

# Analysis of Impact Air Pollution in Urban Environmental over Bogor, Indonesia

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## Abstract

Air pollution is very dangerous for human activity especially in the Bogor, Indonesia. The status of air pollution index in this state is dangerous over several years ago. In Indonesia, an environmental impact assessment is contained in law no. 23 of 1997 on Environmental Management and Implementation set out in Government Act no 27 of 1999. The environmental impact assessment was defined as a tool to ensure sustainable development through the effects main activities. The government policy in Bogor, Indonesia was controlled air pollution based on regulation law No. 4 (2007) and No. 9 (2012). This act described environmental and waste management, respectively. Thus, this study aimed to analyse urban environment health over Bogor Area using quantitative methods. Results showed the increasing index of air pollution over Bogor, Indonesia were impact on human health, air quality and noise pollution. There is legislation in Bogor downtown use to study positive and negative effects in the planned projects, the government in determining whether a project is feasible or not feasible. The study prepared by considering the physical, chemical, biological, socio- economic, socio- cultural, and public health condition, respectively.

*Keywords:* Air pollution, Bogor, Policies, and Urban Environmental Healthy

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## 1. Introduction

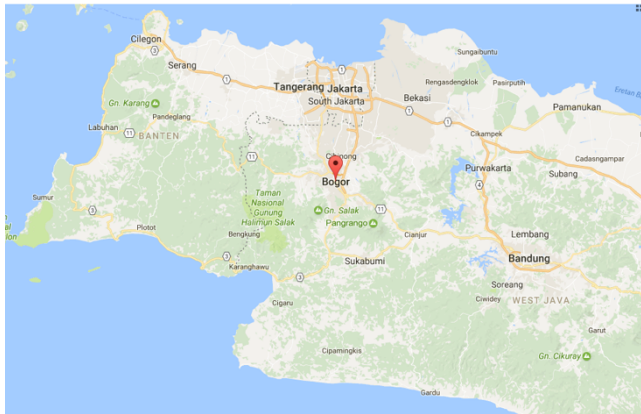
In Indonesia, the impact of environmental assessment is contained in law act No. 23 of 1997 on Environmental Management and implementation over Government Act No. 27 of 1999. The impact of environmental assessment according to defined as a tool that aims to ensure sustainable development through the assessment in the effects arising from the main activities as a significant environmental effect [1]. Here, the environmental assessment involves a variety of methods to determine the objectives, namely: (a) evaluation and assessment (b) determine the effect of projects (c) control after the project. Thus, the environmental impact assessment was decision to plan based on consideration of ecological aspects, economic and social [2]. The decisions of ecological aspects, economic and social project be able to objective used a method or rule by government act [3]. Furthermore, Environmental legislation in the implementation of sustainable development worked to prevent environmental pollution and damaged into environment and natural resources. The oriented development environment is conscious and planned effort to use and managed by natural resources wisely in sustainable development to improve quality of life [4]. Sustainable Development (SD) is defined as a development without

compromising the ability of future in generations to meet government staff needs [5]. Although the implementation of land use over Bogor, Indonesia there are have guidelines in utilization to the field, but in practice it turns out that the guidelines still be amended or renegotiated by government staff. Here, the government policies to improve planning area due to available groups or companies that will invest in the region. The urban planning is often dominated by power politics and local interests to emphasize highest economic growth. Thus, the effects of urban planning are municipalities in accordance with regulations result in disruption to transform the systems over environmental pollution and improving the crime. In addition, police and law enforcement urban planning had decision to decrease activity over ecological aspects. Thus, in this study aim to improve the government policy environment issue about quality of environment and development non-destructive environment over natural resources in Bogor, Indonesia. Here, the development of policies and legislation in Bogor, Indonesia provide recommendations to assess environmental impact and analyze the design of policies and legislation.

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## 2. Methodology

In this study, the authors used a qualitative and quantitative study of the normative legal approach due to the study was conducted an air pollution index, literature review, document, legislation, policies and learn the basic theory and policy relating to environmental and town planning laws over Bogor, Indonesia (see Fig 1.).



**Fig. 1.** Bogor, Indonesia  
(<https://www.google.com/maps/place/Bogor+Indonesia>)

Here, air Pollution Index is described by ambient air quality condition based on Government Regulation law: LH No 45/Men LH 1997. Furthermore, this study is categorized as a descriptive study without hypotheses or theories test from Government Regulation law, respectively. However, the study are analyze and classify the substance of legislation. According to qualitative research is a form social inquiry focused on how human interpretation and logic of their experience as well as the environment in which they live [6]. Creswell (1998) described action research, case studies, and ethnographic studies included qualitative method. The data analysis was used to describe of qualitative analysis from the measurement data who cannot calculated. The data were conducted in discussions, screening and grouping into certain parts to be processed in information data. The results from analysis of legislation will be interpreted in order to answer the question in the problem formulation and is expected to broaden their horizons, especially in the environmental law. The Analysis of the interviews will compare between Miles and [8].

