Office 2010 – 2020

The development of the exhaust industry in Purbalingga has had a positive impact on the region and its community. For residents with a low level of education in particular, the exhaust industry serves as a forum for people to easily find jobs. The research focuses on the exhaust industry in Purbalingga Lor Village; the industry affects the social and economic conditions of the local community. The exhaust industry is an industry with local wisdom that is quite inherent in Purbalingga Regency. Exhaust work in the industry is still carried out manually. Furthermore, the marketing of the exhaust industry has reached an international level. Therefore, the exhaust industry can potentially be a One Village One Product (OVOP).

The brong exhaust industry has, over time, become an icon of Purbalingga Regency. One of the icons of Purbalingga Regency is the exhaust statue monument located at the junction of the road to Bobotsari. At this T-junction, a statue of a person forging metal into an exhaust pipe was built. This monument was built by Triyono Budi S., a Regent of Purbalingga, as an icon of the exhaust-producing area. The monument is not far from Pesayangan Village. Pesayangan Village, Purbalingga District, Purbalingga Regency, Central Java has long been the center of the home exhaust industry. The entire population or 100% of its citizens depends on this home exhaust manufacturing industry for their livelihoods. Those who have capital, of course, run a business, while those who do not have capital work as employees.

Figure 2. Exhaust Monument in Purbalingga
Source: Author (2024)

Purbalingga is the largest exhaust-producing city in Indonesia, not only dominating the domestic market but also foreign markets. The advantages of the Purbalingga exhaust include not only its ability to enhance engine performance but also its adjustable exhaust sound. The exhaust industry in Purbalingga is classified as a cottage industry, and its industrial center is in Pesayangan Hamlet, Purbalingga Lor Village, Purbalingga. The exhaust industry is a transformation of the copper cauldron and pot industry that has existed since the 1950s; therefore, the exhaust trade has become a hereditary business. Industrial growth in Purbalingga Regency has increased significantly, and one of the centers of this development is Purbalingga Lor Village. The industry in this region, especially the exhaust industry, plays an important role in shaping the social and economic dynamics of its business actors. As part of local wisdom, the exhaust industry has become a hallmark of Purbalingga Regency and has been able to penetrate the international market.

Business actors face limitations in capital and resources to develop their businesses. These limitations can hinder their ability to increase production capacity, improve product quality, or expand their marketing network. As a result, they find it difficult to compete with business actors who have higher incomes and better access to quality technology and raw materials. In addition, these low-income business actors often face difficulties in accessing the financing or business credit needed for expansion. Without additional capital, they are forced to maintain their operations on a very small scale, which limits their growth potential and revenue. This also makes them vulnerable to market fluctuations and changes in consumer demand, as they have limited financial reserves to cope with periods of declining sales.

Article 285, paragraph 1, of Law of the Republic of Indonesia Number 22 of 2009 concerning Road Traffic and Transportation states, "Every motorcyclist who does not meet the technical and roadworthy requirements such as mirrors, headlights, brake lights, horns, speedometers, and exhaust is sentenced to imprisonment for a maximum of 1 month or a maximum fine of Rp250,000." The article is considered a "rubber article" by motorists who receive traffic citations and is the "ultimate weapon" to penalize motorists who do not use a standard exhaust when disputes about fines arise.

If the driver does not use the factory-installed exhaust, the vehicle is not roadworthy and violates the law. Brong exhaust is not necessarily considered roadworthy because established exhaust manufacturers have conducted research and development for the exhaust they produce so that it can be sold and deemed roadworthy. If roadworthiness must be determined in accordance with noise level, then the applicable regulation should be the Regulation of the Minister of Environment and Forestry that the author mentioned above, which provides more technical specifications and can serve as a derivative rule of UULLAJ.

One form of Kamtibmas disturbance related to the use of brong exhaust is illegal racing and motorcycle gangs. As conveyed by the Purbalingga Police Chief, AKBP Achmad Akbar, during an interview on February 9, 2025, the Purbalingga Police Patrol raided a number of vehicles that were preparing to engage in illegal racing on the Pekiringan–Bantarbenda highway, Karangmoncol District, Purbalingga Regency, on Thursday, February 6, 2025. It was reported that the raid found 44 motorcycles violating traffic rules, among them drivers who did not wear helmets, did not have a driver's license, did not carry an STNK, and had installed a brong exhaust that did not meet technical specifications.

