



Law Effectiveness in the Implementation of DKI Jakarta Governor Regulation Number 66 of 2020 to Tackle Air Pollution in Jakarta

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Abstract

Air pollution in big cities has been increasing lately, including in Jakarta, the former capital and economic heart of Indonesia. The Jakarta Provincial Government has taken policy steps to overcome this problem, one of which is through DKI Jakarta Governor Regulation Number 66 of 2020 concerning Exhaust Gas Emission Tests for Motorized Vehicles. The purpose of this research is to measure the effectiveness of the implementation of DKI Jakarta Governor Regulation No. 66 of 2020 on the problem of air pollution in Jakarta using the theory of law effectiveness. This research uses a qualitative method to reach a wide scientific perspective to solve this problem. This will be achieved through research on the Jakarta Provincial Government as the regulation maker, Polda Metro Jaya and Dinas Perhubungan Jakarta as law enforcers, and civil society as the affected parties. The results of this research are expected to determine how effective DKI Jakarta Governor Regulation Number 66 of 2020 is in tackling the problem of air pollution in Jakarta through the theory of law effectiveness.

Keywords: Air Pollution, Exhaust Gas Emission Test, Law Effectiveness

1. Introduction

Air pollution is one of the problems faced by various big cities in the world, one of which is Jakarta. As the center of government and the heart of Indonesia's economy, Jakarta has experienced air pollution problems since the 1980s. In general, air pollution is caused by various factors such as industrial smoke, waste disposal, smoke from transportation equipment, burning and decomposing waste, mining and quarrying, construction processes, radioactive materials, and chemical processes. In the context of air pollution in Jakarta, the main contributor is the transportation sector, which reaches 67.04%, followed by the industrial sector 26.8% and in third place is occupied by the power generation sector, 5.7%. Of the transportation sector, 78.3% are private vehicle users in the form of cars and motorcycles. Meanwhile, only 21.7% use public transportation.

Reporting through the Statista Research Department (2023), it was noted that the annual average air pollution level of PM2.5 in Jakarta from 2017 to 2022 was at 39.9 $\mu\text{g}/\text{m}^3$. This data far exceeds the PM2.5 annual global air quality guideline target set by the World Health Organization (WHO), which is a maximum of 5 $\mu\text{g}/\text{m}^3$. In fact, PM2.5 is one of the air pollutants consisting of particles such as dust, dirt, smoke, and liquids found in the air with a small size. The various materials contained in PM2.5 can cause various respiratory disorders such as acute respiratory infections (ARI), lung cancer, cardiovascular disease, premature death, and chronic obstructive pulmonary disease (Sembiring, 2020).



This is an irony, considering that accessibility to clean air that is not polluted by pollution is a public right guaranteed by the constitution. As stated in Article 28H Paragraph (1) of the 1945 Constitution, “Every person has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy environment, and to receive health services.” Furthermore, the state has an obligation to ensure clean and healthy air, which is a manifestation of the welfare state conception. The conception of a welfare state is a model of state policy that leads to social protection or public welfare through various programs such as public health, social security benefits, employee pensions, unemployment, and so on (Christopher Pass and Bryan Lowess, n.d.).

Therefore, the Provincial Government of DKI Jakarta, as an extension of the state, should take strategic and effective steps to ensure the public's right to access unpolluted air to maintain public health. One concrete step to address the issue of air pollution has been taken by the DKI Jakarta Provincial Government through the renewal of the Governor's Regulation on exhaust emission tests. This regulation, outlined in DKI Jakarta Provincial Governor Regulation Number 66 of 2020 concerning Exhaust Gas Emission Tests for Motorized Vehicles, is considered by the DKI Jakarta Provincial Government as a key legal instrument that can significantly contribute to addressing the air pollution problems in Jakarta.

The renewed regulation aims to enforce stricter emission standards for motor vehicles, which are one of the major sources of air pollution in Jakarta. By requiring regular emission tests and imposing penalties for non-compliance, this policy seeks to reduce the levels of harmful pollutants in the air, such as carbon monoxide, nitrogen oxides, and particulate matter, which pose serious health risks to the public.

