

FIGHTING THE PES PLAGUE, TEGAL 1927-1935: LIVING IN THE MIDST OF A HEALTH CRISIS**Shifa Aulya Faradziba*, Putri Agus Wijayati**

Universitas Negeri Semarang, Indonesia

Abstract

This study examines the plague outbreak that struck the Tegal region between 1927 and 1935, focusing on its transmission routes, the response of the colonial government, and the participation of the local community. Employing historical methods comprising heuristics, verification, interpretation, and historiography this research presents a historical narrative that identifies ports and railway lines as primary factors in the spread of the disease. Unsanitary environmental conditions and the limited number of healthcare personnel further accelerated the outbreak. The colonial government's policies indicate that significant progress in managing the epidemic was achieved after 1934, marked by improved healthcare services and vaccination efforts. This study affirms that the successful containment of the outbreak depended on the integration of public health policies, active community involvement, and adequate infrastructure readiness. This study aims to identify the routes and causes of the spread of the plague in Tegal, as well as the mitigation efforts carried out by the Government at that time. Furthermore, this research is important as a reference for educating healthcare professionals and the general public today about plague outbreaks caused by rat fleas.

Keywords: Bubonic plague; Tegal; Public health.

INTRODUCTION

Health is a crucial issue in human life. In Indonesia, despite many efforts made by the government and various institutions to improve the level of public health, there are still various challenges that must be faced, such as infectious and non communicable diseases. In addition, changes in people's lifestyles that are increasingly modern also contribute to the increase in the prevalence of degenerative diseases. There are 4 factors that influence human health problems, namely the environment, life behavior, genetics (heredity), and health services (Anggreny, 2022, pp. 19–20). Of the four factors, environmental factors are very influential regarding health problems. If the environment is not maintained properly, it will cause the spread of various diseases or epidemics. The bubonic plague entered and spread rapidly to almost all regions of Indonesia in the early 20th century. The bubonic plague first entered Indonesia on the island of Java, namely in the Malang area in 1911 through the port of Surabaya. Not to mention the geographical condition of the weather in Malang, which is humid, is the main factor for the bubonic plague to spread quickly to other regions (Safitry, 2020, p. 117). According to the book *Sejarah Kesehatan Nasional Jilid II*, the bubonic plague spread through four routes. The first route was through the port of Surabaya which then spread to Malang, Kediri, Madiun, Surakarta, and Yogyakarta. The second route was through the port of Semarang which spread widely to Ambarawa, Salatiga, Magelang, Wonosobo, Banyumas, and Pekalongan. The third route was through the port of Tegal which eventually spread to another area, namely Bumiayu. The last route of the bubonic plague entered through the port of Cirebon and spread widely to the Kuningan, Majalengka, and Bandung areas (Departemen Kesehatan RI, 1980, pp. 43–44). The widespread spread of bubonic plague to other regions was because at that time Indonesia, which was still the Dutch East Indies, especially on the island of Java, was experiencing crop failure and required the Colonial Government to import rice from Burma, China, Thailand, Singapore, Bengal, and Saigon (Hasanah, 2020, p. 213). The rat fleas that were the seeds

*Correspondance Author: shifaalulya31@students.unnes.ac.id

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of the bubonic plague were carried through the imported rice. Imported rice from Burma was the main clue, because this region became the largest supplier of imported rice to the Dutch East Indies.

Tegal, which is located on the North Coast of Java, has a fairly good transportation network, such as ports, main roads, and railways. The harbor was busy on a daily basis, especially trading and loading and unloading goods (Albiladiyah et al., 2013, p. 49). The condition of the port supports high visits by local traders and migrants, including from China, Arabia, and India who settled around the port area. The crowdedness and intensity of activities at the port made it a vulnerable place to become an entry point for various sources of disease. According to the book *National Health History Volume II*, Tegal became an area that was also infected with bubonic plague in 1922 through the port, but the cases were still relatively low. Then in 1927 cases of bubonic plague reappeared in two areas in Tegal, namely Margasari. The bubonic plague was very feared and caused residents to travel to other areas so as not to be affected by the bubonic plague. From there the cases of bubonic plague in Tegal began to increase. The poor environment and lack of pest control health service staff were factors in the increasing cases of bubonic plague in Tegal (De Indische Courant, November 11, 1927). In 1935 the plague cases began to subside, due to increased handling efforts.