The uniqueness of the exhaust industry as an icon of Purbalingga City should be accompanied by the readiness of the exhaust industry to participate in the One Village One Product (OVOP) program. The readiness of the exhaust industry in the One Village One Product (OVOP) program is one of the important factors in increasing the competitiveness of local products in the global market. By focusing on developing superior potential in each village, the exhaust industry is expected to demonstrate readiness in terms of product innovation, technology utilization, and improving human resource (HR) skills.

The use of brong exhaust is prohibited in Purbalingga Regency. Those who use brong exhaust in Purbalingga Regency are individuals who do not comply with the rules. The impact of the use of brong exhaust in Purbalingga Regency is the noise it generates, which disturbs community comfort. This was explained by AKP Siswanto, S.H., M.M., as the Head of Criminal Investigation of the Purbalingga Police during an interview on February 12, 2025.

Implementation of Brong Exhaust Handling Policy

Law No. 22/2009 and the Regulation of the National Police Chief on Motor Vehicle Testing have established clear technical standards, namely that vehicles must meet the prescribed noise threshold. However, these standards are often not explicitly or easily measured in the field by traffic police, creating ambiguity. Van Meter & Van Horn (1975) emphasize that "vague and contradictory goals can create confusion and conflict among implementers" (p. 471). This policy is based on Law No. 22 of 2009 concerning Road Traffic and Transportation (LLAJ), especially Article 106, paragraph (3), which states, "Every Motor Vehicle operated on the Road must meet technical requirements and roadworthiness."

Table 3. The results of the Dakgar Exhaust are not in accordance with the Technical Specifications in the Jurisdiction of the Purbalingga Police in order to create conditions

NO	POLICE STATION (POLSEK)	COLLECTION DATE 1	QTY 1	COLLECTION DATE 2	QTY 2	TOTAL VIOLATIONS	REMARKS
1	POLSEK PADAMARA	Wed, 10-Feb 2024	5	Sat, 10 February 2024	6	11	
2	POLSEK KALIMANAH	Wed, 10-Feb 2024	12	Sat, 10 February 2024	8	20	
3	POLSEK KUTASARI	Wed, 10-Feb 2024	20	Sat, 10 February 2024	30	50	
4	POLSEK BOJONGSARI	Wed, 10-Feb 2024	4	Sat, 10 February 2024	6	10	
5	POLSEK MREBET	Wed, 10-Feb 2024	7	Sat, 10 February 2024	16	23	
6	**POLSEK BOBOTSARI**	Wed, 10-Feb 2024	**61**	Sat, 10 February 2024	**66**	**127**	**Highest Exhaust Type 1**
7	POLSEK KARANGREJA	Wed, 10-Feb 2024	5	Wed, 31 January 2024	4	9	
8	**POLSEK KARANGANYAR**	Wed, 10-Feb 2024	**29**	Wed, 31 January 2024	**71**	**100**	**Highest Exhaust Type 2**
9	POLSEK KARANGMONCOL	Wed, 10-Feb 2024	3	Wed, 31 January 2024	5	8	
10	POLSEK REMBANG	Wed, 10-Feb 2024	5	Wed, 31 January 2024	5	10	
11	POLSEK PENGADEGAN	Wed, 10-Feb 2024	3	Wed, 31 January 2024	10	13	
12	POLSEK KEJOBONG	Wed, 10-Feb 2024	4	Sat, 10 February 2024	12	16	

NO	POLICE STATION (POLSEK)	COLLECTION DATE 1	QTY 1	COLLECTION DATE 2	QTY 2	TOTAL VIOLATIONS	REMARKS
13	POLSEK BUKATEJA	Wed, 10-Feb 2024	9	Sat, 10 February 2024	57	66	
14	POLSEK KEJOBONG	Wed, 10-Feb 2024	8	Sat, 10 February 2024	10	18	
15	POLSEK PURBALINGGA	Wed, 10-Feb 2024	2	Sat, 10 February 2024	12	14	
16	**POLSEK KALIGONDANG**	Wed, 10-Feb 2024	**42**	Wed, 31 January 2024	**28**	**70**	**Highest Exhaust Type 3**
	TOTAL		**219**		**346**	**565**	

