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# The Handling of the Smallpox Outbreak in Cirebon from 1870-1930

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**Abstrak**

Penelitian ini bertujuan untuk menghasilkan narasi tentang cara yang dilakukan oleh pemerintah dalam menangani wabah cacar yang sedang berlangsung di Cirebon. Pola hidup yang buruk dapat memudahkan masyarakat terserang wabah penyakit. Pada masa kolonial Belanda, penyakit menular pernah menimbulkan kekacauan dan kekhawatiran bagi masyarakat salah satunya penyakit wabah cacar. Kajian ini mengunakan metode sejarah, yaitu pengumpulan sumber, kritik, interpretasi, dan historiografi. Penelitian ini memfokuskan pada penanganan wabah cacar di Cirebon. Wabah ini dipicu oleh buruknya sanitasi, adanya kepadatan penduduk serta adanya modernisasi wilayah. Penelitian ini juga menyoroti peran vaksinasi, karantina, dan pengobatan tradisional dalam upaya mengatasi wabah cacar, serta tantangan yang dihadapi dalam penerapan kebijakan kesehatan dimasyarakat lokal. Penelitian ini menghasilkan sebuah tesis bahwa upaya penanganan wabah cacar di Cirebon tidak sepenuhnya efektif, karena adanya penolakan dari sebagian masyarakat serta faktor lingkungan yang buruk.

**Kata kunci:** wabah cacar, vaksinasi, cirebon.

**Abstract**

*This study aims to produce a narrative about the government's efforts in handling the ongoing smallpox outbreak in Cirebon. Poor living conditions can make it easier for communities to be struck by disease outbreaks. During the Dutch colonial period, infectious diseases caused chaos and concern among the people, one of which was the smallpox epidemic. The spread of smallpox first entered the Java region in the 17th century and reached Cirebon in 1870. The study uses historical methods, namely source collection, critique, interpretation, and historiography. The research focuses on the handling of the smallpox outbreak in Cirebon. This epidemic was triggered by poor sanitation, population density, and regional modernization. The study also highlights the role of vaccination, quarantine, and traditional medicine in efforts to combat the smallpox epidemic, as well as the challenges faced in implementing health policies in the local community. Ultimately, this article shows that efforts to prevent the smallpox outbreak in Cirebon were not entirely effective due to resistance from some parts of the community and poor environmental factors.*

***Keywords**: smallpox epidemic, vaccination, cirebon.*

## INTRODUCTION

Lifestyle and health are closely interrelated aspects that significantly influence the sustainability of societal life. Unhealthy lifestyle habits can increase the risk of health disorders or potential epidemic threats. Conversely, adopting a healthy lifestyle can enhance physical, mental, and social well-being while reducing health risks. Both aspects play a crucial role, prompting efforts from society to maintain health, which simultaneously reflects humanity's respect for the blessings granted by God. According to Hendrik L. Blum, four factors influence human health, namely lifestyle, healthcare services, genetic factors, and the environment (L Blum, 1974). Although many individuals strive to maintain their health, there are also those who pay less

attention to this aspect. People who are less concerned about their health are more susceptible to diseases originating from their surroundings, which, in turn, can lead to the spread of epidemics that are difficult to control. The transmission of diseases in residential areas can also result from unhealthy lifestyles, eventually affecting communities in densely populated areas. High population density often leads to the emergence of slum settlements with poor sanitation conditions, further exacerbating health problems (Aprilian, 2024). Poor lifestyle habits within communities make them more vulnerable to disease outbreaks. During the Dutch colonial period, infectious diseases had already affected the population and became epidemics, one of which was smallpox. The emergence of the smallpox epidemic caused widespread chaos and concern among the community.

The smallpox epidemic first entered the Java region in 1644 (Uddin, 2006) Specifically, it began in Batavia and subsequently spread to various regions in Java as well as areas outside Java (Rivaldi et al., 2021). The smallpox epidemic initially occurred in the Maluku region before eventually reaching Java. The spread of the epidemic was facilitated by trading activities conducted via maritime routes, with trade serving as the primary driver of transmission. The shipment of spice commodities between islands and countries was conducted through maritime routes, reaching their final destinations at ports. This trading activity greatly facilitated the spread of the epidemic, as the frequent movement of goods and people allowed the disease to travel easily across regions (Pradjoko & Emalia, 2021). In Java, it is estimated that the smallpox epidemic began to affect the population in 1781. This can be observed from the cases where, out of 100 people in Java infected with smallpox, 20 were reported to have died. As the 19th century progressed, the smallpox epidemic continued to spread, and the government declared that the disease had affected the entire Java island, including the Cirebon region (Uddin, 2006).

