

## Optimizing Local Regulations in Creating a Balance of Human Health and Environmental Preservation

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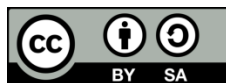
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### ABSTRACT

Creating a balance between human health and the environment is very important to implement. In this case, pollution caused by cigarette smoke is a disruption of the creation of a balance of human health and the environment. In several districts/cities, regional regulations on No Smoking Areas (KTR) have now been implemented. North Labuhanbatu Regency is one of the regions that has implemented this regulation, through KTR regional regulation number 33 of 2022. The local government of North Labuhanbatu Regency in this case makes no-smoking warnings in every corner of the KTR in the region as a form of optimizing PERDA no 33 of 2022. This research uses qualitative methods, the source of information from this research is obtained through activities, interviews, observations, and documentation studies. The research subjects in this study include the health department, district government, and the surrounding community. The object of research is the optimization of the application of KTR. The results showed that the North Labuhanbatu district government was still not effective in optimizing local regulation number 33 of 2022 regarding KTR. In an effort to overcome these problems, an integrated strategy is needed for the KTR PERDA.

**Keywords:** Environmental Preservation; Human Health; Local Regulations; Non-smoking areas

## 1. INTRODUCTION

A healthy environment for humans and environmental sustainability are two crucial parts that are closely related and affect each other (Tilman & Clark, 2014; Lai & Chen, 2020). In order to create sustainable development between these two

aspects is a very important matter to obtain a better quality of life. In an effort to realize this aspect, local governments (PEMDA) throughout Indonesia agreed to make regulations on Non-Smoking Areas (KTR), this was done by the government in order to create healthy environmental conditions for the community (Padmawati et al., 2018; Kramer et al., 2023). The first KTR regulation was made by the DKI Jakarta Regional Government, namely through regional regulation number 22 of 2005, which regulates air pollution control which includes rules on KTR (Zainuddin, 2010). This PEMDA regulation is felt to have a positive impact on reducing and controlling cigarette smoke that can interfere with public health and the environment. Based on research conducted by the Ministry of Health, the results show that smoke-free areas can have a positive effect on the prevalence of secondhand smoke by up to 25% in areas where the implementation of KTR is regulated (Herawati, 2021; Maziyya, 2023). The implementation of KTR regulations has a positive impact as a form of local government efforts to protect public health from the effects of cigarette smoke and maintain air quality (Silaban et al., 2023; Al-Madin et al., 2023).

Several existing literature studies agree on the importance of implementing local regulations (PERDA) related to making and creating a healthy community and environment (Nurhayati, 2023; Ramadhani et al., 2024). Based on the results of research conducted by the World Health Organization (WHO), it provides confirmation that the implementation of smoke-free areas that are implemented effectively can reduce the impact of non-communicable diseases such as lung cancer, and heart disease (Organization, 2021). In addition, research that has been published in the journal "Tobacco Control" provides research results where countries that have strict rules in creating KTR, then in their countries have a positive impact in the form of a decrease in the number of diseases experienced by the community caused by cigarette acid pollution (Semple et al., 2022). Based on the facts shown, this is also used as reinforcement, that the application of regulations that are implemented properly and correctly is very important in forming a healthy society and environment.

The research conducted by this researcher has the aim of exploring the optimization of local regulations to create a balance between human health and the environment, with its main focus on the implementation of the No Smoking Area Regulation. Given the positive impact of the KTR PERDA on public health and environmental health, this needs to be used as an evaluation of the effectiveness and ways that the regulation can be improved (optimized) its application. PERDA number 32 of 2022 in North Labuhanbatu regarding Smokefree Areas is used as the main case study of this research, considering that the regulation is still relatively new in the North Labuhanbatu local government environment. Focusing on the KTR regulation implemented by the North Labuhanbatu LGU through PERDA number 32 of 2022, the results of this study will produce knowledge about

how the strategy carried out by the North Labuhanbatu LGU in implementing local policies as a form of creating public health and a broader environment.

The researcher's temporary conjecture related to the optimization of local regulations on the implementation of the KTR PERDA will provide a significant improvement in the quality of environmental preservation and public health. Optimization is implemented by strengthening and enforcing legal regulations, increasing individual community awareness, and integrating with existing health programs. Based on previous research, the results show that regions that optimize KTR regulations by enforcing them strictly and by conducting public awareness campaigns can substantially reduce the level of active and passive smokers. If this assumption can be proven with existing data, then an optimal KTR regulation can not only create healthier environmental conditions but can also provide a model that can be implemented in other regions in Indonesia.