Source: The author is taken from Urmin Satlantas, Purbalingga Police 2025

IPTU Tri Yani Asmara, S.H., as the Head of Intelligence of the Purbalingga Police during an interview on February 12, 2025, that what the Purbalingga Police did to the broken exhaust, namely:

1) Carry out sambang to Tomas, Toda, and Toga or the Purbalingga Regency Environmental Agency to always cooperate in the implementation of the socialization of kenalpot brong.
2) Carry out socialization in schools in the Purbalingga Regency area about the use of kurungpot brong.
3) Carrying out socialization about exhaust noise limits is regulated based on the capacity of the motorcycle and does not sell exhausts that are not in accordance with applicable regulations.
4) Always carry out sambang to Tomas, Toda, and Toga or the Purbalingga Regency Environment Agency to always cooperate in the implementation of the socialization of knowing pot brong.

In addition to carrying out face-to-face Dikmas, the Purbalingga Police Satlantas also carried out technology-based Dikmas Lantas. Technology-based Dikmas Lantas carried out by the Purbalingga Police Satlantas is a form of e-policing carried out by the Purbalingga Police Satlantas. The e-policing that has been carried out has guided the operational guidelines of the Perpol Police for the implementation of electronic-based traffic. The preemptive strategy carried out in the handling of the Purbalingga Police against the use of brong exhaust is based on the information provided by the AKP. Kumala Enggar Anjarani, S. T. K., S. I. K., M. Sc., as the Head of the Purbalingga Police at the time of the interview on February 12, 2025, was also carried out through indirect counseling, that:

To support activities to control exhaust that is not in accordance with technical specifications, the Purbalingga Police SatLantas has installed banners/banners containing the prohibition of the use of exhaust that does not comply with technical specifications. This appeal banner is installed in a strategic location and is easy to read by road users. It is hoped that with the implementation of exhaust control that is not in accordance with technical specifications, community compliance and discipline and awareness of traffic order will increase, so that the number of violations and traffic accidents can be suppressed and the kamseltibcarlantas can be realized.

Prevention efforts are the implementation of strategies in the preventive function are all efforts and activities to maintain public security and order, maintain the safety of people, objects and goods, including providing protection and assistance, especially preventing violations of the law. The product of this effort is the development of mapping of places and community activities that require the presence of security officers (police hazard), the need for urban infrastructure in the form of various public facilities needed to reduce the occurrence of crime and the mapping of

the need for the presence of security officers in places and community activities that require the physical presence of security officers.

Collaboration carried out by the Purbalingga Police with educational agencies in to prevent broken exhaust in Purbalingga Regency by conducting socialization to schools in the Purbalingga Regency area. The collaboration carried out by the Purbalingga Police with Tomas, Toda, and Toga or the Environment Agency to prevent broken exhaust in Purbalingga Regency is a joint discussion. The legal basis used in the prosecution of traffic violations related to the use of exhaust is not in accordance with the Spektek/brong , namely in Article 285 paragraph (1) "Any person who drives a motorcycle on a road that does not meet the technical requirements of the road and road which includes rearview mirrors, horns, headlights, brake lights, directional lights, reflectors, speed measuring devices, exhaust, and the depth of the tire groove as referred to in Article 106 paragraph (3) juncto Article 48 paragraph (2) and paragraph (3) shall be punished with imprisonment for a maximum of 1 (one) month or a maximum fine of Rp 250,000 (two hundred and fifty thousand rupiah)." Law No. 22 of 2009.

To cause a deterrent effect on users of exhausts that are not in accordance with Spektek/brong, Satlantas Purbalingga enforces enforcement with warnings, tickets, and imposes policies on violators who use exhausts that are not in accordance with Spektek/brong to replace/install exhausts that are in accordance with Spektek/brong at the time of taking action, as well as violators hand over exhausts that are not in accordance with Spektek/brong to the officer who took action and signed the minutes of the handover of the exhaust not in accordance with the Spektek/brong. The effect that arises on exhaust producers that do not comply with Spektek/brong is the decrease in demand from consumers of exhaust that does not comply with Spektek/brong as a result of consistent enforcement of traffic violations in Purbalingga.