Various literature studies on the bubonic plague, one of which is a study by Martina Safitry explaining the beginning of the bubonic plague in Indonesia during the colonial period in the Malang area in 1911, this study suggests the causes of the entry of the bubonic plague in Malang, and how the colonial government handled it at that time (Safitry, 2020). Arfan Habibi's thesis study describes the eradication of the bubonic plague in Salatiga, which was able to restore the economy and influence the progress of Salatiga. In addition, it also explains the influx of the bubonic plague caused by dirty settlements (Habibi, 2020). Another similar study in the form of a thesis came from Andien Nurul Rinjani, who also discussed the bubonic plague that infected the Kuningan region. In her study, she explained the beginning of the bubonic plague outbreak in the area. In addition, it also discussed the efforts to control the plague that were carried out at that time and the socio-economic impact of the bubonic plague that hit Kuningan (Rinjani, 2024).

This research aims to analyze the bubonic plague that infected Tegal region, both city and regency, from 1927 to 1935. For this reason, this study will identify the entry of the bubonic plague in the Tegal area and which areas were infected by the bubonic plague, especially in the period 1927 to 1935. This study also traced the path of the spread of bubonic plague that entered the Tegal region, as well as analyzing the supporting factors or causes of the entry of the plague. Also described in this study related to the number of victims or the death rate due to infection from the bubonic plague. Then this research will also analyze various efforts related to the bubonic plague in the Tegal area, both prevention and treatment. This study will explain the policies and strategies applied by the Dutch East Indies colonial government at that time in dealing with the bubonic plague in the Tegal area. This research also examines the role of health workers in handling the bubonic plague, as well as identifying medical and non-medical measures taken in an effort to control and eradicate the bubonic plague. The other thing will analyze whether there are changes or not in health services and facilities. In addition, this study wants to explain the response or participation of local communities from the countermeasures and strategies carried out by the government at that time, whether in the form of cooperation or resistance.

RESEARCH METHOD

This study explains the problem of the bubonic plague in the Tegal region in 1927-1935, so this research is included in historical research. Therefore, this research will use the historical method in revealing the facts and truths to be sought. The historical method itself is a systematic research stage in tracing, analyzing, and interpreting past events based on available sources. The historical method consists of 4 stages that must be carried out and are related to each other, namely heuristics, source criticism, interpretation, and historiography (Kuntowijoyo, 1995, p. 69).

The first stage is heuristics where researchers search and collect digital primary sources in the form of health service reports both *Burgerlijken Geneeskundige Dienst* and *Dienst Volksgezondheid, staatsblad, KITLV*, and contemporaneous newspapers through the Delpher web

with the type of newspaper *De Locomotief*, *De Indische Courant*, *Bataviaasch Nieuwsblad*, *Algemeen Handelsblad*, *Het Vaderland staat-en Letterkundig Nieuws*, *Het Nieuws Van Den Dag Voor Nederlandsch*, *De Tijd Godsdiensdig Staatkundig Dagblad* and *De Sumatra Post* (Wijayati, 2009). Secondary sources were collected in the form of theses, books, and journals through the Semarang State University Library, J-Stor, Google Scholar, and Google Books. In the source criticism stage, researchers analyzed and selected more relevant sources from those already collected. The interpretation stage, at this stage an interpretation of the source is carried out into the research to get a picture and a series of historical events as it should be. The last stage is historiography, this stage is the process of compiling all research results in the form of historical narratives that are chronological, objective, and analytical in accordance with the rules of historical writing, as well as connecting research results with previous studies to show the novelty that exists in research. Then the final result of this stage is presented in the form of a scientific article.