Table 1. Respondent Characteristics (Gender)

Gender	Amount	Percentage (%)
Men	24	48%
Women	26	52%
Total	50	100%

Table 2. Respondent Characteristics (Domicile)

Domicile	Amount	Percentage (%)
Jakarta Utara	5	10%
Jakarta Timur	19	38%
Jakarta Selatan	11	22%
Jakarta Barat	8	16%
Jakarta Pusat	6	12%
Kepulauan Seribu	1	2%
Total	50	100%

The implementation of emission tests on motor vehicle exhaust gases is an integral part of addressing the fact that private transportation is one of the main contributors to air pollution in Jakarta. However, the policy on emission tests has not been as smoothly implemented as expected.



In the process of enforcement, various reactions from the public have emerged in response to this legal measure. Many people feel that the regulation places unnecessary burdens on them, and some argue that the policy is difficult to comply with, particularly due to the costs and logistical challenges associated with the emission testing process.

Table 3. Type of Motor Vehicle Used

Vehicle Type	Amount	Percentage (%)
Motorcylce	40	80%
Car	9	18%
Motorcycle & Car	1	2%
Total	50	100%

Therefore, it is necessary to conduct a deeper research on the effectiveness of the implementation of the Emission Test Governor Regulation through the lens of legal effectiveness. This approach seeks to bridge the gap between legal theory and empirical data from the field. By examining both the theoretical foundations of the law and the practical realities of its enforcement, the study aims to identify the factors that determine whether the legal measure is truly effective in achieving its goals. This will help ensure that the regulation is not only understood by the public but also fully accepted and voluntarily complied with by the people.

2. Research Method

This research aims to measure the effectiveness of implementing Governor Regulation No. 66 of 2020 concerning Exhaust Gas Emission Tests for Motor Vehicles through theory of law effectiveness. The approach used in this research is a qualitative approach. A qualitative approach is a way of analyzing research that produces analytical descriptive data, namely data stated by respondents in written or oral and also real behavior, which is researched and studied as a whole (Muhaimin, 2020).

This research was conducted in the DKI Jakarta Province, as Jakarta is one of the world's major cities grappling with severe air pollution. In response to this issue, the Provincial Government of DKI Jakarta has introduced various policies, one of which is the Emission Test Governor Regulation. Therefore, this research will examine the effectiveness of the implementation of this regulation by comparing legal theory with empirical data, in order to understand whether the policy has achieved its intended outcomes in practice.

The primary data sources for this research are interviews with key policymakers, including representatives from the Legal Bureau of the DKI Jakarta Provincial Government, which holds the authority to formulate Governor Regulations, and the DKI Jakarta Environment Agency, which was responsible for proposing the renewal of the Emission Test Governor Regulation outlined in DKI Jakarta Governor Regulation No. 66 of 2020.



Meanwhile, data collection was in the form of questionnaires in the form of Google Forms which were distributed randomly according to the simple random sampling technique. Researchers conducted data reliability tests by triangulating data sources, triangulating techniques, and triangulating theories.

3. Results and Discussions

3.1 Theory of Law Effectiveness

According to the Cambridge Dictionary, the term 'effective' is defined as 'successful' or 'achieving the results that you want.' In contrast, the Great Dictionary of the Indonesian Language defines 'effective' as something that has an effect (such as a result, influence, or impression), can bring about results, is successful (in relation to efforts or actions), or comes into force (in relation to laws or regulations).

Gustav Radbruch (1946) argued that the purpose of law is to achieve three fundamental goals: justice, certainty, and benefit. These goals are at the core of his conception of law, and he argued that a legal product must fulfill all three in order to be considered valid. According to Radbruch, law should not be a set of abstract rules imposed on society; rather it should serve humanity (society). In this view, the creation of law is for the benefit of society, not for the law to dominate individual lives. This idea directly challenges the notion that law, once enacted, is inherently valid simply by virtue of its existence.

For Radbruch, law does not cease to be relevant or valid just because it is written down in a legal code or regulation; it must continue to serve the society it is meant to govern. This implies that the rule of law must be implemented effectively and enforced fairly. Law enforcement is not just a technical or bureaucratic process, but also an ongoing interaction between the law and the social conditions it seeks to regulate. In the process of law enforcement, various dynamics within society may emerge, including resistance, adaptation, or unintended consequences that challenge the original purpose of the law.