The settlement of the case must be by criminalization or the imposition of criminal sanctions. This is explained in Theorie Absolut (vergeldingstheorie) the purpose of punishment as retribution against the perpetrators for committing crimes that cause harm to other people or members of society, while Saleh (1987) says that it is a reaction to the crime, which is in the form of a punishment that the state deliberately inflicts on the perpetrator. In principle, violations of the use of broken exhaust occur due to ignorance of the law, lack of vigilance, or violating signs. This is also the basis for the desire for peace efforts to emerge as a legal umbrella in handling the use of broken exhaust based on progressive legal theory. According to Satjipto Rahardjo (2010), progressive law enforcement is to carry out the law not just the black and white words of the regulations (according to the letter), but according to the spirit and deeper meaning (to very meaning) of the law or law. Progressive law departs from the basic assumption that law is for humans, not the other way around. Law is an institution that aims to lead humans to a just, prosperous life and make humans happy. Humanity and justice are the goals of everything in our legal life. If the handling of broken exhaust is carried out just by paying attention to the written law, then the resulting impact is a downturn for the exhaust industry in Purbalingga Regency.

Policy implementation will not succeed without the support of human resources of sufficient quality and quantity. The quality of human resources is related to skills, dedication, professionalism, and competence in their fields, while strength is related to the number of human resources whether it is enough to cover all target groups. Human resources have a great influence on the success of implementation, because without reliable human resources, policy implementation will be slow.

Table 4. Number of Purbalingga Police Satlantas Personnel in 2024

FUNCTION	AKPOL	SIPSS	SIP	PAG	ENLISTED (BINTARA)	CIVIL SERVANTS (ASN)	TOTAL
TRAFFIC UNIT	5	-	5	1	104	5	120

Source: The author is taken from Urmin Satlantas Polres Purbalingga, 2025

In policy implementation, the budget is related to the adequacy of capital or investment in a program or policy to ensure the implementation of the policy, because without adequate budget support, the policy will not run effectively in achieving goals and objectives. So we can describe the new conceptual model because of theoretical synthesis or analytical frameworks as follows:

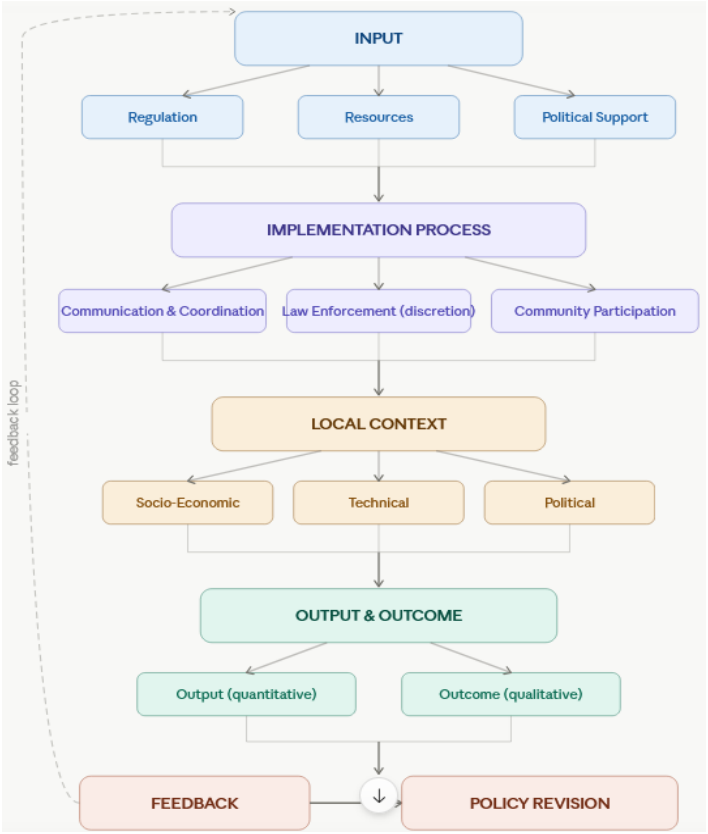


Figure 3. Flowchart
Source: Author's Processing (2025)

