

Socialization of Environmental Laws related to Factory Construction to the Village Community of Pondok, Grogol – Sukoharjo

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Abstract

A good and healthy living environment is a gift given by God Almighty to all living creatures in this world, therefore the right to enjoy a healthy environment is a right for every human being and all living creatures around him without exception. However, The increasing number of development activities, especially factories, will definitely have an impact on environmental pollution and damage, including water pollution caused by industrial waste, waste produced from activities which are then thrown into rivers or watercourses, causing polluted water and soil pollution. Pondok Village, Grogol District, Sukoharjo Regency is planning to build a factory around community settlements. However, some people do not agree with this plan because it has a negative impact on the environment. On the other hand, residents who reject the plan do not yet know the procedures for rejecting factory construction according to applicable regulations. The method used is to increase knowledge through community-based outreach for Pondok Village residents which aims to increase community and village government awareness of environmental damage disasters by involving Academics, Students, Village Officials and the Pondok Village Community. This service program is able to increase residents' awareness about pollution which is the impact of industrial waste while forming an environmentally conscious community.

Abstrak

Sosialisasi Hukum Lingkungan terkait Pembangunan Pabrik kepada Masyarakat Desa Pondok, Grogol – Sukoharjo.

Lingkungan hidup yang baik dan sehat merupakan anugerah yang diberikan oleh Tuhan Yang Maha Esa kepada semua makhluk hidup yang ada di dunia ini. Oleh sebab itu hak untuk menikmati lingkungan yang sehat merupakan hak bagi setiap manusia beserta seluruh makhluk hidup di sekitarnya tanpa terkecuali. Namun, semakin bertambahnya kegiatan pembangunan terutama pabrik pasti akan berdampak pada pencemaran dan kerusakan lingkungan



hidup, diantaranya pencemaran air yang disebabkan oleh limbah industrial limbah yang dihasilkan dari kegiatan yang kemudian dibuang ke sungai atau tempat aliran air sehingga menyebabkan air tercemar, pencemaran tanah. Desa Pondok, Kecamatan Grogol, Kabupaten Sukoharjo dalam rencana akan dibangun pabrik di sekitar pemukiman masyarakat. Namun sebagian masyarakat tidak setuju dengan rencana ini karena berdampak buruk terhadap lingkungan hidup. Disamping itu, warga yang menolak rencana tersebut belum tahu prosedur penolakan pembangunan pabrik sesuai aturan yang berlaku. Metode yang dilakukan adalah dengan melakukan peningkatan pengetahuan melalui sosialisasi berbasis komunitas warga Desa Pondok yang bertujuan untuk meningkatkan kesadaran masyarakat dan pemerintah desa terhadap bencana rusaknya lingkungan dengan melibatkan Akademisi, Mahasiswa, Perangkat Desa serta Masyarakat Desa Pondok. Program pengabdian ini mampu meningkatkan kesadaran warga tentang pencemaran yang merupakan dampak limbah industrial sekaligus membentuk komunitas sadar lingkungan di desa Pondok Grogol.