The concept of law effectiveness is therefore important in assessing the practical application of legal norms. Law effectiveness is not just about whether a law exists or is formally enforced, but also about whether it is actually obeyed and complied with by society. It is a measure of the extent to which law enforcement conforms to societal expectations, achieves expected outcomes, and contributes to the overall well-being of society. Effectiveness is also related to the law's ability to adapt to changing circumstances, ensuring that it remains relevant and able to meet society's needs. Thus, law effectiveness is a theoretical and practical measure of the capacity of law to maintain social order, achieve justice, and provide benefits to society.

Anthony Allot (1981) explains that the theory of law effectiveness is a mechanism so that the law can realize the purpose for which a regulation was formed. The theory of effectiveness



arises to regulate and shape the behavior of members of society. It will guiding them to act in accordance with societal norms and law expectations. Law effectiveness is evaluated by analyzing how well the law fulfills its intended purpose and how it shapes behavior that supports social order, justice, and individual rights. Allot further argues that law effectiveness can be measured through three degrees of application:

a) Prevention (preventive)

In this first degree, the ability of the law to prevent undesirable behavior or outcomes before they occur will be measured. Laws that have a preventive function aim to prevent actions that violate legal norms or harm society. The form of prevention that is generally carried out and listed in the regulations is in the form of prohibitions and threats of sanctions. To this degree, it can cause fear and prevent unlawful acts from occurring.

b) Dispute Resolution (curative)

At this second degree, the ability of the law to resolve conflicts and disputes that arise between members of society will be measured. The capacity of regulations to provide fair solutions to disputes is an important indicator of their effectiveness, as they have a direct impact on social harmony and the enforcement of justice.

c) Providing The Needs of Legal Subjects to Carry Out Legal Actions (facilitative)

At the last degree, to measure the extent to which the facilities in place to support this are actually being used by those qualified to do this and the extent to which institutions are regulating them.

The theory of law effectiveness according to Soerjono Soekanto (1988) that effective is the extent to which a group can achieve its goals. Not stopping at legal objectives, he also explained that other conditions are needed to measure law effectiveness, namely:

- a) Observable behavior.
- b) Comparison between behavior regulated by law and the situation if the behavior is not regulated by law.
- c) The level of awareness of the perpetrator.

In addition, there are several factors that cause the effectiveness or ineffectiveness of a law according to Soerjono Soekanto (1988), namely:

a) The Legal Factors Themselves

This factor refers to the content and clarity of the regulation itself. The formulation, accuracy, and coherence of a regulation will affect its effectiveness. If a regulation is made clearly and there are no legal loopholes in formulating rights, obligations, and sanctions. Then, it is likely



that the regulation will apply effectively, so that it does not cause unrest in the community which can affect the effectiveness of the regulation's implementation.

b) Law Enforcement Factors

This factor involves law enforcement agencies to enforce the law on violations that occur. In this case, agencies such as the police have the authority to take action against violations of the law. Effective law enforcement also requires impartiality, transparency and accountability.

c) Factors of Facilities That Support Law Enforcement

The availability of facilities and resources that support adequate law enforcement is needed to measure the effectiveness of a regulation. This includes the availability of physical infrastructure, technological tools, and competent human resources to support law enforcement efforts.

d) Community Factors

The society or environment where the law is applied has a very important role in measuring the effectiveness of a regulation. This includes social norms, values that live in society, and the willingness of the community to comply with a regulation. If the community supports the existence of a regulation because it is considered important and can provide various benefits. Then, people will tend to obey it. Conversely, if regulation is rejected and is considered to disrupt harmony in society, it is possible that resistance will arise, making law enforcement more difficult. The society or environment where the law is applied has a very important role in measuring the effectiveness of a regulation. This includes social norms, values that live in society, and the willingness of the community to comply with a regulation. If the community supports the existence of a regulation because it is considered important and can provide various benefits. Then, people will tend to obey it. Conversely, if regulation is rejected and is considered to disrupt harmony in society, it is possible that resistance will arise, making law enforcement more difficult.

e) Cultural Factors

Culture is part of human creativity, work and spiritual life that can influence how laws are understood and obeyed. Laws made in accordance with the cultural values and traditions of a society are more likely to be respected and obeyed. Meanwhile, laws that are made without considering the cultural values that live in the community will tend to be ignored and disobeyed by the community. Thus, a regulation that is not responsive to cultural changes will quickly become ineffective or irrelevant.

