

Environmental Politics: Waste, Stool, and Disciplinary Effort of the Surabaya Society, 1920s-1940s

Sarkawi B. Husain^{1⊠}, Agus Indiyanto², Eni Sugiarti¹

- ¹ Universitas Airlangga, [™]sarkawi@fib.unair.ac.id
- ² Universitas Gadjah Mada

Article history

Received : 2023-05-21 Accepted : 2023-09-06 Published : 2023-10-05

Keywords

Environmental politics, Popular resistance, People's resistance, Garbage management, State policy, Society

Abstract: The colonial government's hopes to create a rest and order in its colonies proved unsuccessful. The instruments used are not able to force the public to be disciplined. Surabaya, the locus of this article, is not only interesting in a geographical sense, because of its position as a colonial city, but also because colonial governance practices take place intensively in this city. This study aims to complete the aspects that still neglect the attention of scholars by examining the practice of colonial governance to discipline the people of Surabaya through waste and excrement management. In addition to mapping the government policies in waste and excrement management, this article also analyzes why the colonial government failed to discipline the community. This study relies on primary sources in the form of newspapers published during the colonial period. The collected data was analyzed by following three stages, namely reduction, display, and data verification. This article concludes that the community's violation of colonial government rules in waste and excrement management shows the failure of colonial governance practices in disciplining the community. This community disobedience also reflects the public's distrust of the apparatus that carries out the rules. This study also shows that the repressive attitude of the colonial government in implementing environmental hygiene rules reflects awareness among Europeans about the importance of environmental health which is in line with public health.

Abstrak: Harapan pemerintah kolonial untuk menciptakan keamanan dan ketertiban di koloninya terbukti tidak berhasil. Instrumen yang digunakan tidak mampu memaksa masyarakat untuk disiplin. Surabaya yang menjadi lokus artikel ini tidak hanya menarik dalam arti geografis, karena posisinya sebagai kota kolonial, tetapi juga karena praktik pemerintahan kolonial berlangsung intensif di kota ini. Penelitian ini bertujuan untuk melengkapi aspek-aspek yang masih diabaikan oleh para sarjana dengan mengkaji praktik pemerintahan kolonial dalam upaya mendisiplinkan masyarakat Surabaya melalui pengelolaan sampah dan kotoran (tinja). Selain memetakan kebijakan pemerintah dalam pengelolaan sampah dan kotoran (tinja), artikel ini juga menganalisis mengapa pemerintah kolonial gagal mendisiplinkan masyarakat. Penelitian ini menggunakan sumber-sumber primer dalam bentuk surat kabar yang diterbitkan pada masa kolonial. Data yang terkumpul dianalisis dengan mengikuti tiga tahap, yaitu reduksi, display, dan verifikasi data. Artikel ini menyimpulkan bahwa pelanggaran masyarakat terhadap aturan pemerintah kolonial dalam pengelolaan sampah dan kotoran menunjukkan kegagalan praktik tata kelola kolonial dalam mendisiplinkan masyarakat. Ketidaktaatan masyarakat ini juga mencerminkan ketidakpercayaan masyarakat terhadap aparatur yang menjalankan aturan. Penelitian ini juga menunjukkan bahwa sikap represif pemerintah kolonial dalam menerapkan aturan kebersihan lingkungan mencerminkan kesadaran bagi masyarakat Eropa tentang pentingnya kesehatan lingkungan yang sejalan dengan kesehatan masyarakat.

Cite this article: Husain, S.B., Indiyanto, A., & Sugiarti, E. (2023). The Environmental Politics: Waste, Stool, and Disciplinary Effort of the Surabaya Society, 1920s-1940s. *Paramita: Historical Studies Journal*, 33(2), 234-243. http://dx.doi.org/10.15294/paramita.v33i2.44438



Available online at http://journal.unnes.ac.id/ nju/index.php/paramita

INTRODUCTION

Until the end of its colonial period in Indonesia, the Dutch colonial government failed to discipline the people of Surabaya. Colonial Governance as an important instrument in environmental management in Surabaya could not run according to the expectations of the colonial apparatus (Husain, 2015). Several regulations related to waste and excrement management did not get a good response from the community. On the other hand, people still throwed garbage and waste anywhere. This attitude of the community is directly in line with the poor health of the environment which results in the spread of various chronic diseases. Throughout the 19th century, the city of Surabaya has experienced five disease outbreaks with a fatality rate of 40.6%. Until the early 20th century, in addition to other diseases that also developed such as dysentery, smallpox, bubonic plague, and cholera. The largest number of deaths due to cholera occurred in 1872 with around 6000 victims or almost 10 percent of the total population of Surabaya (Faber, 1936). This is in line with Dick's statement that at the beginning of the 20th century, Surabaya was still a very unhealthy city or place (Dick, 2002).