The Cirebon region, one of the areas in Java, was impacted by the smallpox epidemic, which is estimated to have entered around 1870. The Dutch colonial government, which was more focused on economic interests, did not prioritize epidemic prevention and the improvement of public health. The policies implemented were often flawed, such as the lack of reduced working hours for laborers, the obligation for farmers to continue working despite being ill, as well as uneven healthcare services and incomplete smallpox vaccination coverage (Emalia, 2020). In the 19th century, Cirebon was known as an area characterized by slums and uninhabitable conditions. A portion of Cirebon's

population lived in coastal areas, where the land was consistently wet, and drainage systems were extremely inadequate.

Various studies on epidemics in Cirebon and its surroundings have been conducted, including research by Ahmad Taufal Marom and Aah Syafa'ah, who studied the cholera outbreak in Cirebon. Their research indicated that a cholera outbreak had occurred in Cirebon but was successfully addressed, primarily due to the collaboration between the Dutch colonial government and the local population in handling the cholera epidemic (Marom & Syafa'ah, 2024). A study by Imas Emalia on the malaria outbreak in Cirebon revealed that modernization does not always bring about only positive effects; it also has negative consequences, such as the emergence of malaria, which became both an environmental and public health issue (Emalia, 2021). Continuing with Imas Emalia's research, this study also examined the outbreak of typhus in Cirebon. The study highlighted that the spread of typhus in Cirebon was caused by poor environmental sanitation resulting from infrastructure development. Additionally, there were actions taken by laborers who demanded a daily water supply for consumption and held the government accountable for the situation The death of family members due to the typhus epidemic further intensified the grievances, leading the laborers to demand accountability from the government for the inadequate response and conditions that contributed to the outbreak (Imalia Emas, 2020). Although previous studies have extensively discussed epidemics in Cirebon, the author has found that the smallpox outbreak in Cirebon has not received special attention. This study will focus on the handling of the smallpox epidemic in Cirebon.

The objective of this research is to investigate and explain the issues surrounding the epidemic in Cirebon from 1870 to 1930. The study will outline the condition of the Cirebon region prior to the arrival of the smallpox epidemic, and it will also detail how the epidemic spread in the Cirebon area. Additionally, the efforts made by the colonial government in addressing the smallpox epidemic in Cirebon will be examined. This research is expected to contribute additional historical knowledge, particularly regarding the history of health in the Cirebon region.

## METHODS

In this research, the method used is historical research methodology. In historical research, the existence of facts is crucial, as these facts will be analyzed and developed into a reconstruction of past events. However, facts cannot be obtained without data or sources.

According to Kuntowijoyo, historical research involves five stages: (1) topic selection, (2) source collection, (3) source verification or criticism, (4) interpretation, and (5) historiography (Kuntowijoyo, 2013). In the stage of source collection, sources are divided into two categories: primary and secondary sources. Primary sources are those that are contemporaneous with the historical event being studied. The primary sources used in this research include health department reports, such as those from the *Burgerlijken Geneeskundige Dienst* and *Dients Volksgezondheid*, *staatsblad*, contemporary newspapers obtained from the Dhelper website, KITLV, and print newspapers as contemporaneous information (Wijayati, 2009). Secondary sources are supplementary materials or sources obtained from accounts of individuals who were not directly involved in the event. These secondary sources are often referred to as bibliographic sources, which include books, journals, articles, theses, and other materials that are relevant to the research topic. The secondary sources used in this study were accessed through online libraries such as Z-lin and Google Scholar.

## RESULTS AND DISCUSSION

### Environment and Lifestyle of the Cirebon Community

In the 19th century, Cirebon, particularly in the Cangkol village, was already known as a slum area with poor sanitary conditions, primarily due to inadequate drainage systems. As a result, many Dutch nationals preferred to live in the port areas, as the Cangkol village was considered an unhealthy place to reside. Despite this, during the 19th century, the Dutch East Indies government also constructed several colonial buildings, including the residency office, in the area (Majid, 2021). Cirebon, one of the port cities in the Dutch East Indies, was significantly impacted by urbanization, as the population consistently increased each year. For instance, between 1805 and 1815, the population grew by 35%, from 160,100 people to 216,001 people (Firdaus Mutawally et al., 2024). Imas Emalia states that the increase in population, without corresponding improvements in infrastructure, led to the city becoming slum-like, dirty, and vulnerable to epidemics. The problem of epidemics in Cirebon was closely related to poor sanitation, as, until the 19th century, Cirebon lacked proper drainage systems. As a result, the local population used rivers for waste disposal, including human waste and household waste.