Although in practice, effectiveness is difficult to measure because usually the purpose of a regulation is not clearly stated in the regulation. Therefore, there are three factors that cause the law to be ineffective:

- a) Not achieving the objectives of regulation due to failed communication of norms or conveyance of intent to the community
- b) Conflict between the objectives of the legislator and the nature of society
- c) Lack of supporting instruments for regulations

3.2 Exhaust Gas Emission Test for Motor Vehicles

Every motor vehicle emits exhaust gas as a form of incomplete combustion of fuel in the combustion chamber. As a result, the residual combustion is expressed as gas emissions that are discharged through the exhaust of motor vehicles. Exhaust emissions released into the free air have the potential to be one of the causes of air pollution. This is because motor vehicle exhaust emissions contain several compounds that pollute the air and are harmful to humans who breathe them. Therefore, there is a technical requirement to test motor vehicle exhaust emissions, so that the amount of exhaust gas released by a motor vehicle can be measured.

According to Winarno (2014), the motor vehicle exhaust emission test is the process of measuring the levels of compounds contained in motor vehicle exhaust emissions. The purpose of the exhaust emission test is to determine the levels of motor vehicle exhaust emissions and the results are useful for controlling and preparing regulations. There are several compound elements tested from exhaust gas, namely HC, CO, CO₂, and O₂ (Gunandi, 2010).

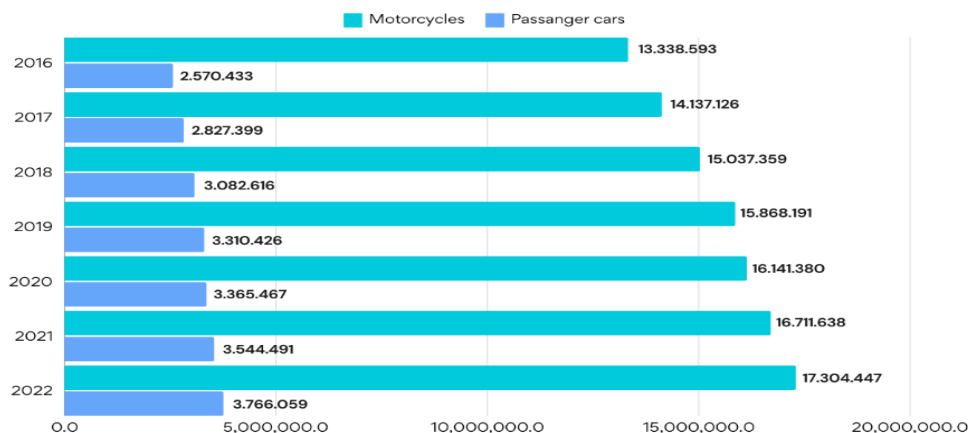
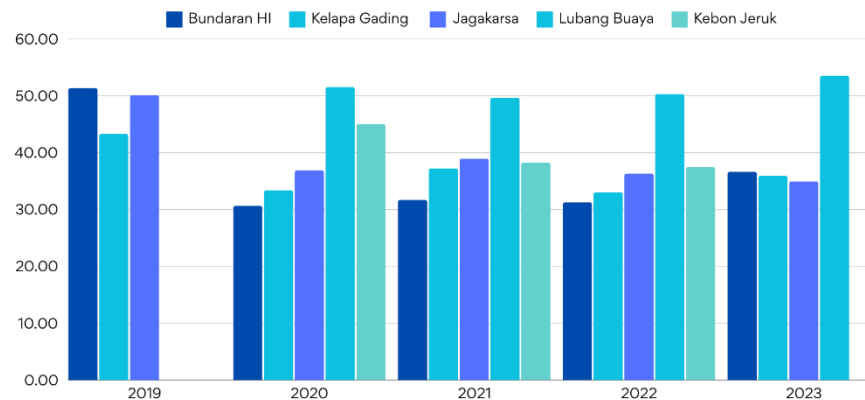


Figure 1. Annual Data on the Number of Motorcycle and Car Vehicles in Jakarta 2016-2022 (Badan Pusat Statistik, 2023)

Jakarta is one of the cities that continues to experience growth in the number of vehicles from year to year. This is not matched by strict regulations on the use of (private) motorized vehicles. One of the consequences of the growth in the number of private vehicles is the increasingly massive air pollution. Therefore, the DKI Jakarta Provincial Government took the initiative to update the provisions regarding motor vehicle emission tests through DKI Jakarta Governor Regulation No. 66 of 2020 concerning Motor Vehicle Exhaust Gas Emission Tests. The



regulation is believed by the DKI Jakarta Provincial Government as one of the steps to tackle the problem of air pollution in Jakarta. It is known that the air quality in Jakarta is very concerning.



