

A Lesson from the Past: *The Impact of the Bubonic Plague on Dutch East Indies' Economic Downturn in the 20th Century*

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ABSTRACT

The Covid-19 outbreak hit the world, including Indonesia, and had resulted on the decline of the national economy within various sectors. Efforts had been made by the government to overcome these impacts. In regard to this issue, this article discussed the impact of the bubonic plague on the Dutch East Indies economy in the early 20th century as a case study of how research in history could provide lessons from the past. This study utilized the historical method, with the aim of reconstructing the contiguity between the outbreak and the economic sector. This article applied the structural theory of Braudel (1988) to analyze the existence of community structures, which were taking a role on spreading the disease. Braudel revealed that there were factors that encouraged societal economic decline: geography, demography, war, conflict, and disease outbreaks. This study analyzed cases of outbreak, which were causing the dynamics in the economic sector. The results showed that geographically, the Dutch East Indies lied in the tropical climate zone that greatly affected the lives of people who were vulnerable to outbreaks and could bring impacts on the death rate and reduced workforce in various prime sectors. As a direct impact, the colony was susceptible to the reduction of food production, the collapse of plantations and the obstruction of distribution route of trading commodities. The colonial government's efforts were included building healthy houses, exterminating rats, fumigating housings, revitalizing food production centers, plantation industries and trading sector. Unfortunately, these efforts were insufficient to economic improvement.

Keywords: *Bubonic Plague, Distribution of Foodstuffs, Economic Downturn, Dutch East Indies.*

1. INTRODUCTION

The spread of disease is a natural phenomenon that afflicts all living things in the world. However, the spread of disease is somehow related to the political and economic dimension, as it was seen as a challenge for humans' ability to overcome it. An evolutionary spread of disease could be a starter of a pandemic, which causes greater challenge to the foundations of the global economy, both to the availability of reserved funds to eradicate the disease while providing food stocks as physical supports for the society. The efforts, too, are constantly adjusting from time to time.

Recently, the Corona Virus Disease 2019 (Covid-19) has become the pandemic that greatly affected the world's economy to the community level. Mobility was limited, as well as economic activities, which are

causing a series of tremendous economic downturn all over the world, the menacing uncertainty in the financial market, and a number of regulations to be amplified in order to deal with the pandemic. Based on the national economic report in 2020, Indonesia had suffered much from the pandemic (Bank Indoneisa, 2020, pp. xxiv–xxviii). It had more than 85 million people infected, resulted in catastrophic loss of more than 1.8 million people. This condition had pushed the country to the edge of health and humanitarian crises due to the increasing numbers of poverty, the contracting economic growth, and the lack of policy that secure the livelihood of the Indonesians. The establishment of a financially oriented health policy, in which it was believed to be able to stabilize the economic downturn, responded the lastly mentioned impact. Health protocols and policies to limit people's mobility between regions

and countries were strictly enforced, but hampering the need for consumption, production, and investment. As a result, the declining international trade activity had the global production chains disrupted.

As we realized this kind of reality, we should be aware that there must have been a pattern in history, waiting to be patched up so that we could learn from the past. The case of the bubonic plague (black death) outbreak in Europe and Asia could be an example, as it had affected the western part of the world since the 12th century, and Indonesia since the early 20th century.

The plague had a correlation with geographical, demographical, and economical conditions. It came from *Yersinia pestis* bacteria found in house rats. This kind of rats were so resilient that they could live and multiply in any kinds of climate, let alone in a tropical climate, which provided them warmth and ample food stocks. By the beginning of the 12th century, Europeans were shocked because a deadly plague could arrive from piles of food sacks, shipped from China to Europe via the Mediterranean Sea. Shipping and trading activities were allegedly the medium of disease canalization in these two regions.