RESULT AND DISCUSSION

From Water to Land, From Port to Village

In the early 20th century, a wave of urbanization resulted in a doubling of the population, followed by the expansion of residential areas inhabited by Europeans, natives, and foreign Easterners. This increase was also accompanied by the development of social and economic facilities. However, this growth was not matched by adequate urban planning, resulting in a chaotic spatial structure. As a result, environmental conditions in the Dutch East Indies deteriorated, and indigenous settlements turned into slum areas (Habibi, 2020, p. 41). From there, health problems in the Dutch East Indies, especially on the island of Java, appeared various diseases, one of which was bubonic plague. Previously, the bubonic plague had hit the European region known as the "Black Death" in 1347. The beginning of the bubonic plague spread in the European region, when an Italian merchant ship returned from its voyage in the Black Sea, which is a trade link between Europe and China (Rahmani, 2021, p. 3). Bubonic plague is a disease caused by the bacterium *Yersinia Pestis*, which infects rats and is then transmitted to humans through the bite of rat fleas. At that time, a third of the population in Europe had been victimized and died due to the plague (Murti, 2010, p. 5).

Tegal, which had become a *Gementee* since 1906, also experienced irregularity in the city's spatial layout (A'yunina & Wijayati, 2023, p. 88). This condition became worse when the bubonic plague entered. According to the book *Sejarah Kesehatan Nasional II*, the spread of the plague on the island of Java is inseparable from the port which is the center of the transformation of the spread of disease among the community. Apart from maritime trade routes, the spread of bubonic plague was also through railroad traffic, although only on a small scale in the spread of long-distance plague. The introduction of the bubonic plague in Java was because at that time the Dutch East Indies experienced crop failure which then required the Colonial Government to import rice from Burma, China, Thailand, Singapore, Bengal and Saigon. The rat fleas that became the seeds of the bubonic plague were carried through the imported rice. Imported rice from Burma was the main clue, as this region became the largest supplier of imported rice to the Dutch East Indies (Hasanah, 2020, p. 213).

Tegal, which is one of the areas located on the north coast or commonly referred to as *pantura*, plays an important role in becoming a route that is usually passed by traders from various regions, especially its maritime traffic or port. Therefore, the port of Tegal became a major factor in the spread of plague or disease because at that time the port was very crowded with various activities of traders from various regions. In addition to the malaria epidemic, the Tegal region was also hit by the bubonic plague. In the book *Sejarah Kesehatan Nasional Jilid II*, the bubonic plague hit in 1922 through the port. However, at that time the cases were still low and the cases began to disappear. In 1927, a case of bubonic plague reappeared in one of the Margasari sub-districts. In recent days, serious bubonic plague has broken out rapidly in Margasari with the number of cases recorded far exceeding the highest number elsewhere in Java (*De Indische Courant*, November 11, 1927). The emergence of bubonic plague cases was due to Margasari's proximity to Bumiayu, part

of the Purwokerto region, which at that time was considered the center of trade in the southern part of Tegal because there were several large rice mills.

Margasari was infected with bubonic plague through the railroad. This was due to the shipment of rice as crops and foodstuffs from Bumiayu station to Margasari via Prupuk station. It is known that the shipment of Bumiayu rice transportation came from Cirebon, which at that time had also been detected with bubonic plague (*De Locomotief*, May 8, 1933). The rice transported from Cirebon turned out to have been contaminated by pinjal or fleas that came from bacteria-carrying rats. The fleas then bite humans and through the bite the bacteria that cause bubonic plague are transmitted, so that humans are eventually infected with bubonic plague. The outbreak in one area of Tegal regency became a case of bubonic plague in the Pekalongan Prefecture, making it an area that needed to be monitored. In this case, the railroad connecting Bumiayu and Margasari was a major factor in the spread of bubonic plague in the highlands.

One of the highland areas on the slopes of Mount Slamet, Bumijawa Sub-district, was also affected by the bubonic plague. This is because the Bumijawa area is close to the Margasari area which was previously infected by the plague. Bubonic plague hit the area in April 1929, the case was found in Rembul Village (*Het Nieuws van den dag voor Nederlandsch-Indie*, February 4, 1931). Two other areas, Balapulang and Lebaksiu, located between Margasari and Bumijawa subdistricts, were also hit by the bubonic plague. Starting from areas in the highlands, the bubonic plague spread and infected several lowland areas. Kecamatan Slawi became the first lowland area to be infected by the bubonic plague in February 1932, due to its proximity to Lebaksiu. The presence of a rice mill in Slawi, as well as being the center of trade for the Tegal region, which seemed to be an intermediary station for other regions, made the spread of bubonic plague accelerate and increase in the same year (*De Locomotief*, 8 May 1933). Other lowland areas infected were Pangkah, Adiwerna, and Dukuhturi subdistricts.