## **2. RESEARCH METHOD**

The method used in this research is qualitative, by collecting primary and secondary data (Sugiyono, 2017). Primary data collection in this study was carried out by means of observation, interviews, while secondary data collection was obtained through direct and indirect observations made by researchers. The research subjects in this study amounted to three people, namely representatives of the North Labuhanbatu Regency health office, the local government of North Labuhanbatu Regency, active smokers, and people who do not smoke. While the research object of this research is the optimization of the implementation of regional regulation number 32 of 2022 concerning the implementation of the No Smoking Area (KTR) in North Labuhanbatu Regency. Determination of the research subject is determined through several criteria, namely (1) function and role, and (2) influence given, based on these criteria, it can be used as the main reason for researchers to choose these three people to become research subjects. This research was conducted at the North Labuhanbatu Regency health office which is located at Jalan. Angkatan No.58, Aek Kanopan, Kec. Kualuh Hulu, North Labuhanbatu Regency, North Sumatra Province. As well as in several places that are No Smoking Areas in North Labuhanbatu Regency.

## **3. RESULT AND ANALYSIS**

### **Evaluation of the Effectiveness of the No Smoking Area Regulation (KTR)**

The results obtained from the application of local regulations (PERDA) regarding Smokefree Areas (KTR) in each region in Indonesia show varying results, all of which can be caused by the obedient attitude of the community and the impact on health (Rifai & Hariani, 2020). In this case, the level of compliance of the community in responding to the implementation of KTR is very diverse,

depending on the layout of this regulation in the application and the level of supervision carried out. For example, in urban areas such as DKI Jakarta, the level of compliance of the people of Jakarta when in public areas such as parks or shopping places touched 75% as surveyed by the local government. This attitude of compliance can certainly be lower if the area that implements the KTR regulation has minimal supervision.

Based on the observations made by researchers related to the effectiveness of the implementation of the No Smoking Area (KTR) regulation in North Labuhanbatu district, it is felt that it still needs to be reviewed by the health department and local government. This matter is because there are still many cigarette advertisements on the side of the road in the city of North Labuhanbatu which is adjacent to the KTR area. In this case, if you want to be effective in implementing the KTR regional regulation in North Labuhanbatu Regency, the smallest thing that must first be minimized is cigarette advertisements which are displayed on the side of the road (Wibowo, 2020). Currently, all cigarette advertisements are required to use the tagline "smoking kills you" (Hasan, 2018; Kristianto & Marta, 2019). However, the tagline on cigarette advertisements is not enough to be an appeal to the public to reduce smoking tendencies in the Labuhanbatu Utara district.

The lack of effectiveness in the implementation of the Regional Regulation on Smoking Free Areas in North Labuhanbatu Regency can also be seen based on the amount of data available. Based on the amount of data on the percentage of the population aged 15 years and over who smoke in the province of North Sumatra in 2023, it shows a fairly large number of levels in North Labuhanbatu Regency. The number of smoking rates in North Labuhanbatu Regency can be seen in Table 1.

**Table 1.** Number of Smokers by Age Range (Source: Researcher)

<b>District/City</b>	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>
North Labuhanbatu	12,02	34,2	41,97	38,61	32,54	17,73

Based on the data shown in Table 1, it still shows a high level of the number of smokers based on the age range in North Labuhanbatu Regency. For areas that have implemented the No Smoking Area Regulation, this number or level should be reduced to a lower number.

Because if the number of smokers is still high, it will cause the quality of life of the community to be low. This statement is proven through a quality of life survey where the survey states that people will feel more comfortable and safe if when they are in public spaces are free from cigarette smoke. This is also supported by the results of an interview conducted by researchers by one of the people in the non-smoking area in North Labuhanbatu Regency.

*"I am very disturbed if there are people who smoke while in public areas like this, for me cigarette smoke is considered a nuisance by some people, in addition to causing unpleasant odors and can cause coughing" (Results of interviews with the community).*

Responding to public assumptions about the disturbance caused by cigarette smoke pollution that occurs in public spaces in North Labuhanbatu Regency, in this case the local government should take firm action in responding to this by imposing sanctions in the form of fines against smokers who smoke carelessly in KTR in North Labuhanbatu Regency. This is because it is clearly stated in the KTR regulation of North Labuhanbatu Regency, that the application of these regulations aims to balance environmental health and also human health in North Labuhanbatu Regency.

### **Health Impacts of Implementing No-Smoking Area Regulations**

The implementation of local regulations on Smokefree Areas (KTR) can have a positive effect on public health (A'yuni & Nasrullah, 2021). The benefits of the implementation of this KTR regulation can be seen from the occurrence of cases of decreased disease caused by exposure to cigarette smoke (Wiada, 2021). Based on data from hospitals in various regions in Indonesia, there has been a significant decrease in the number of people with acute and chronic diseases in areas that have implemented the No Smoking Area regulation.