Braudel analyzed that it was the plague that caused the high mortality rate in France during the 10th to 18th centuries under Louis XIII reign. The rats made their nesting upon the food, ceramics, and cloth shipped from China to Europe, and vice versa. The rats became the suspect of a millions of death in all across Europe and Asia, as soon as it reached mainland. They spread quickly to the residential areas and agricultural fields, destroying buildings, timber stocks, aluminum, and even state archives. The side impact was obvious: hunger, due to crop failures, shortage of food, and declining state reserve funds. Europe was soon experiencing economic collapse, and multiple riots followed.

Braudel's study inspired this article to analyze the case of bubonic plague in the Dutch East Indies at the beginning of the 20th century, in relation to the economic downturn at the moment. The region situated at the tropical climate zone with regular floods and droughts, a rather natural conditions for the breeding of rats. Floods and droughts both resulted in a prolonged famine and outbreaks, such as cholera, fever, and malaria. According to Suryo, many deaths in Semarang by the end of the 19th century was caused by such adversities (Suryo. 1989. pp. 207–213), in which bubonic plague was among the deadliest diseases at that time.

However, the outbreak in Europe did not become a lesson that history could give to humanity. The Dutch East Indies government did not expect that the plague would occur within the colony, but it was too late when a number of rats were spotted in the piled sacks of rice imported from Rangoon (Myanmar) through ports in

Sumatra and Java. Less than a few researches by European scientists were used as the basis for eco-political decisions during the plague, because the government failed to recognize of how the breeding ability of these house rats could compromise their exercise of power in the colony.

Soon after the discovery of the plague victims at Deli plantation and at the Port of Surabaya, the plague struck Javanese population hard. In Surabaya, the first outbreak happened in 1910, followed by Semarang and Cirebon in 1915. These three areas were central to Dutch colonial economy. The process of importing and exporting merchandise through the ports in these cities involved many people. Contacts between foreign immigrants and indigenous people had worsened the case.

The plague hit more residential areas and damaged the economic joints of the community and the state. Rice and sugarcane, which were two main export commodities to Europe, especially the Netherlands, failed to harvest for thousands of rats had destroyed the fields. Another condition that exacerbated the suffering of the community was the unprecedented disturbance and hunger.

This article aimed to give analysis on past events, particularly through economic perspective in the intersection with politics and social aspects. This article would also highlight the surfacing discourses on how the governmental policies for public health could not be separated from existing social structures.

1.1. Method

This article used the historical method (Sjamsuddin. 2007), consisted of four stages. First, heuristic is the process of collecting primary and secondary sources with data related to the study. Second, critic is the process of evaluating types and content of sources found. Third, interpretation is the process of interpreting the facts based on the sources analyzed in the previous process. Fourth, historiography is the process that allowed historians to string facts up to eventually reconstructs a sophisticated historical writing.

1.2. Theoretical Framework

The theory used in analyzing the plague impacting the economic sector was the structural theory of Braudel. Braudel's explanation departed from the relationship between structures surrounding lives of many people, both enabling and constraining human and occurrences. The main structure was certainly present within events, but no agential power was found or appreciated.

Braudel accounted (Braudel. 1988. pp. 31–84) that the plague in Western Europe (1100-1450), China

(1346), England (1348-1350 and 1448), Genoa (1656), Amsterdam (1622-1628), Paris (1612-1668), London (1593 and 1664-1665), Italy (1673), and Eastern Europe such as Russia, Poland, and the Black Sea (1770) had inter-structure relations; nature, population, economy, and politics.

Geographically, the Mediterranean Sea acted as the main hub between Europe and Asia, and yet it unimaginably became the center of the plague. The plague affected civilization, including government policies in the respective countries concerned. Economic progress in Europe and Asia turned into a disaster when rats with bacteria piggybacked the shipping of trade goods to various regions. The spread of the plague to the mainland claimed millions of life, including some royal family members. Cities like Amsterdam and London suffered badly, because the majority of Europeans were sharecroppers and ship workers. Therefore, the whole Europe lost millions of labor force in farming and port distribution. Efforts to deal with the plague were carried out by quarantining the sick, limiting food supply, as well as suspending businesses and religious services. Starvation lurked from afar as food supply began to reach the bottom of the piles.