In fact, the emission test obligation is stated in Article 3 of DKI Jakarta Governor Regulation No. 66 of 2020 which reads as follows:

“Every Motor Vehicle owner is required to conduct an exhaust emission test and meet the Emission Threshold.”

Meanwhile, sanctions are regulated in Article 16 of DKI Jakarta Governor Regulation No. 66/2020 which reads as follows:

“Every Motor Vehicle owner who violates the provisions as referred to in Article 3 shall be subject to sanctions in accordance with the provisions of laws and regulations concerning road traffic and transportation.”

If we refer to Law No. 22 of 2009 on Road Traffic and Transportation. So, exhaust emissions are one of the points set as the minimum performance of a motor vehicle. If the exhaust emissions do not meet the threshold limit or the vehicle owner does not conduct an emission test, then there are sanctions contained in Article 285 Paragraph (1) of Law No. 22 of 2009 which reads as follows:

“Every person who drives a Motorcycle on the Road that does not meet the technical and roadworthy requirements which include mirrors, horns, headlights, brake lights, direction lights, light reflectors, speed measuring devices, mufflers, and tire groove depth as referred to in Article 106 paragraph (3) in conjunction with Article 48 paragraph (2) and paragraph (3) shall be punished with a maximum imprisonment of 1 (one) month or a maximum fine of Rp250,000.00 (two hundred and fifty thousand rupiah).”

Meanwhile, drivers of four or more wheeled vehicles can be charged with Article 286 of Law No. 22 of 2009 which reads as follows:



“Every person who drives a Motorized Vehicle with four or more wheels on the Road that does not meet the roadworthiness requirements as referred to in Article 106 paragraph (3) in conjunction with Article 48 paragraph (3) shall be punished with a maximum imprisonment of 2 (two) months or a maximum fine of Rp500,000.00 (five hundred thousand rupiah).”

In contrast to Law No. 22/2009 which stipulates imprisonment or fines for emission test violators, Pergub No. 66/2020 only emphasizes that sanctions only refer to Law No. 22/2009 on Road Traffic and Transportation. However, the Pergub also adds disincentives for emission test violators. This is stated in Article 17 of DKI Jakarta Governor Regulation No. 66/2020 which reads as follows:

“Every Motor Vehicle owner who does not conduct an exhaust gas emission test and/or does not meet the requirements to pass the exhaust gas emission test is subject to disincentives in the form of the highest parking payment referring to the Governor's Regulation regarding parking service rates in roadside and/or off-street spaces.”

A The regulation has not fully influenced the reduction of pollution in Jakarta. This is evidenced by data on the daily average concentration of PM_{2.5} during January - December 2023 reaching 39.5 µg/m³ from 5 Air Quality Monitoring Stations in Jakarta (Dinas Lingkungan Hidup, 2023). Of course, this level is beyond the minimum annual average limit set by WHO and the Ministry of Environment. So, it is necessary to project the meeting point between a policy planning and policy objectives. So that air pollution in Jakarta can decrease along with the emergence of the Emission Test Governor Regulation in Jakarta. Thus, the enactment of the law does not become useless. However, it provides real results that are beneficial to all parties.

3.3 Relationship between Theory Effectiveness of Law with Governor Regulation on Emission Tests to Tackle Air Pollution in Jakarta

A written law becomes alive when effectively implemented and adhered to by the people governed by the regulation. Likewise, DKI Jakarta Governor Regulation No. 66 of 2020 concerning Exhaust Gas Emission Tests for Motorized Vehicles has the potential to be called a living law, if its enforcement can be obeyed by the citizens of Jakarta. Therefore, the Emission Test Governor Regulation should be seen from all sides in order to arrive at a fundamental understanding, to respond to the effectiveness or ineffectiveness of the Emission Test Governor Regulation through the link between theory and reality.