Studies on colonial governance practices so far tend to only pay attention to aspects related to administration issues, institutional arrangements (Fakih, 2014, 2020; Sutherland, 1983a), urban planning(Lai, 2010; Pratiwo & Nas, 2005; van Roosmalen, 2013) and not paying too much attention to aspects of urban governance such as environmental health. The tendency of these studies shows that environmental aspects in relation to disciplinary efforts of the community through waste and excrement management have not received serious attention. This study aims to complement aspects that still miss the attention of scholars by examining colonial governance practices to discipline the people of Surabaya through waste and excrement management. In particular, this paper not only maps government policies in waste and excreta management, but also analyzes why the colonial government failed to discipline the community.

This article is based on an argument that the colonial government's efforts to discipline the community through a series of rules for managing waste and feces show two things. First, this practice reflects an awareness among Europeans about the importance of environmental health. Second, the people's disobedience to the rules made by the colonial government reflected the public's distrust

of the apparatus that carried out the rules.

To elaborate on various things about the colonial government's efforts in disciplining the community in environmental issues in Surabaya, this article uses several concepts, namely popular (people's resistance), resistance garbage management, and state policy. The concept is popular resistance. This concept of resistance is often used to describe the defense of a minority group against a dominant group in power over it. Quoting from Factor et al., (Factor et al., 2011) resistance is described as a form of dissatisfaction expression of the powerless group to openly oppose the dominant group's power structure to protect their interests and identity. Satriani et al. (Satriani et al., 2018) stated that several factors, such as 1 caused the emergence of resistance movements) changes in the economy and culture of the community; 2) the existence of a new social structure; and 3) restrictions on their space and social facilities that present discrimination. Historically, the idea of resistance existed during colonialism which was presented in some literature as a people's resistance movement against the oppression of the colonialists (Masri et al., 2018; Subijanto, 2016; Tohri et al., 2020). As written by Tohri et al., (Tohri et al., 2020), people's resistance is a collective movement resulting from a sense of solidarity and idealism that focuses on actions against invaders as things that must be resisted for change. In this context, the people usually do some form of resistance such as (1) ridicule; (2) cooption; (3) formal social control; (4) violence and (5) silent movement (Sukmana, 2016).

Not only for oppression reasons, but also for the resistance movement during the colonial period was aimed at holding responsibility to the ecological damage exploited by the colonizers (Crosby, 2013; Kusno, 2014). Quoting from, Crosby (Crosby, 2013) there has been resistance by the people against the colonial government based on the government's poor performance in waste management. The resistance actions such as (1) rejection of every plan made by the government and private companies regarding the environment, (2) prosecution and (3) the dominance of public voices carried out to fight for environmental policies that help the people and demand equal distribution of risks among class, race, and gender in managing waste (Armiero & D'Alisa, 2012; Crosby, 2013). Jayasinghe et al. (Jayasinghe et al., 2013) stated that the waste problem not only had an impact on environmental degradation but also on health and welfare. The problem of waste which was charged on the community had an impact on the poor quality of people's health. However, the lower class people lack the resources and political power to self-advocate themselves so they could not make policies for better welfare and health related to waste. Therefore, open resistance (denial and disobedience) and closed resistance by publishing satire works often showed to presented people's resistance related to waste (Armiero & D'Alisa, 2013; de Gooyert et al., 2016; Putri, 2017).

The second concept is garbage management. Waste management is an effort to ensure the environment remains healthy (Siddique et al. 2019). Waste sorting itself can be done in two ways, namely a) manually with a process that tends to be expensive and tedious (Bobulski & Kubanek, 2020); and b) automatically as a way to increase the efficiency of the recycling process (Bobulski & Kubanek, 2020; Jayesh et al., 2020; Kansara et al., 2019; Patel & Patel, 2019; Siddique et al., 2019). The convenience of garbage collection tools is very important for garbageman and the community itself in order to increase utility (Jayesh et al., 2020). Malini & Hemalatha (Malini & Hemalatha, 2019) proposes that waste management methods focus on monitoring waste—which is often spilled and not collected at the right time—as well as sending messages to the relevant authorities automatically for faster handling, because, after being collected from individual trash bins, waste must be disposed of centrally (Hoque et al., 2019). Four things need to be monitored through a waste management system: waste level, humidity, temperature, and sense of the flame's response (Hoque et al., 2019). A healthy environment can be created when all four have been adequately maintained.

The third concept is state policiy. The state policy on waste has attracted the attention of experts to study it. Rosaldo (Rosaldo, 2016) looks at the 'revolution in the garbage dump' with a focus on the waste recycling movement. Through this study, Rosaldo (Rosaldo, 2016) found that the rise of neoliberalism and the consolidation of democratic rights have enabled recyclers to build organizations, form collective agendas, and oppose state policies, especially policies related to waste. Democratic reform is the main way recyclers gain influence over state and private interests (Rosaldo, 2016). A new provision—for example a provision in the law—has also created a loophole to challenge state policy (Rosaldo, 2016). Meanwhile, the Russian state has its provisions which also reflect how concerned they are with the waste problem. This ensures ecological safety, including health and

environmental protection measures against the harmful effects of poorly managed waste (Kabylinskiy & Menshakova, 2016). State policies coupled with setting environmental standards are the key to solving environmental problems as well as stimulating the implementation of natural protection measures (Bayramli, 2020).