Based on the findings obtained by researchers regarding the number of people with acute and chronic diseases in North Labuhanbatu Regency after the implementation of the KTR regional regulation has increased from before the implementation of the KTR regional regulation in North Labuhanbatu Regency. This number can be seen in table 2.

**Table 2.** List of people with chronic respiratory diseases (Source Researcher)

Disease Name	Year		
	2017	2019	2022/2023
Lung/Tuberculosis	364	253	420
Heart	0	1	-

The regional regulation on Smokefree Areas in North Labuhanbatu Regency will only be implemented in 2022. In this case, we know that implementing a regulation requires time and hard work so that the results are optimal. Based on the list of people with chronic respiratory diseases in North Labuhanbatu Regency, it shows that from 2017 to 2019 people with lung disease and tuberculosis have decreased, while for people with heart disease in 2017 there were none, and in 2019 there was one person with heart disease, then in 2022 to 2023, the number of people with lung disease and tuberculosis actually jumped almost half of the total in 2019,

which is considering that in 2022-2023 the KTR regional regulation in North Labuhanbatu Regency has been implemented.

Based on this number, the North Labuhanbatu Regency Health Office gave a response where when the KTR regulation was implemented, the number of people with lung disease and tuberculosis increased.

*"I was a little surprised to see the data, when before the implementation of the KTR regulation the number of people with lung disease, tuberculosis and heart disease decreased, even if there was only one person with heart disease in 2019, after the implementation of the KTR regulation there was a spike of almost half of the number of cases in 2019" (Interview with the Health Office of North Labuhanbatu Regency)*

From the results of these interviews it can be concluded that the application of the KTR regional regulation in North Labuhanbatu Regency has not been optimal, the number of people with chronic respiratory diseases after the implementation of regional regulations on non-smoking areas should have decreased from before the implementation of these regulations, but in fact after it was implemented it actually increased by almost half of the number before the implementation of the regulation. The local government in this case must act quickly to deal with this, before the number of people with lung disease and tuberculosis will increase in the following years.

### **Optimizing KTR Regulations for Health and Environmental Preservation Balance**

The optimization of Smokefree Area (KTR) regulations is a crucial step in creating a balance between human health and the environment. This effort requires a variety of strategies for the purpose of improving the effectiveness of KTR implementation, integrating related policies and adopting relevant and appropriate innovations. The main strategy for optimizing KTR is to combine the KTR regulation with existing health policies (Pratama & Maskur, 2024). KTR policies can be robust if they synergize with national and local anti-smoking programs, as well as other health initiatives such as implementing healthy lifestyle campaigns and healthy city programs. This integration can create a synergistic impact that makes each program strong and effective, forming awareness and building community compliance with the implementation of KTR. Through this coordinated approach, it will provide the benefits generated to be more significant and broad (Rochka et al., 2019).

The innovation applied to optimize the KTR regulation has a crucial role. The utilization of modern technology, such as mobile applications to make reports on KTR violations can provide an effective and efficient increase in supervision and law enforcement of the KTR regulation. Based on the findings of researchers in North Labuhanbatu Regency, the process of optimizing the KTR Regional

Regulation in the district has been carried out correctly. As with making appeals for smoking restrictions on every corner of the road and offices in every corner of the region in North Labuhanbatu district, this can be seen from the following figure 1.

**Figure 1.** No-smoking appeal



The optimization process carried out by the North Labuhanbatu local government in enforcing the KTR regulation is felt to have had a positive impact on public health and environmental health.

*"After the implementation of the KTR PERDA in the North Labuhanbatu Regency environment, the local government has a consistent attitude in optimizing these regulations in the surrounding environment, in order to make the community comfortable and free from the disturbance of cigarette smoke" (Representative of the North Labuhanbatu Local Government).*

The results of interviews conducted by researchers with representatives of the North Labuhanbatu Regency Regional Government, where the North Labuhanbatu Regional Government stated that it was trying its best to optimize the application of the KTR regional regulation in North Labuhanbatu, in accordance with PERDA number 32 of 2022 concerning Smokefree Areas.

### **Supporting and inhibiting factors for the implementation of KTR**

The process of implementing local regulations on Smokefree Areas (KTR) experiences a variety of supporting factors and inhibiting factors that can affect its success. Understanding these factors is necessary in order to optimize the implementation of KTR regulations and to achieve the goals of better public health and the environment.

#### **A. Supporting Factors for KTR Implementation**

The active role of the local government is a major factor in implementing KTR. Local governments that have an active role in socializing KTR regulations through educational campaigns and health promotion activities have a high success rate. For example, in big cities, where the government has held various activities and educational programs in raising public awareness about the impact of cigarette smoke and the need for the

implementation of smoke-free areas. In addition, law enforcement officers must be equipped with qualified resources to be able to carry out their duties in supervision and law enforcement more effectively. In areas that have strict supervision, the level of community compliance with KTR tends to be higher.