## 3. Result and Discussion

Agency or office responsible and authorized to make decisions over environmental feasibility in the centre of head department responsible for controlling environmental impact and regional level in the Governor (Article 1 point 9 Regulation No. 27 of 1999). Here, in the department responsible for environmental Bogor, Indonesia was control the Regional Development Planning Board under Environmental Management Agency and the Department of Urban Planning. According to government Law No 32/ 2009

on Environmental Management, the environmental department will conduct audits to assess compliance with responsible business and activity of the legal requirements and policies by government.

Bogor government issued a sentence or threat to the preservation of environment over Regional Regulation No. 8 of Article (100) and (102) in 2011. Here, the individual's entities prohibited from engaging the activities over negative pose impact on the carrying capacity of environment and the carrying capacity of utility facilities will be penalized or threatened. The pollutants risk was take the effect of human health. These effects were influenced by intensity and duration and it's also influenced by human health status in the population. The another studies are suggested the levels of pollutant was dangerous for children, who have been quite dangerous for children, have elderly, poor people and live in areas that pollution is high. However, the connections between pollutants with occurrence of death are depending four factors, as follows:

- a) The number and diversity of contaminants
- b) The difficulty in detecting harmful contaminants at low concentrations
- c) Synergistic interaction between contaminants
- d) Difficulty in isolating single factors, when people are exposed to large amounts of substance / chemical compounds years

Furthermore, the target of environmental management in the Bogor, Indonesia was reducing the pollutant effect over human using nine steps as follows:

- a) The achievement of harmony, harmony, and balance between human behaviour and the preservation of the environment.
- b) The attitude of society to realize that caring environment, clean, healthy, and have stances act to protect and nurture the environment
- c) The achievement of the preservation of the environment and the safeguarding of the interests of the present generation and future generations
- d) The controlled use of natural resources wisely
- e) Ensuring the balance between development and preservation of the environment.
- f) The creation of local government policy environment
- g) Increasing community participation in environmental management
- h) Increasing environmental awareness and the rule of law and the business community in carrying out its activities
- i) Protection of the city against the impact of its operations and activities in and outside the city of Bogor causing pollution and or destruction of the environment (Bogor City Regional Regulation No. 4 of article 4 of 2007 on Environmental Management).

The legislation department in Bogor, Indonesia was proposed to explain the positive and negative effects of the planned activities or government projects. Here, the determining activity or government project is feasible and unfeasible. The study prepared by considering to analysing the physical, chemical, biological, socio-economic, socio-

cultural, and public health. Plan activities maybe not eligible when the negative effects occurred and cannot be controlled by existing technologies and the cost needed to overcome negative effects.

Furthermore, the legislation and policies have been enforced in Bogor, Indonesia especially in avoid the pollution hazard from environmental. Legislation department in Bogor, Indonesia started over Dutch colonial era until 2017. The various forms of natural disasters were occurred in Bogor, Indonesia during destructive environmental impacts including volcanic eruptions, floods, landslides and earthquakes due to Bogor is very close to the mountains with active status and potentially issuing volcanic ash.

#### 4. Conclusion

The study of Analysis of Impact Air Pollution in Urban Environmental over Bogor, Indonesia has successful. These studies obtain the implementation of an environmental based on interviews with respondents. Here, the regulation law permit over Bogor, Indonesia was continuing to use reference Regulation No. 27 of 1999 on EIA and regulation law No. 8 Year 2011 on Spatial Planning of the city from 2011 to 2031, and Bogor Mayor Regulation No. 28 of 2011 of land use permit. Moreover, the interviews result with government officials obtained four factors that affect the layout of Bogor namely the phenomenon of urban sprawl, development of a low density and spread with integrated especially around Bogor, Indonesia. There are positive effects that occur as a result of policies and legislation that recognized the government Bogor. The environmentalists are controlled and environmental damage using Regional Regulation No. 8 In 2011, the Mayor of Bogor Regulation No. 28 In 2011, the city of Bogor District Regulation No. 4

In 2007, the city of Bogor District Regulation No. 7 In 2009 the foundation in environmental management and planning Bogor City. Law should be obeyed and if the offender committed the offense should be punishable in accordance with applicable law. The levels of air pollution in Bogor have increased and moderately due to motor vehicle user.

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