Environmental History is vast and complex, ranging from concrete to abstract. According to Donald Worster (1988), the study of Environmental History focuses on three main areas, namely: 1) The natural environment in the past; 2) modes of production; 3) perceptions, ideologies, and cultural values. Our study deals with the first and second aspects, primarily how the colonial government handled the waste and faces problems in Surabaya. Therefore, this study is critical to the development of Indonesian historiography, especially Environmental History.

METHOD

This article uses various written sources from the National Archives of the Republic of Indonesia (ANRI), various newspapers published during the colonial era stored in the National Library of Indonesia (PNRI). In addition, several photographs are also used that illustrate the situation in the period discussed in this article. All collected sources are classified based on the problem formulation and research objectives set at the beginning. All sources must be verified, both by external criticism and internal criticism. The main target of external criticism is to determine the authenticity and authenticity of the sources. If a tested and criticized historical source proves to be a forgery or a forgery, be (Kuntowijoyo, cannot used Pradadimara, Dias, Sarkawi B. Husain, 2022; Wasino & Endah Sri Hartatik, 2018). In other words, external criticism aims to determine whether a source is genuine or false, genuine or imitation. Testing the authenticity of a source relies on testing the physical aspects of the source. Meanwhile, internal criticism is an attempt to prove that the testimony contained in a source is reliable. In other words, internal criticism focuses on the information or statements contained in the source. The next stage is an analysis using environmental politics and governance practices implemented by the colonial government.

THE WASTE PROBLEM IN THE LATE 19TH AND EARLY 20TH CENTURIES

In the last two decades of the 19th Century, the Bintang Timoer newspaper published in Surabaya almost daily carried news about waste scattered in various places. The waste comes from household, business residues, and market waste. For example, the news published by Bintang Timoer, May 19, 1886, mentioned that in Songoyudan Village, waste from people's houses piled up in front of their houses (Bintang Timoer, 19-5-1886). Waste that is also widely dumped in the river comes from the market. The waste dump was provided, but the waste officer, who at that time was called coolie who was a dirt dumper, looked for a practical way by throwing it in the river. For example, this happened in Ketapang Village when the Ketapang River that flows in the area became a market waste dump (Bintang Timoer, 9-7-1886). In addition to the types of waste mentioned above, human waste or feces is waste that is very troubling to the population.

Public awareness about hygiene and health before the 20th Century was indeed very concerning. This can be seen from the habit of those who litter on vacant land such as the edge of tombs, roads, alleys, sewers, and rivers. Empty land and the edge of the tomb is one place to throw waste. In addition to the places mentioned above, sewers are also landfills. According to von Faber, in the mid-19th Century, in Surabaya, many latrines threw their feces into the sewers (Faber, 1931).

The accumulation of waste in sewers and rivers is not only caused by people's behavior of littering, but also the attitude of government officials who do not care. Sawahan and Ketapang villages, whose sewers are very dirty, for example, did not get attention from the village head. Instead, the community hoped that the police would give orders to the village head to clean up the waste in the sewers (Bintang Timoer, 15-1-1886).

At the beginning of the 20th Century, waste was still one of the serious problems. Several newspapers published in Surabaya, put waste as news that adorns many of its pages. In the issue of Bintang Soerabaja in January 1904, for example, it was mentioned that there was a lot of waste piled up in Kali Mas that could not be washed into the sea and vice versa if the tide waste from the sea would enter the river (Bintang Soerabaja, 27-1-1904). Besides Kali Mas, Kaliondo's condition is also not much different. According to the monitoring of Pewarta Soerabaia, since it was taken care of by the gemeenteraad, the Kaliondo River's condition has gotten worse. The river is not only shallow, but also very dirty.

Like conditions in the late 19th Century, in the early to mid-20th Century people also used sewers to dispose of feces. The sewers on Jl. For example, peneleh-Kerkhoflaan (now Jl. Peneleh) became a place of waste and faces. If it is the rainy season, the sewer water overflows and human waste floats and enters people's yards. The same problem also occurs in Kemayoran Village. The ditch along the village road became a public latrine, although near the Kemayoran Mosque public latrines had been provided. People who lived around the place did not like to go to public latrines because they had to pay a penny to buy water (Pewarta Soerabaia, 7-1 -1928). The seriousness of this fecal problem was seen by the instruction of Ir. J.H. Levert, Head of People's Sanity Affairs from the Dienst der Volksgezondheid (Health Office) in Weltevreden, to go to Surabaya to hold talks with authorized officials to find an economical and technical solution for solving the problem of human waste (Pewarta Soerabaia, 13-1-1928).

COLONIAL GOVERNMENT POLICIES IN WASTE AND STOOL MANAGEMENT

To overcome the problem of waste and feces in Surabaya, the colonial government(Wahid, 2018) issued and implemented a number of policies. These policies were: (1) building thousands of trash bins, and (2) making a regulation called "oendangfeces" or the Waste Ordonance (Vuilnisverordening) in 1922 (Faber, 1936; Husain, 2016, 2020). By January 1924, Reinigingsdienst (Department of Cleanliness) had built and placed 2000 garbage collection tanks. The large tub was made partly of concrete and partly of wood. Garbage from the village was dumped in tubs and then transported by cart to a final disposal site (at that time called a large land dump) in Wonokusumo or Kandangsapi Village.