Most of the population built their houses using bamboo, without considering proper architectural standards, aesthetics, or health considerations. This situation was further exacerbated by an unhealthy environment and the lack of adequate drainage systems, leading to frequent

water stagnation in various areas. Puddles and cesspools were commonly found throughout the region (Majid, 2021). At the beginning of the 19th century, Cirebon experienced a clean water crisis. This crisis was initially caused by the eruption of Mount Ciremai, which contaminated water sources. Additionally, the community's habit of indiscriminate waste disposal led to flooding, which in turn polluted the rivers and contaminated wells and other water sources (Mutawally & Mahzuni, 2023). Since the 1870s, efforts to modernize and make improvements from traditional to modern systems were initiated, particularly in the fields of economy and infrastructure. In that period, several improvements began, such as the normalization of rivers to prevent flooding and the enhancement of port conditions. This was crucial because when floods occurred, the water would inundate the port area, disrupting economic activities around the harbor (Firdaus Mutawally et al., 2024).

**The Entry of Smallpox in Cirebon**

During the Dutch colonial administration, Cirebon was a region planned for transformation into a modern city. This modernization program included efforts to enhance the economy through industrial development and the construction of infrastructure such as roads. The goal was to establish a more efficient and productive city that could contribute to the broader economic interests of the colonial government The modernization process involved the development of various infrastructures, such as roads, factories, government offices, irrigation systems, and drainage channels. The colonial government's primary goal in this modernization effort was to boost the economy of the Dutch East Indies. However, the modernization process had negative consequences for public health, as many people were affected by epidemics during this period. In response, the government quickly took preventive measures, including bringing in medical personnel from Europe to address the health crises (Rohayati, 2020).

During the transitional period, Cirebon not only faced social and economic changes but also a serious threat in the form of an epidemic, specifically smallpox. Imas Emalia, in her book, mentions that the smallpox epidemic entered Cirebon in 1870. This year marked a turning point for Cirebon, as it coincided with the ongoing modernization efforts. The government and the local population had to fight against the rapidly spreading epidemic that threatened the lives of the people. The smallpox outbreak spread quickly, primarily due to physical contact among workers. The working conditions, which often did not meet hygiene standards, combined with limited knowledge of health at the time, contributed to the

spread. Additionally, the transmission of the smallpox epidemic was facilitated through The port was also a key focus in the modernization efforts, as one of the shipworkers who contracted smallpox failed to undergo quarantine, leading to the rapid spread of the disease. Subsequently, more victims were found in different locations, including the Sindanglaut plantation in Indramayu and the border areas between Cirebon and Kuningan (Pradjoko & Emalia, 2021). In 1871, the *Bataviaasch Handelsblad* newspaper reported that around 20 people had contracted smallpox, with 9 people recovering, 10 still receiving treatment, and 1 person having died from the disease (*Bataviaasch Handelsblad*, 1871).

At the end of the 19th century, the *De Locomotief: Samarangsch Handels- en Advertentie-Blad* newspaper also reported that the smallpox epidemic had spread rapidly in Palimanan, with numerous cases resulting in death (De Locomotief: Samarangsch Handels-En advertentie Blad, 1897). This newspaper report serves as evidence that smallpox was a deadly epidemic that had spread throughout Cirebon. The spread of the disease not only posed a threat to public health but also caused death and widespread fear among the population. In a report written by Dr. Winkler and Dr. J. Noordhoek, it was stated that between 1895 and 1905, approximately 3,227 people in Cirebon were affected by the smallpox epidemic (Winkler & Noordhoek, 1906).

In 1906, Cirebon's status was upgraded to a *gemeente*, a municipal city, which brought significant changes to public health issues, especially in relation to epidemics. As a *gemeente*, Cirebon gained greater administrative autonomy, which was expected to allow the city to manage local affairs more efficiently, including health management. However, in reality, this change highlighted various challenges in handling the health threats posed by epidemics.

Urbanization was one of the consequences of Cirebon's new *gemeente* status. The population in the city center increased, but the growth was not matched with improvements in sanitation infrastructure, exacerbating public health conditions. In such circumstances, smallpox spread more rapidly due to the overcrowded conditions and the lack of adequate urban facilities. The influx of people into the city was largely driven by the desire to find work as laborers in factories, ports, and at the railway station. These individuals primarily relied on physical labor for their livelihood, often in unhealthy environments that facilitated the spread of infectious diseases To earn a wage that was used for their daily livelihood, these people even became the urban poor (Emalia, 2016), Until 1914, smallpox continued to pose a serious threat in several regions, as

reported in the following newspaper: The number of smallpox cases in Cirebon increased alarmingly, reported Noordkust. The villages of Tangkil and Panjunan became centers of the outbreak, and in other locations, signs were posted with the words "contagious disease" prominently displayed (*Het Nieuws van Den Dag Voo Nederlandsch-Indie*, 1914).