If the Emission Test Governor Regulation is measured for effectiveness according to the degree of application made by Anthony Allot, this regulation can be placed at the curative level. This level refers to laws designed to address and mitigate existing problems—in this case, the ongoing issue of air pollution in Jakarta. The curative level according to Allott emphasises corrective action, with a focus on legislation to respond to existing hazards, rather than

preventative or developmental action. Therefore, these regulations are primarily reactive, seeking to mitigate the harmful effects of air pollution rather than prevent future occurrences.

To state that the Emission Test Governor Regulation can be measured for law effectiveness, it is necessary to fulfill the requirements set by Soerjono Soekanto to measure law effectiveness, namely:

a) Observable Behavior

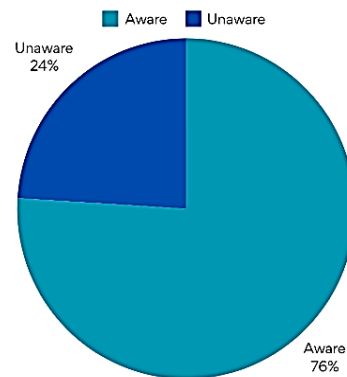


Figure 3. Questionnaire Data on the Level of Public Knowledge about Pergub 66 of 2020

One of the main requirements for assessing the effectiveness of the Emission Test Governor Regulation is public behavioral compliance with the law, especially compliance with mandatory motor vehicle emission tests. Compliance will start with awareness in various ways, such as increasing public awareness of the importance of emission control, as well as increasing environmental awareness among vehicle owners. The statistics above show that most people are aware of Pergub 66 of 2020. This is possible because the Emission Test Governor Regulation went viral some time ago due to the implementation of emission test tickets, so that people already have a sense of awareness of the existence of these regulations.

b) A Comparison Between Behavior Regulated by The Law and What The Behavior Would Have Been Had it Not Been Regulated by The Law

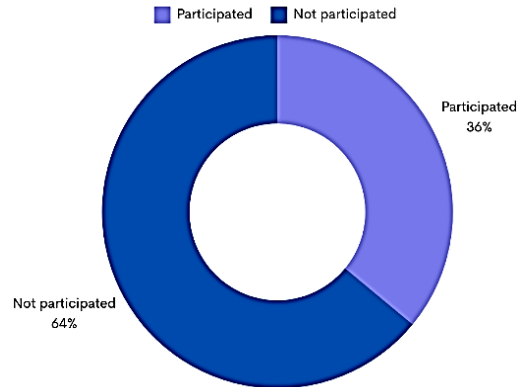


Figure 4. Questionnaire Data on Vehicle Emission Test Participation Rate in Jakarta

Statistical data shows that there is still a high number of people who have not conducted emission tests, even though the provisions of the Emission Test Governor Regulation already exist. In the absence of the Gubernatorial Regulation on Emission Tests, there is a high potential that the participation of vehicles in emission testing will be much lower. As a result, there is a strong relevance between people's behavior to comply with the law and the condition of the absence of rules that result in not forming people's behavior.

c) Perpetrators Awareness Level

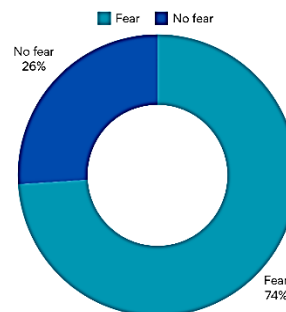


Figure 5. Questionnaire Data on Public Fear of Emission Test Sanctions and Disincentives

Most people are not aware of the existence of the Emission Test Governor Regulation. This is due to various factors such as the lack of socialization and education to the public regarding the obligation to conduct a motor vehicle emission test and its benefits. If collective public awareness is to be formed, then massive socialization and education needs to be intensified by the DKI Jakarta Provincial Government by working with other stakeholders such as the Police, DKI Jakarta Transportation Agency, and DKI Jakarta Environmental Agency.