However, this policy failed to solve the waste and feces problem in Surabaya, so gemeente issued a regulation requiring every house to collect all waste in one box whose size was determined by the Sanitation Department. The system was accompanied by changes to the rules of transportation (Pewarta Soerabaia, 1922). In March 1924 the regulation was applied for the Jalan Sulung areas, April for the Jalan Raya Kupang area, and May for the Jalan Jagalan, Undaan, Plamptan, and Peneleh areas (De Indische Courant, 1924a, 1924b, 1924c). The new regulation was implemented on July 8, 1924 for residents in Kampement-straat (now: Jalan K.H. Mas Mansur), Pegirian, Undaan Wetan, Ngemplak to Ambengan and Gang Kalisari. On November 3, 1924, the same rule was applied in Darmo, Dinoyo, and Groedo (Pewarta Soerabaia,





Figure 1. Garbage Cart in Surabaya, 1911 Source: http://media-kitlv.nl/all-media/indeling/detail/form/ advanced/start/2?q_searchfield=garbage

1924b, 1937a). Click or tap here to enter text.

Residents who live in the area every day are required to collect all garbage in closed boxes. Every 6 and 7 or 9 and 10 in the morning, the garbage boxes are cleaned by the gemeente officer. To make it easier for cleaners, the container should be placed in front of the door of each home page. If the garbage in the box is less than 60 cubic cm, no fee will be charged, but if it exceeds, residents must subscribe to the Reinigingsdienst office. The amount of subscription fee for waste transportation is set as follows: 61 to 90 d.M.3 = f 4; 91 to 120 d.M.3 = f; 121 to 180 d.M.3 = f 13; 181 to 250 d.M.3 = f 25 (Pewarta Soerabaia, 1924b, 1931, 1937b).

Another important issue related to waste management is the final disposal site. To solve this problem, Reinigingsdienst (City Cleaning Service) uses waste to backfill the lowlands. However, this method was also unable to reduce the garbage pile. Therefore, the colonial government also dealt with it by establishing a Garbage Burning Kitchen in Peneleh Village, which cost about f 1500. This effort imitated a similar thing done in Bandung (Pewarta Soerabaia, 1928a, 1928b).

Towards the end of the Dutch colonial government era in Indonesia, there was no significant change in the waste management policy in Surabaya. However, during the Japanese occupation, no data were found on government's efforts to keep the city clean. The absence of policies issued by the Japanese occupation government with regard to environmental health hygiene and understandable, given that its reign was very short. In addition, their entire attention was focused on the victory in the Greater East Asian War (Husain, 2010) Nevertheless, the interesting thing is that through Soeara Asia in October 1943, the Japanese

occupation government called on the Muslims in Surabaya to flock to the mosques on October 8, 1943 to listen to Friday sermons on the importance of cleanliness. In addition, all residents, especially school children, are expected to hear a radio speech by members of the Izi Hookoo Kai (Indonesian Doctors Association) on cleanliness on October 8, 1943 at 09.30 am (Husain, 2020; Soeara Asia, 1943).

COMMUNITY RESPONSE TO WASTE AND FECES POLICY

People's habit of littering and feces causes the outbreak of various diseases. Some diseases that arise include abdominal pain accompanied by cramps, vomiting to fainting. The disease arises due to the creation of sewers as a place to defecate by the community. If it is the rainy season, the water in the sewers overflows and human waste floats and enters people's yards. In addition, piles of garbage and feces also give rise to many flies that are very disturbing to residents living around the area. Flies not only fly in garbage cans, but enter people's homes, get food and cause the spread of typhoid (Pewarta Soerabaia, 9-1-1924).

A number of policies implemented by the colonial government in overcoming the problem of waste and feces in Surabaya did not get a good response from the community. In other words, the colonial government failed to discipline the people to keep the environment clean and healthy. On the other hand, the community carried out various oppositions, both openly and clandestinely. There are several forms of community indiscipline over the waste management policies implemented by the colonial government.

First, transfer the obligation to maintain cleanliness to the local government. Instead of obeying the rules set by gemeente, the community

blames the village head for being incompetent in solving this waste problem. People who live in Sawahan and Ketapang villages, for example, have very dirty sewers and according to him this is due to the lack of attention from the village head. The community hoped that the police would give orders to the village head to clean up the garbage in the sewers (Bintang Timor, 1886). The village head's indifference to this condition is revealed in the following quote.

I'm really surprised that the head of the Ketapang village doesn't want to check him, he owns the villages, like in the Ketapang Protten village there is an Arab who builds a house and he also dumps sewers in the middle of the village so that people can barely walk in that village. especially now that it is raining, I hope that Mas Beij Assistant-Widhono Njamplungan prenta at that village head will clean up the Adanja village. (Bintang Timor, 1886).