Based on the results of research conducted by researchers in North Labuhanbatu Regency, it shows that the supporting factors carried out by the North Labuhanbatu Regional Government have been maximized in terms of appeals and implementation of smoking bans in KTR areas in North Labuhanbatu Regency, through stickers and banners prohibiting smoking in public places. This is also recognized by the local community regarding the optimization carried out by the local government in optimizing KTR.

*"The North Labuhanbatu local government has optimized the regulation through notifications in the form of stickers and banners in KTR areas" (Community in the KTR Area)*

From the results of these interviews, it shows the agreed attitude of the people in the KTR area regarding the optimization carried out by the North Labuhanbatu local government in implementing local regulations regarding the implementation of Smokefree Areas.

## **B. Inhibiting Factors of KTR Implementation**

Although supporting factors have been applied in implementing the KTR regulation, challenges and obstacles also always appear in the process. One of the main obstacles is the limited resources in monitoring and law enforcement. In some areas, the number of officers who have a sense of responsibility in overcoming and enforcing KTR regulations is very limited. Based on research conducted in North Labuhanbatu Regency, as in several other regions in Indonesia, there is still limited supervision of the KTR PERDA.

The occurrence of minimization of supervision can be caused by several factors including budget limitations, in addition to causing minimal supervision in the KTR environment, this budget limitation can also hinder the implementation of educational programs and sustainable campaigns. Another inhibiting factor is the lack of awareness and understanding from the community about the benefits and importance of KTR. In North Labuhanbatu Regency, the level of public understanding of awareness of the application of KTR is still minimal, this can be seen from the large number of people who smoke around the KTR area in North Labuhanbatu Regency. We can also see other evidence through the high number of people who contracted respiratory diseases in North Labuhanbatu Regency in 2022/2023 which is shown in table 2.



Another inhibiting factor is the resistance of the cigarette industry, which is a significant inhibiting factor. The reason is that the tobacco industry often has a strong influence and always makes various ways to weaken KTR policies with political lobbying and aggressive marketing campaign activities. The pressure exerted by the tobacco industry can be an inhibiting factor in the process of making and implementing KTR regulations, thus reducing the effectiveness of this policy.

Based on the results of observations made by researchers in North Labuhanbatu district, it is very visible that there are acts of resistance carried out by the cigarette industry in the region. Where large cigarette advertisements are lined up on the outskirts of the North Labuhanbatu City road. This is indeed a big challenge for existing policy makers, on the one hand the advertisements listed provide income to the local government through the advertising tax, and on the other hand these advertisements have a negative impact on people who do not smoke. If this problem cannot be resolved, the North Labuhanbatu Regency government has violated one of the rules stated in the article in Regional Regulation No. 33 of 2022 KTR, regarding implementing a balance between public health and environmental health.

Other obstacles also arise from the lack of coordination that occurs between stakeholders can be an inhibiting factor in the implementation of KTR. Poor coordination, in this case between the local government, local officials and the community, has always been ineffective in enforcing existing regulations. Furthermore, the lack of support from the private sector, for example restaurants and entertainment venues, which do not want to enforce KTR on their business premises, is also one of the obstacles in the successful enforcement of these regulations.

Based on the results of field observations made by researchers, obstacles arising from the lack of coordination between stakeholders in North Labuhanbatu district are still clearly visible, this one inhibiting factor is indeed fairly difficult to carry out consistently its current application in every region in Indonesia. This is due to the many considerations that arise in fixing this.

#### **4. CONCLUSION**

Based on the results of the evaluation of the implementation of Regional Regulations on Non-Smoking Areas (KTR) in all regions in Indonesia, it can be seen that there is a variation caused by the level of compliance from the community and the intensity of supervision that is still low. In North Labuhanbatu Regency, in this case there is a lack of effectiveness in the implementation of KTR in the region, this can be seen from the large number of cigarette advertisements found near the KTR

area and the number of people with respiratory diseases after the implementation of KTR in the region. Although the local government has made optimization efforts by installing stickers and banners prohibiting smoking, the obstacles of limited resources, cigarette industry resistance, and poor coordination between stakeholders are obstacles to optimizing the implementation of the KTR PERDA. As a prevention effort, a more integrated strategy is needed, such as synergy with anti-smoking programs and technological innovation in improving supervision and law enforcement. This consistent and collaborative implementation of optimization is needed in order to obtain a better balance of public health and the environment throughout the Labuhanbatu Utara Regency area.

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