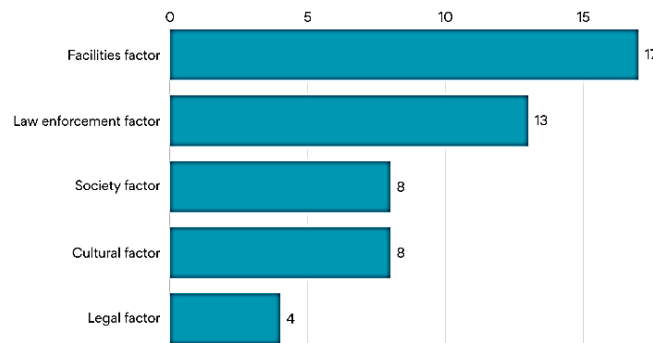


Figure 6. Questionnaire Data on Factors that Influence the Effective Implementation of the Gubernatorial Regulation on Emission Testing

Among the five factors that cause the effectiveness or ineffectiveness of a law according to Soerjono Soekanto (1988). The factor of facilities that support law enforcement is the dominant factor for the community to assess the implementation of the Emission Test Governor Regulation that has not run optimally. Emission test facilities such as workshops and emission test fees are the main problems that hinder motor vehicle emission test compliance in Jakarta.

Basically, there are 2 main streams regarding the control of air pollution problems, namely:

- Direct control, which is direct control through regulations
- Economic control, which is an economic point of view in looking at environmental cases. This approach considers that there is a need for pollution charges for environmental damage caused. The basis is that the levy set is the same as buying the right to pollute.

The Emission Test Governor Regulation is in both streams. This regulation is a direct control because it is a derivative regulation of the Law, as well as an implementing regulation of the National Regulation. In addition, the Emission Test Governor Regulation also contains economic control because there is a pollution levy in the form of the highest parking fee disincentive for vehicles that have not passed the emission test.

According to a study conducted by the OECD, pollution charges are always combined with direct controls. In addition, the degree of dependence on pollution charges differs from country to country.

There are 3 main functions of pollution levies, namely:

- Optimization

If the pollution levy is set at the point where the marginal benefit of pollution abatement is equal to its marginal cost. Then, polluters will limit emissions to the optimal level. This is not in line with the existence of the highest parking tariff disincentive contained in DKI Jakarta Governor Regulation No. 66/2020. The disincentive that is applied only targets private cars,



and only applies to 10 parking locations owned by the DKI Jakarta Provincial Government. Of course, this makes the pollution levy contained in the Pergub less than optimal to trigger public fear of existing sanctions.

- **Efficiency**

If incentives are adequate, polluters will reduce their emissions so as not to exceed the specified norms. Looking at Pergub DKI Jakarta No. 66 of 2020, which does not accommodate incentives for people who comply with emission testing obligations. As a result, people are not actively motivated to conduct exhaust emission tests of their motorized vehicles.

- **Redistribution and financing**

The collected pollution fees should ideally be invested in pollution abatement. Public financial transparency is needed to accommodate the redistribution and financing of programs related to addressing air pollution in Jakarta.

The OECD also states that there are several conditions for a pollution levy policy to be successful, namely:

- The levy system must be simple and easy to manage.
- Decentralization of management to the region concerned
- Public participation in the management of the system is a factor that needs to be considered, and the parties concerned are involved in the implementation of the pollution levy system
- The effectiveness of the system depends to a large extent on a gradually increasing scale of tariffs

The DKI Jakarta Provincial Government as the main stakeholder in DKI Jakarta Governor Regulation No. 66 of 2020 concerning Motor Vehicle Exhaust Emission Testing has the absolute authority to actively enforce the Governor Regulation for all levels of society. This enforcement must be based on a solid theoretical foundation for the formation of regulations involving cross-sectoral parties. So that its validity can be felt by the largest number of people in society.

4. Conclusions

The implementation of the Governor Regulation No. 66 of 2020 concerning Motor Vehicle Exhaust Emission Testing has not been fully effective in theory. This is fundamentally because the purpose of this Governor Regulation to tackle the problem of air pollution in Jakarta has not improved. The failure to achieve this goal stems from various factors such as the low level of public knowledge and awareness of the Governor Regulation on Emission Testing, the lack of facilities in the form of emission test workshops spread throughout the city of Jakarta, the lack of optimal disincentive sanctions, and the consistency of socialization that has not been massive.



Suggestions that can be given so that the Governor Regulation No. 66 of 2020 concerning Motor Vehicle Exhaust Emission Testing can run well, then cross-sectoral cooperation is needed, processing new regulations or those that will be published through participatory public communication, to the implementation of heavier disincentives and applied to motorbikes and private cars.

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