Second, people still throw garbage everywhere. Around the tubs, residents arbitrarily throw garbage. In addition, many of the baskets used to carry the garbage have broken, so that the garbage has fallen scattered on the streets and alleys before it reaches the tub. The most pathetic thing is that the residents use the tubs as a place to defecate, as described in the following Pewarta Soerabaia. "Roepanja Marika thinks, he can buy anything at sitoe zonder bajar and he can save it and save it, which he needs to keep in W.C. oemoem (Pewarta Soerabaia, 1928a). The behavior of defecating in any place or in the river continued until the 1970s (Surabaya Post, 1979, 1982).

government's efforts colonial overcome the waste problem by building burning chimneys also did not get a good response from the community, on the contrary they preferred to throw garbage around the chimney rather than in the burning kitchen. As a result, garbage is scattered everywhere (Pewarta Soerabaia, 1928a). Similar to conditions at the end of the 19th century, in the early to mid-20th century people also used sewers to dispose of feces. The ditch on Jalan Peneleh-Kerkhoflaan (now Jalan Peneleh) for example, became a place for garbage and human waste. When it rains, the water in the gutters overflows and human waste floats and enters the yards of people's homes.

The same problem also occurred in Kemayoran Village. The ditch along the village road has become a public toilet, although there is already a public toilet near the Kemayoran Mosque. People living around the area do not like to go to public

toilets because they have to pay (one penny to buy water) (Pewarta Soerabaia 1928a). The seriousness of this faecal problem was shown by the instructions of Ir. JH Levert, Head of Public Sanity Affairs from Dienst der Volksgezondheid (Dnas Kesehatan) in Weltevreden, to Surabaya to hold talks with the competent authorities to find an economical and technical solution to the problem of human waste (Pewarta Soerabaia, 1928a).

THE COLONIAL GOVERNMENT'S STRATEGY AND FAILURE TO DISCIPLINE SOCIETY

Efforts to streamline the implementation of regulations on waste and feces, are carried out by gemeente by punishing residents who violate. According to Pewarta Soerabaia, many residents have been punished for violating "oendang-oendang dung". However, this action drew criticism because it was not accompanied by the good work of the cleaning staff.

Every time I come to a dung cart from Gemeente. But itoe koeli gemeente too lazy to lift itoe all the crates to the grobaknja. From the cause of itoe, until koelikoeli itoe brought a special cranberry boeat angjoet feces. Itoe, the cradle that was used, was not good and it had holes in it in four parts. Itoe all the dirt from the crate was picked up in the basket and the basket was carried away and then transported to the cart. It's no wonder that when it was so rough, all the dirt was crawling on the ground and it was like that because it had so many holes and so many toeas, it couldn't make all the dirt collect. From here, it becomes boekan pendoedoek, only the gemeente themselves violate the rules. Itoe as if the dirt lifter is too lazy. If he's a person, he should go and get the crate and then let it go, then the crate must come four times, so let's take it easy and use a faucet that's already broken for work." (Pewarta Soerabaia, 1924a)

However, efforts to punish the public for their violations were unsuccessful. In other words, efforts to discipline the community environmental hygiene through waste and excreta management have failed. Two things at least mark this failure. First, instead of obeying the rules set by gemeente, the community blames the village head for being incompetent in solving this waste and excrement problem. Second, even though trash bins are available in the corners of the village, people still throw their garbage anywhere. People even use the tubs as a place to defecate. Towards the end of the rule of the Dutch colonial government in Indonesia, there was no significant change in the waste management policy in Surabaya.

The failure of the Dutch colonial government to discipline the people of Surabaya through obedience in disposing of their waste and feces is evidence of the failure of the colonial system in the form of social stability and order (rust and order) for the colonized people. On a further level, environmental politics (Cribb, 1990) was carried out by the colonial government so that the people of Surabaya, especially Europeans, were free from diseases that often hit Surabaya such as dysentery, bubonic plague, malaria, and others due to poor environmental health. running as expected. In addition, this condition also invalidates the argument of several researchers that thousands of Europeans (Dutch) can manage hundreds of thousands of indigenous people.

In some ways, the failure of the colonial government to discipline the people of Surabaya through a series of environmental politics is interesting. First, the colonial government's efforts to discipline the community through disposing of waste in the provided bins or through ordinances, reflecting an awareness among Europeans about modern health in what Michel Foucault calls urban medicine which refers to the symptoms of modern health. which was born with the process of European urbanization in the 18th century (Achdian, 2019, 2020). This control represents a new form of control in public health discourse that not only makes the body and organism the object of its attention, but rather on "things" that are implemented through regulation of water, air, and others as the primary source of public health (Foucault, 2003, 2020).

Second, the people's disobedience to the rules made by the colonial government reflected the public's distrust of the apparatus that carried out the rules. One of the sources of distrust is related to the issue of user fees that must be paid when finished using the cleaning facilities. community considers that instead of being able to create a healthy environment, a number of these regulations have actually made the various health facilities an arena for several officials to make profits. Third, this fact also reflects the lack of awareness of some people, especially indigenous people, to maintain health through environmental health. In addition, there is a vast understanding gap about health between indigenous peoples and Europeans.