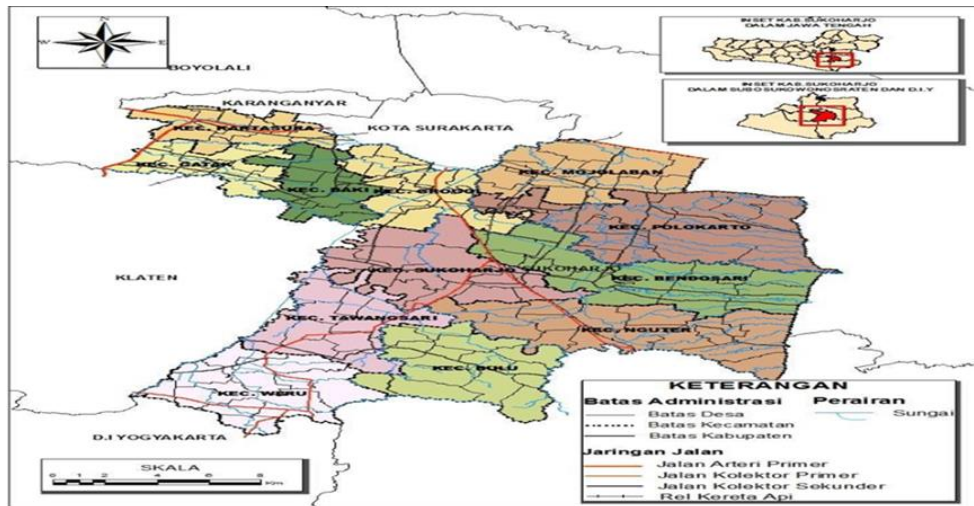


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INTRODUCTION

Sukoharjo Regency consists of 12 sub-districts, 17 sub-districts and 150 villages. In 2017, the population reached 897,291 people with an area of 489.12 km² and a population distribution of 1,834 people/km² (Kemendagri RI, 2017). Sukoharjo Regency has a strategic position, namely that it is located directly next to the city of Surakarta. The city of Surakarta is the second largest urban area in Central Java Province. Apart from that, Sukoharjo Regency is also located at the intersection of Semarang, Yogyakarta, Solo and is included in the strategic area of SUBOSUKA WONOSRATEN (Surakarta, Boyolali, Sukoharjo, Karanganyar, Wonogiri, Sragen and Klaten) which can support development development, especially potential areas in Sukoharjo Regency. Geographically, Sukoharjo Regency is located at 1100 57' 33.70" - 1100 42' 6.79" East Longitude and 70 32' 17.00" - 7 0 49' 32.00" South Latitude. As one of the districts in Central Java, Sukoharjo Regency is located between 6 (six) regencies/cities, which have direct administrative borders as follows: 1. North side: Surakarta City and Karanganyar Regency 2. East side: Karanganyar Regency 3. South side: Gunung Kidul Regency (DIY) and Wonogiri Regency 4. To the west: Boyolali Regency and Klaten Regency. To the north of Baki District, Grogol District and Mojolaban District is Surakarta City. Meanwhile, the three sub-districts that the cross-provincial route passes through are Nguter District, Sukoharjo District and Grogol District.



Picture 1. Sukoharjo Regency area, Central Java

During the 10 year period between 2010 and 2020, land use in Sukoharjo Regency experienced changes due to an increase, namely residential, industrial and moor land, while land use, apart from that, also decreased, namely rice fields, plantations and forests and waters which did not change. In 2020, rice fields had the largest area, namely 23,155.97 ha, settlements 17,738.74 ha, upland 4,878.52 ha, industry 699.04 ha, plantations 783.9 ha, waters 415 ha and forests 308.6 ha. In 2025, land use is predicted to still have the same pattern as in 2020, namely 20,515.3 ha of rice fields, 18,784.71 ha of residential areas, 4,980.7 ha of dry land, 891.26 ha of industrial land, 778.89 ha of plantations, 778.89 ha of watern415 ha and forest 308.29 ha. The driving variable that most influences land use change is the distance to the road because it is attractive to the community because its benefits as accessibility are very important. Apart from that, there are other variables, namely activity centers, strategic areas, rivers and city centers (Pemkab Sukoharjo, 2023).

The level of suitability of land use predictions in 2025, namely 78.48%, is appropriate, 11.92% is not appropriate and 9.59% is not appropriate. This needs to be a concern for the government to avoid inappropriate use of materials, cooperation is needed from all levels of society to realize the spatial planning that has been planned. There needs to be action to monitor and control activities in using land, providing education regarding the importance of Spatial Pattern Planning to the community and law enforcement. strong for perpetrators of deviance.

Economic growth in Sukoharjo Regency is supported by various sectors, ranging from industry, trade, services, to tourism. Economic growth in the industrial sector is supported by the presence of a number of factories from small to large scale. According to the Sukoharjo Central Statistics Agency (BPS), the total number of companies in Sukoharjo was 881 as of 2018, the latest data available. Of this figure, 204 companies are large scale, 226 medium companies, and 451 small companies. If we look at the trend in the previous five years, there has been an increase in the number of companies. In 2014 there were a



total of 528 companies (96 large, 149 medium, 284 small), 2015 there were 565 companies (102 large, 157 medium, 306 small), 2016 there were 602 companies (106 large, 175 medium, 321 small), and in 2017 there were 745 companies (200 large, 224 medium, 321 small). Of the many companies, there are several companies that operate large-scale factories. There are at least three large factories in Sukoharjo (Ashshidiqy et al, 2023). Some are even the largest in Southeast Asia. The following are three large factories in Sukoharjo, namely Sritex, Konimex and Batik Keris.

The development of human civilization is supported by advances in science and technology, while simultaneously destroying and polluting the environment. The development of various industries, such as the fertilizer, cement, textile, paper, oil, iron and steel agro-industry industries, etc. all have the potential to have a negative impact on the environment. Industry damages and pollutes the environment not only after production (operation), but also the environment can occur due to land clearing, mobilization of heavy equipment, lifting of building materials, and other activities. In the production process, all industries will produce by-products that have no or little economic value. These by-products are referred to as waste, which consists of solid, liquid and gas waste. This waste will pollute the water, land and air environment which will ultimately disrupt life, including humans (Manik, 2016).