The villages of Tangkil and Panjunan, located near the port, became centers of the smallpox outbreak due to their proximity to the port, and the spread of the disease was further worsened by the densely populated environment. The purpose of posting the public notice was to inform the community that smallpox was spreading in the area, prompting both the local population and authorities to take precautions and avoid approaching the affected areas. This announcement aimed to encourage preventive measures, such as avoiding contact with the infected areas and reinforcing efforts to prevent further spread. In the same year, sugar factory workers in Losari died due to smallpox *(Bataviaasch Nieuwsblad, 1914)*. In the *Mededelingen van den Burgerlijken Geneeskundigen Dienst in Nederlandsch-Indië* reports from 1920 and 1923, it was stated that the number of people affected by the smallpox epidemic from 1914 to 1921 was 600 individuals *(Mededelingen van Den Burgerlijken Geneeskundigen Dienst in Nederlandsch-Indie, 1920; Mededelingen van Den Burgerlijken Geneeskundigen Dienst in Nederlandsch-Indie, 1923)*. Although the number of smallpox victims decreased, the social and economic impacts of the epidemic continued to affect the social structure of Cirebon.

**Management of the Smallpox Outbreak**

During the pandemic, the colonial government made efforts to eradicate the smallpox outbreak. One of the measures taken was the implementation of vaccination, aimed at reducing the spread of the disease. The government produced the vaccine through a center for epidemic control in Switzerland. The vaccine was shipped via the vessel *Elisabeth*, and upon its arrival in the Dutch East Indies, it was distributed to several regions across the colony. In addition to being used for the eradication of smallpox, the vaccine was also intended for educational purposes at the Javanese medical school (Cipta, 2020). The colonial government established the Javanese Medical School with the aim of involving indigenous healthcare workers in addressing health issues in the Dutch East Indies. The students underwent a two-year educational program, after which those who graduated would receive their degrees in a formal ceremony. Graduates, once certified, were expected to serve not only as smallpox vaccinators but also as qualified medical professionals capable of providing comprehensive healthcare

services (Padiatra, 2015). The vaccinators, commonly known as *mantri cacar*, played a crucial role in introducing Western medicine even to remote rural areas. They were not only responsible for administering vaccinations but also faced waves of resistance from the local population, employing various methods to overcome it. These vaccinators had the mission of instilling trust in the Western medical practices introduced by the Dutch, aiming to gain the confidence of the community in these new methods of treatment (Wisnuwardana, 2016). In 1899, the Javanese Medical School was considered successful in training future healthcare workers to address the growing number of epidemics. However, on the other hand, infectious diseases such as smallpox and typhus became increasingly dangerous, highlighting the need for enhanced training for indigenous medical personnel (Marom & Syafa'ah, 2024).

In the following years, efforts to eradicate smallpox were intensified. Vaccination remained the primary focus, but there were numerous challenges, including the need to involve religious leaders in the vaccination process and inform them about the contents and purpose of the vaccine (Pradjoko & Emalia, 2021). In addition, many people still believed in traditional healing methods, so when vaccination was introduced, fear and suspicion arose. They feared that the vaccine might conflict with or challenge their long-standing beliefs. However, with the presence of the *mantri cacar* (smallpox vaccinators) who adopted a cultural approach, the community eventually accepted and agreed to undergo vaccination (Uddin, 2006).

In addition to implementing vaccination policies, the Dutch Colonial government also enforced quarantine measures based on Staatsblad 1911 No. 277 *(Staatsblad Van Nederlandsch-Indie, 1911)*. Ships entering the Cirebon area were required to undergo quarantine first to prevent the spread of infectious diseases, particularly smallpox, which was often carried by sailors and newcomers from other regions. All passengers and crew members would undergo health checks by local health personnel. The quarantine policy played an essential role in controlling the epidemic, but it often caused dissatisfaction among traders and the private sector as it impeded the flow of economic activity.