Many studies on colonialism in Indonesia or even Southeast Asia have been carried out, both by foreign historians and by Indonesian historians (Carey & Reinhart, 2021; Cribb, 1990; Suryo, 1996; Sutherland, 1975, 1983b, 2016; Vickers, 2005). However, the studies that have been carried out only focus on the colonial government and do not show what happened at the community level. Thus, it can be said that this study is a new study in looking at the workings of the colonial government in its colonies. The novelty lies not only in the concepts used, but also in the field of study, which is related to environmental issues. Studies on environmental history have also been studied by several researchers through two approaches, namely environmental history through the perspective of environmental problems and the perspective of environmental change (Colombijn, 2016; Nawiyanto et al., 2018; Nawiyanto, 2015).

This long-dure study has several important implications. First, the need to re-examine the practices of "colonial governance", in various aspects. The practice is not only limited to environmental aspects, but also to other aspects such as how to carry out worship, organize, and others. This is important so that the "myth" that the colonial government has succeeded in carrying out rest and order in its colonies is not fully proven. Second, apart from Surabaya, the same study should be conducted in other colonial cities such as Jakarta, Semarang, Bandung, and Makassar. This is important and interesting so that each pattern and uniqueness can be found.

CONCLUSION

The community's violation of several colonial government regulations in the management of waste and feces shows at least three things. First, the practice of colonial governance did not succeed in disciplining the community, so the assumption that during the colonial period, a Rest and Order was created in the colony was not proven. Second, the repressive attitude of the colonial government in implementing environmental hygiene rules reflects the awareness of Europeans about the importance of environmental health, which is in line with public health. Third, community violations also reflect the public's distrust of the apparatus that enforces the rules.

The study of how colonial governance worked in environmental aspects was an important contribution to the development of Indonesian historiography. So far, historical studies in Indonesia have focused more on political, ideological, and structural aspects by placing the elite as the focus of the study. In other words, this study provides a new understanding of the importance of positioning society as a subject or

actor in history.

This study can be explored further if the temporal scope of the discussion is extended to the post-colonial period so that policies can be compared between the colonial and post-colonial governments in waste and excreta management. Unfortunately, this study had to stop at only one period due to time constraints. However, this study can be a starting point for other scholars to explore this issue further.

ACKNOWLEDGMENTS

The author would like to express his gratitude to Prof. Irwan Abdullah, the head of IA Scholar Yogyakarta, and his team for his assistance with this article. **Ethical considerations:** This article followed all ethical standards for research without direct contact with human or animal subjects and referred to the historian's code of ethics, number 03/MSI-Jatim/E/VIII/2021; Number 009/A.2/MSI-SS/2021; 028/A.2/MSI-KT/2021.

REFERENCES

- Achdian, A. (2019). Colonial modernity, Indonesian nationalism, and urban governance: The making of a colonial city, Surabaya (ca. 1890–1942). In *Cultural Dynamics in a Globalized World.* https://doi.org/10.1201/9781315225340-103
- Achdian, A. (2020). Politik Air Bersih: Kota Kolonial, Wabah, dan Politik Warga Kota. *Jurnal Sejarah*, *3* (1), 98–104.
- Armiero, M., & D'Alisa, G. (2012). Rights of resistance: The garbage struggles for environmental justice in Campania, Italy. *Capitalism, Nature, Socialism.* https://doi.org/10.1080/10455752.2012.724200
- Armiero, M., & D'Alisa, G. (2013). Voices, clues, numbers: Roaming among waste in Campania. *Capitalism, Nature, Socialism.* https://doi.org/10.1080/10455752.2013.851262
- Bayramli, G. (2020). The environmental problems of Azerbaijan and the search for solutions. *WSEAS Transactions on Environment and Development*. https://doi.org/10.37394/232015.2020.16.42
- Bintang Timor. (1886). No Title.
- Bobulski, J., & Kubanek, M. (2020). The triple histogram method for waste classification. *AIP Conference Proceedings*. https://doi.org/10.1063/5.0027020
- Carey, P., & Reinhart, C. (2021). British Naval Power and its Influence on Indonesia, 1795–1942: An Historical Analysis. *Journal of Maritime Studies and National Integration*. https://doi.org/10.14710/jmsni.v5i1.9343
- Colombijn, F. (2016). Environment, Trade, and Society in Southeast Asia; A Longue Durée Perspective, edited by David Henley and Henk Schulte Nordholt. Bijdragen Tot de Taal-, Land- En Volkenkunde / Journal of the Humanities and