Due to the high number of bubonic plague cases at that time, there was an epidemic regulation in place. The port of Tegal was also given a yellow flag, indicating that the area was infected with the plague (*De Locomotief*, February 29, 1932). This was intended to make it clearer and anticipated by merchant ships passing through the route, due to the condition of the port which is usually a trade traffic for traders from other regions. It is known that the population that contracted the bubonic plague was caused by the unsanitary condition of their homes. In addition, the condition of people's houses at that time, the walls or walls were built from bricks that were burned and then put together or plastered with mortar from clay, which is a type of soil that is not suitable for building houses. Therefore, the quality of the walls of people's homes is not good and because they are made of clay, the walls or walls of the house become loose. This made it easy for rats to poke holes in the walls of the houses. Moreover, at that time, the floors of people's houses were still made of earth, not ceramic tiles like modern houses (*De Locomotief*, May 8, 1933).

Pes: Deadly Tracks Between Rice Fields and Houses

Bubonic plague had previously hit Tegal in 1922, but at that time the cases were still relatively low so the cases began to disappear. In 1927, the bubonic plague reappeared with one case that infected Margasari Subdistrict. In 1928, one more case was found in the same area (*De Locomotief*, March 1, 1928). Because at that time there was still a lack of staff from the pest control health service, it was unable to take action with incentives. From there, the bubonic plague spread and infected the population (*Het Vaderland staat-en Letterkundig Nieuws*, May 24, 1930). This became a problem for the population, as they became afraid of being affected by the bubonic plague. As a result, many residents, including the Chinese population in the area, moved to other areas to avoid being infected by the bubonic plague (*De Indische Courant*, November 11, 1927).

In April 1929, 1 case related to bubonic plague was found in Bumijawa Subdistrict, precisely in Rembul Village, which is a highland or inland area located on the slopes of Mount Slamet. It is known that the victim was infected with bubonic plague and died (*Het Nieuws van den dag voor Nederlandsch-Indie*, February 4, 1931). Then in 1930, the number of bubonic plague cases in Tegal increased to 29, and there were two sub districts that were also affected by the plague because they were close to Margasari and Bumijawa, namely Lebaksiu and Balapulang (*Het Vaderland staat-en*

Letterkundig Nieuws, May 24, 1930). In 1931, cases of bubonic plague still increased but not too rapidly with 44 cases. In 1932-1933 there was a rapid increase in the number of cases exposed to bubonic plague, and from there the plague began to infect lowland areas in Tegal. Plague cases from inland or upland areas, especially Bumijawa, contributed a large number of cases in spreading to other areas. Highland areas, especially those near mountain slopes, tend to have cold temperatures, and are favored environments for rats. This condition accelerates the spread of bubonic plague seeds (Rinjani, 2024, p. 43).

In 1932, in February, the bubonic plague began to hit the lowland areas of Tegal, starting in Slawi Subdistrict, then spreading to Pangkah, Adiwerna, and Dukuhturi. Beginning on January 10-16, there were 16 reported cases of plague from these four subdistricts (*Algemeen Handelsblad voor Nederlandsch-Indie*, February 15, 1932). Continuing in the period March 26 to April 16, the number of plague cases increased to 41 (*Algemeen Handelsblad voor Nederlandsch-Indie*, June 27, 1932). Then entering the end of 1932, precisely in the period September 3 to October 1, there were 10 more cases of plague (*Bataviaasch nieuwsblad*, November 14, 1932). Based on the number of cases from previous years, this year experienced a significant increase. Previous years had not seen such a high number of cases, and many people were inclined to believe that the plague would not develop to such a degree. However, no one knows better than the truth. Basically, the course of an epidemic or outbreak is generally difficult to predict and subject to significant changes. If one wants to get a clear picture of the course of an epidemic, the number of reported deaths should not be overlooked. From 1927 to 1932 most of the bubonic plague that infected the population was of the lung plague type.