This model integrates classical policy implementation theory (Van Meter & Van Horn) with street-level bureaucracy theory (Lipsky) and incorporates strong local context variables. It can be used as an evaluation tool for the Police and stakeholders to improve the effectiveness of similar policies in other areas with similar characteristics. The initial process we identified from this model is, first, at the policy input level: the clarity of the rules of Law Number 22/2009, which includes aspects of human resources (number, competence, motivation), technical tools (sound level meter), operational budget, and political and administrative support. Second, in the implementation process, particularly in policy communication such as socialization to the community, schools, and industry players, as well as coordination with the transportation office, DLH, and related agencies. Regarding enforcement activities, it is necessary to carry out such activities as routine and joint operations, enforcement (reprimands, tickets, administrative sanctions), officer discretion (street-level bureaucracy), and community participation such as community reporting, legal compliance, and participation in socialization. Third, the importance of local context such as socio-economic factors, the existence of the exhaust industry as a livelihood, local wisdom, regional identity, education level and legal awareness, clear and measurable technical factors, and political factors such as the support of local elites and pressure from community groups (pro and con). Fourth are outputs and outcomes such as the number of operations, tickets, and exhausts secured; the level of compliance after socialization; outcomes that can reduce noise; increased legal awareness; economic impact on the local industry; and changes in driver behavior. Fifth, the importance of a feedback loop, which includes periodic evaluations by the Police and stakeholders, policy adaptation based on evaluation results, and strategy revitalization based on community input.

Discussion

Factors That Affect the Implementation

Van Meter & Van Horn (1975) emphasized that clarity of standards and policy objectives is an absolute prerequisite for effective implementation. A vague goal will create confusion and

conflict among implementers.

The legal basis for handling broken exhaust has been clearly formulated in Article 285 Paragraph (1) of Law No. 22 of 2009 jo. Article 48 Paragraphs (2) and (3), which regulates criminal sanctions for motorists who do not meet technical and roadworthiness requirements, including exhaust. However, clarity at the regulatory level does not necessarily guarantee clarity at the operational level.

The Head of the Purbalingga Police explained:

"The rules are clear, Article 285. But on the ground, we have a hard time determining the objective limits of which exhaust violates the standard and which does not. Because there is no measuring tool, we use a subjective assessment." (Interview February 12, 2025)

A member of Satlantas added:

"Sometimes we have doubts too. The factory-built sports motorcycle exhaust alone is quite noisy, especially if it is modified. But as a rule, factory-standard exhaust is supposed to be safe. The problem is, we don't memorize the standard sound of all motorcycle brands." (Interview February 12, 2025)

Policy standards are normatively clear but not operational because they are not equipped with adequate technical instruments. The Regulation of the Minister of State for the Environment Number 7 of 2009 has set noise thresholds based on engine capacity (77 dB(A) for <80 cc, 80 dB(A) for 80–175 cc, 83 dB(A) for >175 cc). However, without a sound level meter, this standard cannot be applied objectively in the field. As a result, there is ambiguity in implementation that has the potential to create disparities in enforcement and conflicts with the community.

Van Meter & Van Horn (1975) stated that resources include adequate authority, funds, facilities, information, and personnel. Limited resources will directly affect policy performance. The Purbalingga Police Task Force only has 39 personnel (Table 2) to handle 14 sub-districts with an area of 677.55 km^2. This number is highly disproportionate compared to the workload that must be handled.

Kasat Lantas revealed:

"With a limited number of personnel, we cannot conduct daily raids in all locations. Usually we focus on points where violations often occur or based on community reports. That was only a few times a week." (Interview February 12, 2025)

The Purbalingga Police does not have a sound level meter (noise measuring device) that is adequate to objectively detect whether an exhaust exceeds the specified threshold.

A member of Satlantas admitted:

"We only rely on our ears. If we think it's too noisy, we issue a ticket. But sometimes motorists protest and ask for proof of measurement. We can't provide it because we don't have the tools." (I5, interview February 12, 2025)

Limited operating budgets cause the frequency and range of operations to be suboptimal. Joint operations with other agencies (Dishub, DLH) can only be carried out several times a year due to cost limitations. Limited resources are the main structural obstacle in policy implementation. Lipsky (2010) explained that in situations of limited resources, street-level bureaucrats will develop routines and coping mechanisms. In Purbalingga, the routine takes the form of focusing operations in strategic locations and responding to community complaints, rather than conducting uniform patrols. This causes the implementation to be sporadic and inconsistent, so it does not provide a uniform deterrent effect.