- Social Sciences of Southeast Asia. https://doi.org/10.1163/22134379-17201009
- Cribb, R. (1990). The Politics of Pollution Control in Indonesia. *Asian Survey*. https://doi.org/10.2307/2644989
- Crosby, A. (2013). Remixing environmentalism in Blora, Central Java 2005-10. *International Journal of Cultural Studies*. https://doi.org/10.1177/1367877912474535
- de Gooyert, V., Rouwette, E., van Kranenburg, H., Freeman, E., & van Breen, H. (2016). Sustainability transition dynamics: Towards overcoming policy resistance. *Technological Forecasting and Social Change*. https://doi.org/10.1016/j.techfore.2016.06.019
- De Indische Courant. (1924a, March 26). No Title.
- De Indische Courant. (1924b, April 16). No Title.
- De Indische Courant. (1924c, May 17). No Title.
- Dick, H. W. (2002). Surabaya City of Work: A Socioeconomic History, 1900-2000. Ohio University Press.
- Faber, G. H. von. (1936). Nieuw Soerabaia, de geschiedenis van Indië's voornaamste koopstad in de eerste kwarteeuw sedert hare instelling 1906-1931. Gemeente Soerabaia.
- Factor, R., Kawachi, I., & Williams, D. R. (2011). Understanding high-risk behavior among non-dominant minorities: A social resistance framework. *Social Science and Medicine*. https://doi.org/10.1016/j.socscimed.2011.07.027
- Fakih, F. (2014). The Rise of the Managerial State in Indonesia: Institutional Transition during the Early Independence Period, 1950–1965. Bulletin of Indonesian Economic Studies. https:// doi.org/10.1080/00074918.2014.938411
- Fakih, F. (2020). Authoritarian Modernization in Indonesia's Early Independence Period. In Authoritarian Modernization in Indonesia's Early Independence Period. https://doi.org/10.1163/9789004437722
- Foucault, M. (2003). The Essential Foucault: Selections from the Essential Works of Foucault, 1954–1984. The New Press.
- Foucault, M. (2020). Power: The Essential Works of Michel Foucault (1954–1984). In *The Subject and Power*.
- Hoque, M. A., Azad, M., & Ashik-Uz-Zaman, M. (2019).

 IoT and Machine Learning Based Smart Garbage
 Management and Segregation Approach for
 Bangladesh. ICIET 2019 2nd International
 Conference on Innovation in Engineering and
 Technology. https://doi.org/10.1109/
 ICIET48527.2019.9290551
- Husain, S. B. (2010). Negara di Tengah Kota: Politik Representasi dan Simbolisme Perkotaan (Surabaya 1930-1960). Lembaga Ilmu Pengetahuan Indonesia.
- Husain, S. B. (2015). Chinese Cemeteries as a Symbol of Sacred Space. Control, Conflict, and Negotitation in Surabaya, Indonesia Conduits, and Kampongs.

- The Modernization of the Indonesian City, 1920-1960. In Conduits, and Kampongs. The Modernization of the Indonesian City, 1920-1960 (pp. 323–340).
- Husain, S. B. (2016). Banjir, Pengendaliannya, dan Partisipasi Masyarakat di Surabaya, 1950-1976. Jurnal Masyarakat Dan Budaya, 18(1), 65–80.
- Husain, S. B. (2020). Banjir di Kota Surabaya Paruh Kedua Abad Ke-20. Ombak.
- Jayasinghe, R., Mushtaq, U., Smythe, T. A., & Baillie, C. (2013). The garbage crisis: A global challenge for engineers. Synthesis Lectures on Engineers, Technology, and Society. https://doi.org/10.2200/ S00453ED1V01Y201301ETS018
- Jayesh, P., Gopala Krishna, A., Vishal, M., Mohan, A., & Afridhi, S. (2020). Design and Ergonomic Work Posture Evaluation of Garbage Disposal Pushcart. Lecture Notes in Mechanical Engineering. https://doi.org/10.1007/978-981-15-1201-8_123
- Kabylinskiy, B., & Menshakova, V. (2016). Utilisation levy: General overview and practical approach of the Russian Federal Customs Service. World Customs Journal.
- Kansara, R., Bhojani, P., & Chauhan, J. (2019). Smart waste management for segregating different types of wastes. *Advances in Intelligent Systems and Computing*. https://doi.org/10.1007/978-981-13-1402-5-3
- Kuntowijoyo. (1999). Pengantar Ilmu Sejarah. [Introduction to Historical Science]. Benteng.
- Kusno, A. (2014). Behind the postcolonial: Architecture, urban space and political cultures in Indonesia. In Behind the Postcolonial: Architecture, Urban Space and Political Cultures in Indonesia. https://doi.org/10.4324/9781315011370
- Lai, C.-K. (2010). The past in the Present: Architecture in Indonesia. *Journal of Architectural Education*. https://doi.org/10.1111/j.1531-314x.2010.01084.x
- Malini, V., & Hemalatha, M. (2019). IOT based smart garbage alert system using wireless sensor network for environmental hygine. *International Journal of Engineering and Advanced Technology*. https://doi.org/10.35940/ijeat.F9356.088619
- Masri, H., Suprayitno, S., & Ratna, R. (2018). War Strategy Done by Gayo and Alas People Against Dutch Colonial (1901-1912). Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences. https://doi.org/10.33258/birci.v1i2.10
- Nawiyanto, Krisnadi, I., Endrayanti, E. K., Handayani, S. A., Salindri, D., & Irma, K. (2018). Menyelamatkan Nadi Kehidupan: Pencemaran Sungai Brantas dan Penanggulangannya dalan Perpekstif Sejarah. *Patrawidya*.
- Nawiyanto, N. (2015). Forest Resources Exploitation and its Impact in the Extreme Salient of Java , 1870-1970. *Internation Journal for Historical Studies*.
- Patel, A., & Patel, N. (2019). Garbage monitoring system using internet of things. Advances in Intelligent Systems and Computing. https://