In 1933 the spread of bubonic plague in Tegal increased significantly, as evidenced by the 246 cases of people infected with the plague. Starting from January there were 12 cases of people infected with the plague, and 3 of them died. Then in the period February 12 to April 18 there were reports of 26 cases of plague. In May there was a report of 7 cases of plague. It is known that there were reports of plague cases in June, on June 17, Dukuhturi Sub-district reported 12 cases of plague. Continuing on June 24, there were 8 cases of plague that occurred in Slawi Subdistrict. Then in July, on the 22nd, Lebaksiu Subdistrict reported 17 cases of plague (*De Locomotief*, November 15, 1933).

Table 1. Number of Bubonic Plague Cases in August 1933 in Bumijawa Subdistrict

Date	Lung Pes	Bubonic Plague
August 16	1	1
August 18	2	2
August 21	2	1

(Table source: *De Locomotief*, August 23, 1933)

As is known, based on the table above in August there were 9 cases of bubonic plague infecting the population (*De Locomotief*, August 23, 1933). These cases only came from Bumijawa Subdistrict, where on August 16 there were 2 cases of bubonic plague, consisting of 1 case of lung plague and 1 case of bubonic plague. On August 18, there were 4 cases, consisting of 2 cases of bubonic plague and 2 cases of bubonic plague. Then on August 21, there were 3 cases consisting of 2 cases of bubonic plague and 1 case of bubonic plague. According to a report recorded in the period from the end of August to September 9, there were 84 cases of plague (*Bataviaasch Nieuwsblad*, October 18, 1933). Then in the period October 19 to November 7 there were 71 reported cases of plague (*Bataviaasch Nieuwsblad*, November 15, 1933). The increase in the number of bubonic plague cases was partly related to the outbreak of bubonic plague in Bumijawa, where 30 people died.

Entering 1934, the number of bubonic plague cases in Tegal decreased. This began on January 1 when there were only 11 cases of death due to bubonic plague. Then on January 21, there were 14 more cases of plague that occurred in Dukuhturi Subdistrict and it was known that 4 of the 14 cases died from bubonic plague (*De Locomotief*, January 31, 1934). According to reports, the decline in the number of bubonic plague cases was greatest from June to July. During this period there were only 34 cases. The decrease in the number of cases occurred in several sub-districts, such as Kecamatan Bumijawa which was the area with the worst outbreak and the highest number of

cases at that time. This was followed by Slawi, Dukuhturi, and Adiwerna (*De Locomotief*, July 31, 1934). In August, Lebaksiu Subdistrict also experienced a decrease in the number of plague cases, with only 8 cases (*De Indische Courant*, August 25, 1934). In the period from October 13 to November 3, there were only 77 cases of plague (*Bataviaasch Nieuwsblad*, December 15, 1934).

The decline in plague cases continued until 1935 and at the end of this year the bubonic plague disappeared. It is known that from June 23 to June 29 only 15 cases of bubonic plague were found. The 15 cases occurred in several subdistricts, namely Balapulang Subdistrict with 4 cases of bubonic plague and 1 case of lung plague, Slawi Subdistrict with 5 cases of bubonic plague, Lebaksiu Subdistrict with 3 cases of bubonic plague, and Adiwerna Subdistrict with 2 cases of bubonic plague (*De Locomotief*, July 9, 1935). From June 30 to July 6, 25 cases of bubonic plague were recorded. It is known from these cases that Bumijawa Subdistrict had 2 cases of bubonic plague, Balapulang had 3 cases of bubonic plague and 1 case of lung plague, Slawi had 10 cases of bubonic plague and 1 case of lung plague, Lebaksiu had 6 cases of bubonic plague, Dukuhturi and Adiwerna Subdistrict had 1 case of bubonic plague each (*De Locomotief*, July 20, 1935). Furthermore, on September 15-21, 85 cases of bubonic plague were found that did not cause death. It was recorded that Balapulang Subdistrict had 11 cases of bubonic plague, Dukuhturi had 39 cases of bubonic plague including 4 cases of lung plague, Adiwerna had 18 cases of bubonic plague including 3 cases of lung plague, Lebaksiu had 5 cases of bubonic plague including 1 case of lung plague, Slawi had 10 cases of bubonic plague, Talang and Pagerbarang had 1 case of bubonic plague each (*De Locomotief*, September 26, 1935).

