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Between Modernisation and Inequality: Semarang-Cirebon Railway Line Operation in the Dutch Colonial Period, 1895–1910

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Abstract. This study examined the modernisation efforts of the Dutch East Indies colonial government through the operation of the Semarang-Cirebon railway line under the Semarang-Cheribon Stoomtram Maatschappij (SCS) from 1895 until 1910. The method used was the historical method with the socioeconomic approach. This study found that the construction of the Semarang-Cirebon railway line was driven by the capitalist trend of the time, which spurred the rapid growth of plantation businesses along the line, thereby increasing the need for adequate transportation. Although the railway significantly influenced the development of the plantation sector, its presence created new problems. The decline in community food production due to the large-scale clearing of plantation land throughout the Semarang-Cirebon area encouraged import policies that actually triggered famine and disease. On the other hand, some of SCS's actions seemed discriminatory and exploitative, such as the imposition of passenger fares based on population groups and the company's enormous revenues that, in fact, never improved welfare, especially for indigenous people, sharpening inequality among the population. This study concludes that the modernisation efforts carried out by the colonialists through the Semarang-Cirebon railway line were a subtle strategy to strengthen their power and obtain maximum profits in the colony.

Keywords and phrases: modernisation, inequality, modernisation and dependency theory, Dutch East Indies colonial government, Semarang-Cheribon Stoomtram Maatschappij

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Introduction

In the latter half of the 19th century, capitalism in the Netherlands rapidly grew and affected colonialism in the Dutch East Indies. Political and economic changes often accompanied the emergence of the industrialist and capitalist ruling class within the Dutch parliament. Industrial power domination caused the establishment of liberal politics through the Agrarische Wet (Agriculture Act) and the 1870 Suiker Wet (Sugar Act). The establishment of these acts opened the way for private businesses to develop in the colonised lands, which caused commodity plantations to grow rapidly (Ratnawati 2014). Private businesses then used the colonised lands to grow sugarcane and construct sugar processing factories, which were spread throughout Batavia, Banten, Cirebon and the Javanese North Coast (Kartodirdjo, Poesponegoro and Notosusanto 1975). Sugar processing factories owned by the Dutch and Chinese merchants were constructed on rented lands throughout the Javanese North Coast, which included Cirebon Residency, Tegal, Pekalongan and Semarang, and 25 sugar-processing factories and 7,964 hectares of sugarcane plantation were present in these regions in 1870. These regions also produced other commodities, such as rice, coffee, tobacco and true indigo. Because of this, a train system was required for transportation to expedite industrial activities (Booth et al. 1988).

The train system developed into a transportation method often used by private businesses for distribution because of shorter travel times compared with other traditional modes of transportation, such as carts and carriages. This led to the development of a railway line with multiple routes, which facilitated interregional access. On the Javanese North Coast, the railway line was managed by Semarang-Cheribon Stoomtram Maatschappij (SCS), which was sanctioned by the Dutch East Indies colonial government on 7th December 1893. SCS then developed into a significant transportation company on the Semarang-Cirebon coast (Yuliati 2009). Before SCS, the Semarang-Cirebon line concession was given to NV Batavia Ooster Spoorweg Maatshappij (NV BOS) based on the 24th January 1886 Besluit van Gouverneur-General (Decree of the Governor-General) No. 5 with a concession period of 99 years. However, because of the government's decision regarding train companies, which stated that private companies could hold only one concession within a specific region, NV BOS's board of directors in Amsterdam founded a new company: the Java Spoorweg Maatschappij (JSM).

Through JSM, concentrated investment and exploitation were possible because of concession rights. JSM's board of directors decided to open the Semarang-Cirebon railway main line to expand the line into the rural regions, especially

sugarcane plantations. Based on this decision, JSM applied for concession and exploitation rights of the Tegal-Balapoelang line (Marihandono et al. 2016). Losses present in the operation of the Tegal-Balapoelang line in 1887–1889 caused the line to be suspended. This was caused by the inability to reach the passenger target due to fares that the public could not afford. After the work evaluation of the first five years, the board of directors decided that the company could not continue operation without even higher losses. The company was not filed for bankruptcy but was sold to a buyer who was willing to cover the losses. The offering was done in late 1891, and a deal was reached on 18 January 1892 with the SCS as the buyer (Marihandono et al. 2016).

Railway development as a manifestation of colonial modernisation has attracted considerable scholarly attention across different colonial contexts. Previous studies have generally emphasised the role of railway infrastructure in stimulating economic growth, facilitating territorial integration and accelerating the modernisation of colonial societies. Nevertheless, these studies have also revealed that the benefits of railway development were often distributed unevenly, reflecting the political and economic interests of colonial administrations rather than the welfare of indigenous populations.

In the context of British India, Sahoo (2020) argues that the colonial railway system significantly transformed the socio-economic landscape of urban areas by creating new social spaces, promoting industrialisation and expanding trade and employment opportunities. Similarly, Jedwab, Kerby and Moradi (2017) demonstrate that the construction of colonial railways in Kenya encouraged the growth of European residential settlements, commercial agriculture and urban development. Although portions of the railway infrastructure deteriorated after independence, its economic functions continued to shape regional development, illustrating how colonial transportation policies created long-term patterns of economic dependency. Studies on the Dutch East Indies have likewise highlighted the importance of railway infrastructure in supporting colonial economic expansion. Mirza (2023) examined the development of SCS in Kendal Regency between 1897 and 1930, showing how the company evolved from a small-scale passenger transport enterprise into a major transporter of industrial commodities. Likewise, Utomo (2025) analysed the contribution of railway infrastructure to the socio-economic transformation of Pemalang Regency, demonstrating that the expansion of the railway network significantly influenced regional economic activities despite being constrained by financial difficulties and periods of economic crisis.