Based on Braudel's theory, this article would delve deeper into the correlation between health and economy within our life aspects. Through Braudel's structural theory, this study attempted to explain the inter-structure relations in the plague occurred in the Dutch East Indies during the 20th century, especially by shipping and trading activities in the Java Sea.

2. RESULTS AND DISCUSSIONS

2.1. Dutch East Indies' Bubonic Plague

Teijgeler (Teygeler, 2001, pp. 161–162) explained how rats could statistically destroy about 20% of goods and food. In fact, rats caused damage to food supplies in the world every year, both consumed or contaminated with their feces, fleas, and urine. These kinds of rats are very adaptable. They could live in buildings, under the tiles, aluminum, wood, cabinets, and multiply rapidly in large numbers, quickly became the pest of crops and destroy household items. When they died, the carcass released bacteria, which could be infectious to human during zoonosis.

Their notorious ability had caused these rats to be called bubonic rats (originally from *Rattus norvegicus*/city rat and *Rattus rattus*/house rat), while the plague itself was known within a range of naming, such as bubonic plague, oriental plague, pest, and Black Death. Fleas (*Xenopsylla cheopis* and *Ceratophyllus fasciatus*) aggravated the bacterial infections, infecting

animals, aside of humans, through their bites, killing the patient in a short time (Soedarto. 2009. p. 154).

According to Ricklefs (2005. pp. 288–289), the first rat stroke Dutch East Indies between 1850 and 1888, around Bali and Nusa Tenggara Islands, from the ship sailing from Bima to Bali. At that time, the enchanting vibe of Bali had been discovered by Europeans who seek fertile scenery as the result of Mount Tambora eruption in 1830. The government exported rice, coffee, tilapia, and pork from Bali to various countries in Europe. It was during these period that contacts were made with the locals, leading Ricklefs to suspect that this was perhaps the second world economic downturn in the region.

In the early 20th century, the type of plague developed in the Dutch East Indies was the one that caused blisters. Patients experienced symptoms of fever, headache, and multiple swollen or purulent blisters in their lymph nodes. Blisters were usually found in body curves, such as armpits, neck, groin, behind ears, and joints. Patients died within the next 48 hours, for their conditions were worsened by dirty environments, or cold and humid weather in tropical climates (Hunter, 1976).

In the western part of the archipelago, the plague became an epidemic in Sumatra and Java during the early 20th century. It spread first in Surabaya and Malang in 1910, before uncontrollably spread to all areas in Java. The bacteria came with the imported rice from Rangoon. The distribution of food from Surabaya to Malang delivered rats in piled sacks of rice. In November 1910, a case of the plague was discovered in the district of Turen, South Malang. Within a year, cases increased rapidly, affecting 2,300 people with 2,100 of them dead (Nurbaya. 2016. p. 334; *Soerabajasch Handelsblad*. 1934. p. 2; *Weekblad voor Indie*. 1911). In between 1911-1912, the plague spread to most districts in Malang, Kediri, and Surabaya. The highest victims recorded were in 1914's East Java, with 15,000 people, while the lowest in 1916 amounted to 595 people. The government declared a bubonic emergency status for areas affected by the outbreak (Gunawan. 2005. p. 976).