The large number of factories in Sukoharjo of course also have a big influence on society, apart from absorbing labor, environmental problems are of course also very dangerous if there are no restrictions from the Sukoharjo government. Realizing that every activity basically has an impact on the environment, it is necessary to estimate it in initial planning, so that in this way steps can be prepared to prevent and overcome negative impacts and strive to develop the positive impacts of these activities (Sari, 2018).

The complexity of environmental problems as a relatively new field has the potential to give rise to differences in views, interests or perceptions among "stakeholders". Therefore, environmental law has provided a legal basis so that people receive legal protection at every stage in resolving environmental disputes. Because the law has a noble goal, namely realizing justice, certainty and benefits for society, however, the implementation of law enforcement is influenced by various factors so that the law does not achieve its essential goal, namely providing justice for society (Hapsari et al., 2023; Angga, 2018). In cases of environmental pollution, the community is the party who suffers losses due to environmental pollution. The community is unable to apply for compensation themselves, whether compensation in the form of compensation or environmental improvement/restoration measures, for reasons of ignorance of the legal regulations that will be used as a basis for prosecution and the cost factor which for them is still a matter of doubt because they are haunted by the risk of losing if they sue in court.



Picture 2. Air pollution caused by factories



Picture 3. Water pollution caused by factories

IMPLEMENTATION METHOD

This community service is carried out through outreach activities to increase awareness of the environmental impacts of factory construction around residential areas in Pondok Grogol Village. This activity involves several parties, including:

1. Team UMS

The UMS Faculty of Law PKM team conducted preliminary studies and observations to identify partner needs, coordinate training needs for the Pondok village community and collaborate with the Pondok Village government to carry out outreach and encourage the establishment of a community that cares about the Pondok Village environment.

2. Pondok Village Community and Government



In this activity, the community and village government will be involved during the activity so that they can increase knowledge and awareness of the community at large about everything related to the impact of factory waste. To enable the community to play a supervisory role in efforts to prevent environmental pollution, both preventively and repressively, to prevent environmental pollution (Nursidiq et al., 2021), in this case educating community groups to create a representative institution in terms of monitoring environmental pollution, namely the Waste Care Community Group.

RESULTS AND DISCUSSION

As time goes by, economic growth is in conflict with environmental sustainability because a lot of industrial development results in pollution. Environmental pollution is a situation that changes from its original form to become worse (Sari, 2017). This transition from the original state to the poor state can occur after the entry of pollutants or contaminants. An environment is said to be polluted if there is a change in the structure of the environment so that it no longer maintains its original form due to the entry or entry of a certain substance into the environment.

The impact of water, air and land pollution where a clean and healthy environment is everyone's dream (Hopland & Kvamsdal, 2023). However, finding a clean and healthy environment is increasingly difficult. Many environments are polluted due to human activities. Pollution occurs in air, water and soil. Environmental pollution affects human life. Building damage, many illnesses and even deaths are caused by environmental pollution.

1. Impact of Water Pollution

At first the water flowing in the upstream area was still clean. Waste or rubbish has not yet entered the river. On its way, the river flows through areas inhabited by residents. A lot of waste produced by residents from daily activities is thrown into rivers. Kitchen waste, plastic, food cans, leaves and human waste enter the river, polluting the river water. The river also passes through industrial areas. Industrial waste is also thrown into rivers. This waste contains toxic materials that can pollute rivers. Polluted river water flows into the sea so that the waters at the river mouth are also polluted (Parolini & Romano, 2024). Animals and plants that live in rivers also die because they are polluted by household and industrial waste. Drinking contaminated groundwater can have serious health effects. Diseases such as hepatitis and dysentery can be caused by contamination from septic tank waste. Poisoning can be caused by poison that has been spilled into well water

2. Impact of Air Pollution

The air in the mountains is fresh and easy to breathe (Torres-Blas et al., 2023). We need clean air to breathe. In contrast to urban air, the air is hot, dusty and polluted.

The air in urban areas is generally polluted by motor vehicle fumes and factory fumes. Burning fossil fuels produces several polluting gases or pollutants such as carbon monoxide and nitrogen oxide (Torres-Blas et al., 2023). Other air pollutants are dust particles emitted from vehicle exhaust and factory chimneys.