Van Meter & Van Horn (1975) emphasized the importance of effective and consistent communication between the agencies involved, as well as firm enforcement activities. Internal communication within the Purbalingga Police went quite well through the morning roll call (apel pagi) mechanism, routine coordination meetings, and WhatsApp communication groups. Coordination with related agencies such as the Transportation Agency (Dishub) and the Environment Agency (DLH) has not been optimal. Kasat Lantas elaborated:

"We have coordinated several times with the Transportation Department for joint operations, but this has not been done on a regular schedule. We usually make contact when there is a major operation. For routine operations, we do it ourselves." (I2, interview February 12, 2025)

Kasat Intelkam added:

"We are also coordinating with the Environment Agency regarding the socialization of noise limits. But because of their personnel limitations, it is not optimal." (I3, interview February 12, 2025)

Good internal communication is not enough if it is not supported by strong cross-sector synergy. The handling of broken exhaust should involve the Transportation Department (vehicle testing), DLH (noise measurement), and the Department of Industry (local industry development). The absence of structured coordination causes the approach to remain sectoral and partial. Existing enforcement activities emphasize the repressive aspect, while preventive and coaching efforts have not been optimal. The characteristics of a hierarchical bureaucracy create a dependence on command, so innovation and field initiatives are hampered. In fact, policy implementation at the operational level requires flexibility to respond to local dynamics. On the other hand, a procedural work culture also leads to slow adaptation to changing conditions in the field.

A member of Satlantas revealed:

"In my opinion, the exhaust is indeed annoying, especially at night. But sometimes I also feel sorry for the riders, especially those who are still young and whose motorcycles are on credit. If they are ticketed, they will be in more difficulty." (I5, interview February 12, 2025)

Kasat Lantas has a different view:

"This is a matter of legal compliance. If we continue to be tolerant, they will feel that they can violate the law. That is why I instruct officers to be firm, but still humane." (I2, interview February 12, 2025)

A motorist who had been ticketed offered this perspective:

"I was ticketed because of a broken exhaust. The officer was firm, but also explained the reason. I finally accepted it and replaced it with a standard exhaust." (I6, interview February 15, 2025)

Purbalingga is the largest center of the exhaust industry in Indonesia. There are 42 tenants in the Purbalingga Metal Industry Development UPTD that produce exhaust, not including home industries in Pesayangan Village and Purbalingga Lor Village, numbering in the tens. This industry has become the main livelihood for thousands of citizens and has even been a hereditary business since the 1950s.

An exhaust industry player revealed:

"We have been making exhaust for decades. This is the legacy of our parents. Now if it is banned, we are confused about what to do. My workers number 15 people; they also have families." (I7, interview February 15, 2025)

The Purbalingga Regency Government even built an Exhaust Monument at the junction of the road to Bobotsari as a regional icon. This shows that the exhaust has become part of local identity and pride.

The Head of Intelkam explained:

"We have to be careful. On the one hand we have to be firm, but on the other hand the exhaust has become an icon of Purbalingga. Moreover, there is an Exhaust Monument built by the regent. So the approach has to be wise." (I3, interview February 12, 2025)

The local government provides support for law enforcement efforts, but also has an interest in protecting local industries. The local DPRD has asked several times that the crackdown does not kill small businesses.

An informant mentioned:

"Members of the DPRD have come here (Polres), asking that the enforcement action not be excessive. They are worried that the exhaust industry will die and that residents will become unemployed." (I1, interview February 9, 2025)

Environmental conditions in Purbalingga create a complex policy dilemma. The police must balance three potentially conflicting interests: (1) law enforcement and response to community complaints, (2) protection of local industries that are the livelihood of residents, and (3) the maintenance of regional cultural identity. This condition is not found in other areas that are not industrial centers, so it demands a contextual and different implementation approach. Van

Van Meter & Van Horn (1975) did mention environmental conditions as variables, but complexity such as in Purbalingga has rarely received attention in previous traffic policy implementation studies.

Officers' Discretionary Role

With limited personnel, officers use discretion to determine the priority of location and the target of the raid. Kasat Lantas explained:

"We can't raid all places. Usually, we focus on locations where public complaints often arise or that are known as hangout places for young people. We also make such determinations based on intelligence information." (I2, interview February 12, 2025)

One member added:

"Sometimes we also focus more on motorcycles with striking modifications. The reason is that they usually use a broken exhaust. We rarely check standard bikes." (I5, interview February 12, 2025)

Officers have the discretion to decide whether to issue a reprimand or immediately issue a ticket. One member revealed:

"If the driver is still young, sometimes we give a reprimand first and tell him to change the exhaust. But if he has been reprimanded and is still non-compliant, we will immediately issue a ticket. Sometimes we also consider his attitude if he is polite, we will show tolerance." (I5, interview February 12, 2025)