There were two types of bubonic plague that affected the people of Tegal, namely bubonic plague and lung plague. Victims who had been infected with bubonic plague generally showed symptoms such as high fever, weakness, decreased consciousness, and vomiting. If infected with bubonic plague, patients usually experience respiratory problems such as shortness of breath and coughing with blood. Meanwhile, bubonic plague sufferers will experience swelling of the spleen gland in areas of the body folds such as the neck, armpits, and folds near the thighs. This swelling can burst and release pus, which causes pain, headache, redness of the eyes, and high fever (Adji & Priyatmoko, 2021, p. 51). Then, there was a decrease in the number of bubonic plague cases starting from 1934 until it finally disappeared at the end of 1935 because from these two years the efforts to deal with the plague were more developed and focused, such as many health services to eradicate the plague and massive plague vaccinations were carried out (Departemen Kesehatan RI, 1980, p. 44).

Colonial Medicalization

The lack of pest control health service staff in 1927 to 1928 in the rural areas of Tegal, especially in rural areas, resulted in the spread of the plague getting wider and taking many victims. Moreover, the medical profession at that time was still limited and only existed in big cities. Therefore, the pest control health service cooperated with the Tegal central D.V.G. to add health staff such as orderlies who were directly involved in handling outbreaks in rural areas or inland areas (van Niel, 1997). During this period the construction of civilian hospitals in the Dutch East Indies experienced rapid development, including in the Tegal region. As a result, in 1927 Kardinah Hospital was established. This development was driven by the implementation of ethical politics and the active involvement of the Dutch East Indies Government in the construction and financing of public hospitals (Kurniarini et al., 2015, p. 10). In 1929, as an effort to deal with various epidemics including bubonic plague in the Tegal region, the Ministry of Health established a number of polyclinics in Pangkah, Slawi, Adiwerna, Surodadi and Kramat sub-districts. The construction of the polyclinic buildings was funded through contributions from the village treasury, sugar factories, and local government. The responsibility for building maintenance rested with the local government, while the costs for staff, medicines, administration, and other necessities were borne by the Ministry of Health. In addition, in order to focus attention on handling the bubonic plague, a bubonic plague supervisor was stationed in Bumijawa Subdistrict by the Ministry of Health and isolation barracks were established to separate infected and uninfected residents (Albiladiyah et

al., 2013, pp. 53–54). This was because Bumijawa Sub-district at that time contributed to a fairly large number of outbreak cases.

Another policy made by the government in dealing with the bubonic plague was to impose spleen puncture on corpses infected with the plague, and conduct dark burials or mass burials. However, the policy carried out was considered inappropriate by the community in dealing with the plague, even many residents refused and showed resistance through acts of resistance to the spleen puncture policy. This was evidenced in 1931 when there was a rejection of spleen puncture on bodies infected with the plague in Bumijawa Subdistrict. The residents fought back against government officials which resulted in seven people from the government being injured (*De Indische Courant*, January 17, 1931). The resistance against the spleen puncture policy was because it contradicted the religious beliefs of the local community. The people believed that the spleen puncture would hurt the corpse. The government argued that Tegal lacked intensive propaganda and discussion about the importance of spleen puncture in general. As a result, the government tightened its supervision of spleen puncture (*Het Nieuws van den dag voor Nederlandsch-Indie*, February 4, 1931). In 1932, community resistance to spleen puncture also occurred in Slawi, Lebaksiu and Dukuhturi sub districts. People created and gave endless reasons to be free from the spleen puncture, ranging from religious beliefs to politics. Balapulang sub-district was also at the forefront of the fight against the spleen puncture policy in 1933 (*De Locomotief*, May 08, 1933).