For the locals, the plague was a rather new phenomenon, so that less attention were given during the early times of the outbreak. The markets were active as usual with crowds everywhere, carrying various social activities out (Safitry, 2020, p. 118; *Weekblad voor Indie*, 1911). The people of East Java reduced their economic and social activities by the time the government banned crowd gathering, isolated affected areas and the sick, all to break the chain of disease spreading. Patients were evacuated to isolation barracks to be monitored, observed, and treated. Their houses were marked red (*woningverbetering*) and disinfected with sulfur spray to repel the rats. *Dienst der Pestbestrijding* (DP), or the Plague Eradication Service,

carried out this action as the authorized party for plague management. The local community also tried to handle the outbreak by burning rats found in rice fields and houses. Residents burned a total of 43,000 rats found in settlements. However in 1919, the plague was still existed in Surabaya, causing fear among people. A journalist for the *Sorabajasch Handelsblad* newspaper, R.A. Ezerman, mentioned the plague as *zwarte spook* or “black ghost”, a term used by Europeans in the 14th century (Luwis, 2008; Soerabajasch Handelsbla, 1934, p. 2), while the Dutch East Indies called it “the disease of evil”.

In March 1915, the plague spread to Central Java, starting from Surakarta. However, there was an inversed pattern because it was spreading from the hinterland to the port. The transportation of goods from the interior to the city through railway was suspected to be the cause of this kind of spread. The case was recognized by discovery of a dead rat in a warehouse near Jebres Station. Soon enough, the patient was found in Jebres *onder-district*. The peak of transmission occurred in November 1915 when the plague hit Semarang, Genuk, Pendurungan, Sronol, Maranggen, Karangun, and Kebonbatu (Colombijn. 2005. p. 156; Gunawan. 2005. p. 981).

According to J.E. Williams (Williams, 1980, p. 459), the cases in Central Java lasted until 1918, because there were thousands of people who died from the plague at that year in Semarang, Boyolali, Surakarta, Klaten, and Banyudono *onder-district*. Williams added that the majority of the affected lived in dirty and slums areas. Especially during the rainy season, a lot of mud entered residential areas, so that the environment became damp and foul-smell. Such conditions built a suitable breeding ground for bacteria, Malaria, and cholera (Rahayu. 2000. p. 3). Thus, it might be less surprising for Suryo to reveal that Semarang had experienced a geographical disadvantage since the 19th century (Suryo, 1989, pp. 207–230).

Similarly, both Lumenta (Lumenta, 1989, pp. 26–31) and Emalia (Emalia, 2020a) explained the relationship between the environmental factor and disease spreading. The environmental factor of the Port of Cirebon was exemplified, because it had been plagued with many diseases since the *Vereenigde Oostindische Compagnie* (VOC) came to power, until Cirebon was declared a colonial city (*gemeente*) by the Dutch East Indies government in 1906. The port environment became increasingly dirty as the result of the busy trade. Not to mention, the coastal environment of Cirebon was one of the gateway for further transmission.

The disease-spread pattern of in West Java was quite similar to East Java. The first case was a port warehouse porter in Cirebon who was found dead in 1915. It was later suspected that ships arriving from Semarang and

Tegal carried some rats with them. Loading activities and distribution caused the spread once again. The Port of Cirebon was the *port dé entre* for West Java, with Kuningan, Majalengka, Galuh, Tasik, Indramayu, and Bandung as its hinterland. The newspapers *Het nieuws van den dag voor Nederlandsch Indie* (5 October 1915), *Bataviaasch Nieuwsblad* (27 June 1923), *Koemandang Masjarakat* (1927), and *Teradjoe* (1927) discussed the plague swarming Cirebon by the beginning of the city formation (1906-1927).

Based on the records of *Dienst Volksgeneeskundige* (DVG), or the Ministry of Public Health, the spread of the plague in Java went through four channels. The first was the Port of Surabaya (1910), which then spread to Malang, Turen, and Kediri, claimed about 17,895 lives in six years. The second was plantations in Surakarta (1911), which later spread to Semarang, Klaten, Sragen, Boyolali, Ambarawa, Salatiga, Magelang, Wonosobo, Banyumas, and Pekalongan, claimed about 6,783 lives between 1915-1936. The third was the Ports of Semarang (1911) and Tegal (1922), which spread to Bumiayu and Cirebon (1915), to the west via Kuningan, Majalengka, Tasik, and South Bandung, claimed about 82,000 lives during 1915-1940.