- doi.org/10.1007/978-981-13-3600-3_28
- Pewarta Soerabaia. (1922, August 18). No Title.
- Pewarta Soerabaia. (1924a). No Title.
- Pewarta Soerabaia. (1924b, October 28). No Title.
- Pewarta Soerabaia. (1928a). No Title.
- Pewarta Soerabaia. (1928b, March 3). No.
- Pewarta Soerabaia. (1928c, November 30). No Title.
- Pewarta Soerabaia. (1931, April 9). No Title.
- Pewarta Soerabaia. (1937a, June 3). No Title.
- Pewarta Soerabaia. (1937b, June 3). No Title.
- Pradadimara, Dias, Sarkawi B. Husain, T. W. M. I. (2022). *Modul Bimbingan Teknis Berbasis Kompetensi*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia.
- Pratiwo, & Nas, P. J. M. (2005). Jakarta: Conflicting directions. In *Directors of Urban Change in Asia*. https://doi.org/10.4324/9780203023211
- Putri, P. S. (2017). The Meaning Making of an Environmental Movement: A Perspective on Sedulur Sikep's Narrative of Anti-Cement Movement. *PCD Journal*. https://doi.org/10.22146/pcd.30471
- Rosaldo, M. (2016). Revolution in the Garbage Dump: The Political and Economic Foundations of the Colombian Recycler Movement, 1986-2011. Social Problems. https://doi.org/10.1093/socpro/ spw015
- Satriani, Juhaepa, & Upe, A. (2018). Resistensi Sosial Masyarakat Suku Bajo (Studi Kasus Atas Perlawanan Masyarakat Di Pulau Masudu Kecamatan Poleang Tenggara Terhadap Kebijakan Resettlement Ke Desa Liano Kecamatan Mataoleo Kabupaten Bombana). Jurnal Neo Societal.
- Siddique, M. J., Islam, M. A., Nur, F. N., Moon, N. N., & Saifuzzaman, M. (2019). Breathe Safe: A smart garbage collection system for Dhaka City. *ICECE* 2018 10th International Conference on Electrical and Computer Engineering. https://doi.org/10.1109/ICECE.2018.8636767
- Soeara Asia. (1943, October 7). No Title.
- Subijanto, R. (2016). Media of Resistance: A Communication History of the Communist Movement in the Dutch East Indies, 1920-1926. *University of Colorado at Boulder*.
- Sukmana, O. (2016). *Konsep Dan Teori Gerakan Sosial*. Intrans Malang.
- Surabaya Post. (1979). No Title.
- Surabaya Post. (1982). No Title.
- Suryo, D. (1996). "Pendidikan, Diferensiasi Kerja dan Pluralisme Sosial: Dinamika Sosial-Ekonomi 1900-1990". [Education, Work Differentiation and Social Pluralism: Socio-Economic Dynamics 1900-1990].
- Sutherland, H. (1975). The Priyayi. *Indonesia (Archipel)*,
- Sutherland, H. (1983a). *Terbentuknya sebuah elite birokrasi*. Sinar Harapan.
- Sutherland, H. (1983b). Terbentuknya Sebuah Elite

- Birokrasi. Sinar Harapan.
- Sutherland, H. (2016). A History of Early Modern Southeast Asia, written by Barbara Watson Andaya and Leonard Y. Andaya. Bijdragen Tot de Taal-, Land- En Volkenkunde / Journal of the Humanities and Social Sciences of Southeast Asia. https://doi.org/10.1163/22134379-17201005
- Tohri, A., Habibuddin, H., & Rasyad, A. (2020). Sasak People's Resistance Against Mataram-Karangasem and Dutch Colonial Rulers: The Role of Tuan Guru Umar Kelayu. *Journal of Asian Social Science Research*. https://doi.org/10.15575/ jassr.v2i1.13
- van Roosmalen, P. K. M. (2013). Confronting built heritage: Shifting perspectives on colonial architecture in Indonesia. *ABE Journal*. https://doi.org/10.4000/abe.372
- Vickers, A. (2005). A history of modern Indonesia. In *A History of Modern Indonesia*. https://doi.org/10.1017/CBO9780511801020
- Wahid, A. (2018). City and 'Colonial Governance' in Late Colonial Indonesia: Towards an Agenda For Historical Research. *Paramita: Historical Studies Journal*, 28(1), 25–37.
- Wasino, & Hartatik, E.S. (2018). Metode Penelitian Sejarah: Dari Riset hingga Penulisan. Magnum Pustaka Utama.