As part of the continued efforts to handle the epidemic, vaccination became a priority to protect the community from further spread. In 1914, the assistant resident conducted a tour to several city areas, including Cirebon, as reported in the newspaper *Het Nieuws van Den Dag Voor Nederlandsch-Indië*. The tour was conducted to assess the situation of the smallpox outbreak in Cirebon. During the visit, the assistant resident also inquired

with the assistant district heads about the state of the smallpox epidemic in their respective districts and whether vaccination efforts were being properly followed. The observations indicated that the vaccination campaign in Cirebon had been carried out effectively (*Het Nieuws van Den Dag Voor Nederlandsch-Indië*, 1914)

Picture 1. Infant Vaccination by Officers (*De Grondwet*, 1928)

In 1914, the government introduced a new vaccination system aimed at improving public health. Under this system, infants were required to receive vaccinations as an initial step in preventing outbreaks. After receiving vaccination during infancy, they were also required to undergo revaccination when they reached adulthood (Uddin, 2006).

The Dutch East Indies government made efforts to improve public health by planning the construction of a hospital in Cirebon in 1919. The goal was to facilitate the handling of patients. However, due to budget constraints, the construction of the hospital did not begin until 1920 and was completed on August 31, 1921. The hospital was named Gemeentelijk Ziekenhuis Oranje (Marom & Syafa'ah, 2024).

The DVG (Dienst der Volksgezondheid) or the Public Health Service of Cirebon continued to administer vaccinations to the people of Cirebon, including areas around Kanoman Market and Kejaksaan Market. By 1930, the smallpox outbreak left 11 victims. The government and the smallpox agencies responsible for the program assessed that the vaccination effort in Cirebon was not successful. The failure of the program was attributed to resistance from the local population, with one of the main reasons being religious beliefs *(Verslag Der Gewestelijke Commissie Voor Ziekenverzorging*, 1920). The community was more inclined to follow the religious leaders who prohibited accepting the vaccine, which was considered haram in Islam. The information circulating among the Muslim population in Cirebon at that time suggested that the vaccine was made from colostrum derived from animals that were forbidden in Islam, such as monkeys and pigs. This belief sparked concerns among the community, leading many to refuse vaccination, even though the threat of the outbreak still loomed (Emalia, 2020).

In addition to government policies such as vaccination and quarantine, the community also relied on traditional medicine. People practiced traditional healing methods, one of which involved

making herbal concoctions. In the preparation of these remedies, the community utilized plants such as leaves, stems, roots, fruits, and seeds, which were then mixed to create herbal drinks known as jamu. According to the Priboemi newspapers, Teradjoe explained that despite the availability of modern medicines in pharmacies, people still preferred traditional remedies like jamu, with the saying "jamu ta perloe mahal tapi bisa sehat," meaning that the community chose jamu because it was affordable and easily accessible (Rohayati, 2020). In addition, the community also trusted healing practices carried out by traditional healers (tabib) and shamans (dukun). Some of the indigenous people believed in the efficacy of "sembur," or water that had been blessed by a tabib. The community's belief in the tabib was not necessarily due to the practice of sembur itself, but rather the type of prayers (doa) used during the ritual. This practice was seen as a cultural heritage passed down from Sunan Gunung Jati, which was then preserved by the indigenous people of Cirebon (Emalia, 2020). The kiai at Pesantren Buntet in Cirebon once practiced spiritual rituals such as the recitation of sholawat, dhikr, and prayers during outbreaks of diseases. The community and the kiai held a special ritual called *sholawat Ya Muhaimin* as an effort to ward off misfortune and prevent the spread of the plague in the Buntet area. This tradition has been passed down through generations and was also carried out when the smallpox epidemic struck Cirebon (Marom & Syafa'ah, 2024).

## CONCLUSION

The lifestyle patterns of the community, environmental conditions, and colonial Dutch government policies played a crucial role in the spread and handling of the smallpox epidemic in Cirebon. Unhealthy lifestyles and the slum conditions in coastal areas with dense populations created an environment conducive to the spread of the disease. Although the colonial government took various measures such as vaccination and quarantine, the effectiveness of these actions was limited because the primary focus was on economic interests and the modernization of the region, rather than improving public health. The uneven distribution of vaccinations and public resistance to Western medical methods, fueled by a belief in traditional medicine and religious concerns, exacerbated the situation. The community's response to the epidemic was more reliant on traditional medicine, which was more accessible to the population.

The health policies implemented by the colonial government often favored the interests of the elite, with little attention given to the lower social groups most vulnerable to epidemics. Initiatives aimed at controlling the outbreak were

often only applied in economic centers, while remote areas were left in less supportive conditions. Poor sanitation, limited access to clean water, and inadequate infrastructure further exacerbated the spread of the disease. This demonstrates that the handling of the smallpox epidemic in Cirebon was not only a medical challenge, but also a social, economic, and political issue. It highlights the importance of a culturally informed approach to public health.

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