Four years after its establishment, the Kardinah General Hospital in Tegal began to be actively involved in helping to treat plague victims and also provided isolation rooms for infected victims (*De Locomotief*, February 23, 1932). In addition to Bumijawa, to deal with more victims infected with the plague, the government increased the number of isolation barracks set up in several sub-districts, namely Slawi, Margasari, Adiwerna, and Dukuhturi. The isolation barracks in Slawi became the largest barracks in the Tegal area, because it accommodated hundreds of infected victims. Another government handling effort in dealing with the bubonic plague was to repair people's houses so that rats could not easily enter the house and make nests. Houses that were repaired were demolished and rebuilt to meet certain standards. Then there is also a housing inspection service policy from the government for the local community. This service was implemented in several sub-districts affected by the bubonic plague, such as Margasari, Bumijawa, Lebaksiu, Balapulang, Slawi, Adiwerna, and Dukuhturi. This policy was implemented by cleaning the house together by the house owner once a week on a predetermined day supervised by village officials (*De Locomotief*, May 08, 1933).

The various handling efforts that have been made by the government are quite fruitful, where in 1934 until mid-1935 the number of bubonic plague cases decreased. To maximize the efforts in eradicating the bubonic plague, the government conducted massive vaccinations in 1935 for the entire Tegal area. Vaccinations were carried out by mantri, and the government also increased the number of mantri to carry out this policy (Cipta, 2020, p. 166). In September 1935, a discussion regarding the implementation of bubonic plague vaccination was held at the Tegal Assistant Resident's office. The discussion was attended by Dr. Rosier, Head of Plague Control, who was accompanied by the Inspector of the Central Java D.V.G, Dr. H. C. Gomperts and Dr. J. A. H. Rijshouwer, the local government doctor. According to Dr. Rosier, the bubonic plague vaccination could be carried out on October 7, starting from the village that was most severely affected by the outbreak (*Het Nieuws van den dag voor Nederlandsch-Indie*, September 24, 1935). The D.V.G Inspector of Central Java together with the local government doctor, Dr. J. A. H. Rijshouwer, prepared several steps for the vaccination. Under the supervision of the regional doctor, a team consisting of doctors and mantri nurses would work systematically throughout the district in every residence (*De Sumatra Post*, September 12).

The vaccination process carried out on October 7 went smoothly, with 95% of the population present for the vaccine (*Het Nieuws van den dag voor Nederlandsch-Indie*, October 8, 1935). The vaccination in November was also very satisfying, with 97% of the population present for the vaccine and completed within a day. Moreover, 90% of the population from Dukuhturi Subdistrict, which at that time was the most affected, also attended the vaccination process (*Het*

Nieuws van den dag voor Nederlandsch-Indie, November 4, 1935). The bubonic plague vaccination process which was carried out within two months was very fruitful, starting from December the cases of bubonic plague subsided. Then at the end of December until the following year the bubonic plague cases no longer appeared in Tegal (*De Tijd Godsdiertig-Staatkundig Dagblad*, June 4, 1936). Thus, the Tegal region was no longer hit and free from the bubonic plague.

CONCLUSION

This study shows that the path of bubonic plague spread in Tegal in the period 1927-1935 was rooted in the strategic role of ports and railroad networks as a means of mobilizing commodities, especially imported rice from endemic areas. Inadequate urban and rural environmental factors, the density of settlements, and the high population of rats as a vector carrying bacteria also accelerated the spread of the plague to reach lowland and upland areas in Tegal. This study showed that the path of bubonic plague spread in Tegal in the 1927-1935 period was rooted in the strategic role of ports and railroad networks as a means of mobilizing commodities, especially imported rice from endemic areas. Inadequate urban and rural environmental factors, the density of settlements, and the high population of rats as a vector carrying bacteria also accelerated the spread of the plague to reach lowland and upland areas in Tegal. Active community participation in handling the outbreak was a determining factor in the success of control efforts. Despite initial distrust and rejection, more intensive coordination between the government and local communities, supported by health campaigns and massive vaccinations, was able to significantly reduce the number of cases until the bubonic plague was completely under control by the end of 1935. Thus, this study concludes that controlling the bubonic plague in Tegal requires a synergy between government health policies, community participation, and infrastructure readiness as an integral component in overcoming public health crises.

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