The pattern of the spread of the plague in 20th century Java was in line with the concept of the *Global Transport Network and Infectious Disease Spread*, expressing that global transportation could be the spreader of infectious disease to the point of a pandemic, vector invasion events, and the import of vector-borne pathogens. Global transportation in various countries continued to run along with economic activity between countries in an uncertain time. This concept was also in line with the analysis of the spread of the bubonic plague in Europe that occurred within the dynamics of the economy, linking the Mediterranean, Sydney, Bombay, San Francisco, and Rio de Janeiro up (Tatem. 2006. p. 294).

2.2. The Impact of the Plague

In accordance with the case in Europe and Asia, the wheels of trade on basic commodities stalled when the plague affected farmers, porters, businessmen, and government officials. Cities suffered economic downturns when the rats invaded their territory through food distributions. The plague afflicted the working class, and then led to a decrease in the number of workers, thereby reducing the supply of food. The death of thousands of people caused economic, social, and political instability.

In the Dutch East Indies, the economic downturn occurred for years, deepened by damage in rice fields and other fields, either due to rat invasion or floods and drought. Almost all areas in Java were affected by the plague after the distribution of imported rice and local

sugar, because the import-export activity of basic commodities was carried out in large quantities by sea transportations. Likewise, the distribution processes on the mainland were conducted via railway and other land transportation, with warehouses and stations as rats nesting places.

Criticism were delivered through various mass media at that time, publishing the government's attention to public health, action on suspending rice imports, eradicating rats in sugarcane plantations and rice fields, as well as providing free medical treatment for the locals. The increasing number of morbidity and mortality hampered all life aspects of the people in both urban and rural areas. Cities in Java were no longer the center of a profitable economy, but rather a dreadful one. The government responded to social protests only when the victims continued to increase. Moreover, the distribution of foodstuffs only came to the government's attention in the 1930s.

A report submitted by dr. Spaarwoude Wermesinger from DVG mentioned that the plague had caused prolonged hunger and poverty in Cirebon. The stock of rice in the area had gone exhausted and it started confusion among Chinese traders who decided to close their shops due to the lack of buyers and no suppliers. This report was addressed to the government as a form of proposal to increase the attention from the government to its people's health and well-being. According to *Indische Verslag* (1931-1940), the bubonic plague became the most frequent cause of death between 1915-1933. Ricklefs' explanation on the correlation between the plague and economy was confirmed, because the government had failed to support their people to endure as the plague claimed too many victims, especially in April 1933. Ricklefs did not mention the number of victims at that time, but he analyzed it from the dwindling number of Cirebon's contribution through sugar production (Ricklefs, 2005). Nevertheless, this issue was not simply translated into a consideration for the government to improve the well-being of the working class.

The supply of rice and sugar continued to subside drastically during the pandemic until the malaise period, and yet the health sector remained less prioritized by the government. Losses from the sugar industry in Sindanglout, Cirebon had resulted in a drain on the government funds, which was actually a huge loss for the Dutch. Sugar factories in Sindanglout and Majalengka, West Java were no longer productive. Workers suffered from the disease, while sugar production decreased due to the destruction of sugarcane plantations by the same rats (Bataviaasch Nieuwsblad, 1927; *Het nieuws van den dag voor Nederlandsch Indie*, 1915, p. 2; Teradjoe, 1927).

In a formal platform within the government, discussions went difficult. There were conflict between

DVG and the members of the city council (*gemeenteraad*) about the allocation of health funds. Indigenous peoples got subsidized, but not every fund was distributed evenly. According to the news from *Bintang Tjirebon* newspaper (1914, 1921, 1926), the reason why the city government was worried about the decline in food reserves was not because they cared about the community. They submitted fake reports and therefore failed to act preventively and curatively.