A motorist who was stopped during the raid recounted his experience:

"At that time, I was only reprimanded and told to change the exhaust. The officer said, 'This is the first warning; next time you will get a ticket.' I ended up replacing it with a standard exhaust." (I6, interview February 15, 2025)

Because they do not have a measuring device, officers use subjective judgment to determine whether an exhaust is in violation or not. One member admitted:

"We use our ears and experience. If we think it's too noisy, we issue a ticket. But people's ear standards vary. Sometimes I issue a ticket; my colleague does not. That's the risk." (I5, interview February 12, 2025)

These findings reinforce Lipsky (2010) argument that street-level bureaucrats are the real policymakers. In Purbalingga, the policy of handling broken exhaust is not only determined by Law 22/2009, but also by the discretionary decisions of officers in the field. The routines they developed such as focusing on specific locations, granting leniency based on rider characteristics, and the "change on the spot" policy are in practice more tangible operational policies than formal regulations.

This shows that the evaluation of policy implementation is not sufficient to simply examine formal documents and procedures, but must extend to the level of micro-level interaction between officers and the community. This is where it is important to integrate Lipsky's theory with macro-level policy implementation models such as the Van Meter and Van Horn model. Throughout 2024, the Purbalingga Police carried out various operations, both routine and special. Special operations are usually conducted ahead of national holidays or special occasions. Kasat Lantas explained:

"We have a routine operation schedule every week, usually Thursday night or Friday night. If it is a special operation, it can be every day for a certain period, for example Operation Obedience or Operation Zebra." (I2, interview February 12, 2025)

Kasat Lantas explained the effectiveness of the on-site replacement policy:

"The exhaust pipes that we confiscate are quite numerous, but what is more important is the deterrent effect and compliance. With the change policy in place, they immediately comply without having to go to court. We confiscate the old exhaust as evidence." (I2, interview February 12, 2025)

Kasat Lantas revealed:

"Public complaints about noise are starting to decrease. We used to receive 5–10 reports per week; now, maybe 2–3 reports. But we do not yet have statistical data on this." (I2, interview February 12, 2025)

A resident interviewed informally stated:

"Now it is rare to hear the sound of a broken exhaust in the middle of the night. It used to be

frequent, especially on the highway in front of the house." (Community, informal communication)

CONCLUSION

The implementation of the policy to address loud exhausts by the Purbalingga Police has not been optimal, even though the legal basis is clear under Law No. 22/2009. Based on Van Meter and Van Horn's (1975) six-variable model, the main constraints include limited personnel (only 39 officers for 14 sub-districts), the lack of sound level meters, insufficient cross-sectoral coordination with the Transportation Agency and the Environmental Agency, and inconsistent officer attitudes, leading to disparities in enforcement. This situation is exacerbated by the dilemma between law enforcement and the protection of the local economy, given that Purbalingga is the largest exhaust pipe manufacturing hub in Indonesia. In line with Lipsky's (2010) concept of street-level bureaucracy, the discretion of field officers actually determines real outcomes more than formal regulations, such as the on-site exhaust replacement policy, which has proven quite effective 829 exhausts were confiscated during a one-week operation in January 2024.

For future improvements, several policy recommendations need to be seriously addressed. The Purbalingga Police Department should propose increasing the number of Traffic Police personnel and procuring sound level meters to ensure that enforcement is objective and measurable. Joint operations with the Transportation Agency and the Environmental Agency need to be institutionalized in a structured manner, while guidelines for officer discretion must be standardized to reduce inconsistencies in enforcement. Equally important, local government and police need to collaborate with the exhaust industry to develop products that meet standards, so that law enforcement does not harm the livelihoods of thousands of residents who depend on the exhaust industry as a cultural and economic identity of Purbalingga.

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AUTHOR CONTRIBUTION STATEMENT

Syafruddin conceptualized the study, coordinated data collection, and provided overall direction to the research. David Raditya Yudhistira contributed to the research design and conducted interviews. Bayu Suseno assisted in data analysis and interpretation. Rina Yulianti contributed to the literature review and contextual understanding of the exhaust industry. Juliannes Cadith supported the research by gathering secondary data and helping in the synthesis of findings. All authors contributed to drafting and revising the manuscript, ensuring the integrity and quality of the research.

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