3. Impact of Soil Pollution

Often waste from various sources is piled up in one location. Landfilling of rubbish can pollute the environment because rubbish emits unpleasant odors and leachate, as well as creating an unsightly view (Cai et al., 2024; Kang et al., 2023). Piles of rubbish cover the surface of the land so that the land cannot be used for farming or other purposes. This pollution causes changes in the metabolism of microorganisms that live in the soil (Kurniawansyah et al., 2022).

On the first day of community service, the activity was filled with disaster dissemination with TIM resource persons from FH UMS and the Village Head of Pondok Grogol Sukoharjo Village. The resource person from FH UMS explained that environmental pollution is a condition that has changed from its original form to a worse condition. This shift from the original condition to a bad condition can occur as a result of the entry of contaminants or pollutants. An environment is said to be polluted if changes occur in the environmental structure so that it is no longer the same as its original form, as a result of the entry and introduction of a substance into the environment.

This is in line with Article 33 Paragraph 4 of the Constitution of the Republic of Indonesia which states that the national economy is organized based on economic democracy with the principles of togetherness, efficiency, justice, sustainability and environmental insight, independence, and by maintaining a balance of progress and national economic unity. In fact, in the practice of national economic development built in Indonesia there are still many things that conflict with the constitution (Darma & Redi, 2018). In other words, polluters must pay compensation costs that reflect the cost of goods and services that cause pollution in production and/or consumption. The OECD itself states that basically polluters must bear all costs incurred in the efforts of public officials to maintain the environment in an acceptable condition (Larasati, 2022). The effectiveness of this system can be seen from the fact that many people will choose to reduce emissions rather than have to pay higher pollution costs. The pollution pays principle is also stated in the Stockholm declaration (Mensah, 2019).

In the explanation of Article 88, it is explained that what is meant by absolute responsibility is that the element of fault does not need to be proven by the plaintiff as a basis for payment of compensation. From a legal perspective, the lack of need for proof is a special rule (*lex specialis*) rather than an unlawful act, this is because general offenses have a burden of proof on the plaintiff. This element in Article 88 also explains clearly that Article 88 of the UUPPLH actually characterizes the main characteristics of strict liability, where in its regulation there is a clause which explains that responsibility arises

immediately at the time of the action, so that it does not need to be linked to the element of fault (Praja et al., 2016).

Every person responsible for a business and/or activity that discharges waste water into water or water sources is obliged to prevent and overcome the occurrence of water pollution. Every person responsible for a business and/or activity that discharges waste water into water or water sources is obliged to comply with the requirements stipulated in the permit (Apriyanti & Eka, 2018).

The connection with the environment is that the right to enjoy a safe and comfortable environment is a natural right and is owned by every human being in all parts of the world. For this reason, there should be no actions that have the effect of limiting all humans from enjoying the environment in any form, either directly or indirectly (Widayat, 2013).

Waste water is liquid waste from households and other public places that contains materials that can harm the lives of living things and disrupt environmental sustainability. Industrial wastewater originating from factories is a very potential source of water pollution. This is because the waste water contains quite high levels of organic compounds and may also contain other chemical compounds and pathogenic micro-organisms which can cause disease in the surrounding community. Because the potential impact of industrial wastewater on public health is very large, every household activity or those originating from factories must treat their wastewater until it meets the applicable standard requirements (Faisal & Arsad, 2022).



Picture 4. Socialization of Pondok Village, Grogol

Environmental law is a reliable means of protecting and managing the environment because environmental law, apart from having a preventive function, also has the function of taking action against any environmental damage and/or destruction caused by legal subjects as a result of the business and/or activities they carry out. Apart

from that, the Pondok Village Waste Care Community Group was formed whose task was to carry out waste awareness outreach directly to the community.



Picture 5. Team UMS with Head of Pondok Village, Grogol

CONCLUSION

Increasing public awareness and understanding of environmental pollution and the characteristics of waste-prone areas is needed to reduce the negative impacts of factory waste that can affect humans. Human activities in managing regions with economic motives need to be balanced by paying attention to regional and environmental conditions. Community service activities initiated by the UMS Faculty of Law have succeeded in increasing understanding through socialization, encouraging the formation of a Waste Care Community Group in Pondok Village to trigger awareness, understanding and ability of the Pondok-Grogol village community more broadly so that they are able to achieve the goal of the environment as a place to live, the environment as a place for living creatures, whether humans, animals or plants, to stand. Apart from that, the environment is also a place for activities and interaction. If the environment is damaged, humans will perish.

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