Therefore, the government did not perceive the plague as a threat to eco-political stability. In Cirebon, it was only the *gementeraad* who recognized the grand loss of sugar and rice production in 1925. They established the Pest Eradication Institute (*Dienst der Pestbestrijding/DP*) in Kuningan for Majalengka, Tasik, and Ciamis (Koemandang Masjarakat, 1940).

2.3. Plague and Outbreak Management

The establishment of DP in East and Central Java was carried out within early days of the plague, unlike in West Java. DVG's duties were to assist DP in eradicating rat nests, repairing and fumigating houses, and market control. A controller (*passer-controleur*) was assigned to study a preventive measure, though most controllers took the job to get price and tax reduction while buying plantation products. They were also collecting illegal taxes from traders in the markets just for their own benefit. At last, they felt reluctant to supervise workers in markets and environments prone to the disease for they thought it was the responsibility of healthcare workers. Indeed, poverty and morbidity rates continued to soar. *Koemandang Masjarakat* newspaper (1940) reported that until 1940, the plague continued; poverty remained unresolved and the conditions of the working class remained unchanged.

On the other hand, DP functioned accordingly, except in West Java. According to the newspaper publication in 1940, DP was considered as a non-functioning institution. The Cirebon government, who was in charge of supervising the DP, sent a number of healthcare workers to affected areas without adequate medical equipment and sufficient funds for conducting treatments. The cooperation existed, but less harmonious. The majority of circulating mass media at that time soon highlighted corruption cases at the city council level.

In the handover report of C.J.A.T. Hiljee dated June 3, 1930 (ANRI. 1930. p. 429), notes from dr. C.J. Schuurman and A.M. Schuurman-ten Bokkel Huinink reported that the Cirebon city government had only sent nine medical personnel in September 1929, along with a counselor to investigate the bubonic plague in Kuningan. *Bataviaasch Nieuwsblad* (31/3/1931 and 21/3/1936) revealed the much apathetic response of the government. Assignments of doctors and counselors

acted as a shield for DVG to dodge mass criticism. The government began to cover the criticism up by giving jobs to the retired health counselor to save costs. The nine medical personnel worked for six months only, until June 20, 1930. The newspaper also confirmed that West Java suffered the longest because the plague was affecting Cirebon until 1936 (ANRI, 1931).

The plague management had become a tug-of-war in terms of the allocation of healthcare funds. As in *Bataviaasch Nieuwsblad*, the political situation during the plague was rather filled with uncertainties, both for the society and the government. It developed rampantly, but imperceptible for the government (Emalia, 2020b). Therefore, the economic downturn was caused by the neglectful behavior of the controllers because the government failed to understand the economic situation of the people.

3. CONCLUSION

Criticism of the bubonic plague management in the Dutch East Indies during the 20th century was mostly circulating around the management of health funds channeled by the central government to regional institution. The establishment of DP as an authorized party to eradicate the plague was considered as the right step taken. However, the health and economic interests of the locals were below consideration, especially in determining policy applied to them. After the plague became a pandemic, people began to pay attention to worker class' health. But then, it sparked another problem when the state fund were too focus on the locals health. By the beginning of the 20th century, the Dutch East Indies experienced an economic decline for the plague had stroke the workers who had been missing from their consideration. This condition certainly disrupted the economy and the owners of capital. Mortality and morbidity rates were the main drivers of the downturn at that time. Thus, this case was an exemplary notion to prioritize the safety of all people in a disease treatment, especially those of the productive age, in order to avoid the appalling economic collapse.

AUTHORS' CONTRIBUTIONS

Conceptualization: Imas Emalia and Didik Pradjoko; Methodology: Ipik Ernaka and Didik Pradjoko; Validation: Ipik Ernaka and Imas Emalia; Formal Analysis: Imas Emalia, Ipik Ernaka, and Didik Pradjoko; Writing: Ipik Ernaka, Imas Emalia, Didik Pradjoko; Review and Editing: Imas Emalia.

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