Although previous studies have made significant contributions to understanding the development of colonial railway systems in Asia and Africa, most of them primarily interpret railway expansion as a process of economic modernisation, infrastructural development or regional integration. Studies on SCS in the Dutch East Indies have likewise concentrated on the institutional development of the company, the expansion of railway infrastructure or its contribution to regional economic growth. Consequently, limited attention has been given to how the operation of the Semarang-Cirebon railway simultaneously functioned as an instrument of colonial modernisation and a mechanism for producing socio-economic inequality based on race and class. Furthermore, previous studies have rarely integrated extensive colonial statistical records and railway operational data to examine how the benefits of modernisation were distributed unevenly among different social groups.

This study addressed these gaps by offering three main contributions to the existing historiography of colonial railways. First, it shifted the analytical focus from railway construction and technological progress to the socio-economic consequences of railway operation, demonstrating that colonial modernisation simultaneously promoted economic development while reinforcing structural inequalities. Second, the study utilised a wide range of primary colonial sources, including railway operational reports, commodity transportation statistics, company financial records, passenger fare data, agricultural production statistics, mortality records and reports on severe malnutrition in Pekalongan Residency. These sources provided a more comprehensive reconstruction of the unequal outcomes of railway modernisation than had been presented in previous studies. Third, by combining modernisation theory with colonial dependency theory, the article argued that the Semarang–Cirebon railway was not merely a transportation network but also an instrument through which colonial capitalism, racial hierarchy and socio-economic inequality were institutionalised. Accordingly, the study contributed to a more critical understanding of colonial modernisation by demonstrating that infrastructure development served not only economic purposes but also the maintenance of colonial domination and social control.

Against this background, this study examined the operation of the Semarang-Cirebon railway line by SCS as a case that illustrates the tension between colonial modernisation and socio-economic inequality. Although the railway was intended to improve mobility, facilitate commodity distribution, increase economic productivity and connect production centres with colonial ports, its benefits were distributed disproportionately in favour of the colonial state, European settlers and Chinese commercial elites, while indigenous communities

remained marginalised within the colonial economic structure. Accordingly, this study addressed the following research questions:

1. What factors contributed to the construction and expansion of the Semarang-Cirebon railway line by SCS in the late 19th century?

2. How did the operation of the Semarang-Cirebon railway affect the socio-economic conditions of indigenous communities?

3. In what ways did colonial railway modernisation reinforce racial and class-based inequalities within the operational area of the Semarang-Cirebon railway?

To answer these questions, this study analysed the operation of the Semarang-Cirebon railway from the late 19th to the early 20th century through the perspectives of modernisation theory and colonial dependency theory. It argued that railway construction functioned primarily as an instrument of colonial capitalist exploitation rather than as infrastructure intended to promote equitable social welfare.

Methodology

This research used the historical method, which consists of four steps: heuristics, criticism, interpretation and historiography (Herlina 2020). In heuristics, sources directly related to the research topic were compiled. These sources consisted of primary and secondary sources. The primary source covered various archives of the same period, such as De Samarang-Cheribon Stoomtram Maatschappij (1896–1911) and *Statuten van de Naamlooze Vennootschap Samarang-Cheribon Stoomtram-Maatschappij* (1886–1909). They were used to obtain most of the information regarding SCS, including data on the commodities frequently transported by SCS trains, SCS's revenue from passenger and freight train services and level of rice production in the region from Semarang to Cirebon. Also, *De Tramwegen op Java Gedenboek: Vij fen Twintigjarig Bestaan der Samarang-Cheribon Stoomtram-Maatschappij* was used to obtain information regarding the colonial government's efforts to modernise plantation transportation, *Bijblad van Nederlandsche Indie* No. 4978 of 1893 and *Staatsblad van Nederlandsche Indie* No. 39 of 1894 were used to supplement the historical narrative of SCS's formation, *Statistiek van het Vervoer op de Spoor-en Tramwegen in Nederlandsche Indie* (1896–1910) was used to identify the differences and ratios of railway fares imposed by SCS on Europeans, East Asians and indigenous communities, *Verslag van Economische*

Toestand der Inlandsche Bevolking (Central Kantoor voor de Statistiek 1906) was used to obtain information regarding the existence of railways intended for colonial business interests and private elites, which had displaced traditional transportation generally operated by indigenous communities, indicating efforts to marginalise indigenous communities both economically and socially as well as other newspapers or magazines such as *Dagblad van Zuid-Holland en 's-Gravenhage*, *De-koerier*, *De-Indische-courant*, *Soerabaiasch-Handelsblad* and *Tijdschrift voor Nederlandsch Indie*, which were used not only to supplement the narrative with data obtained from other primary archival sources but also to provide information regarding the rate of plague outbreak and the threat of malnutrition in Pekalongan Residency, one of the regions along the Semarang-Cirebon railway line. Photographic archives were also used, including those of the Koninklijk Instituut voor Taal-Land en Volkenkunde (KITLV) or the official website of the Leiden University Library, such as KITLV Archive No. 49658, KITLV KK Archive No. 041-05-10, KITLV Archive No. 182570 and KITLV Archive No. 101275. These photographs not only depict the state of plantation distribution infrastructure in the Java region, particularly roads and the Semarang-Cirebon railway line, but also reveal the colonialist dynamics underlying the discourse of modernisation, as seen in one photograph with the code number 101275 from 1898. Secondary sources used in this research consisted of books, journal articles and scientific articles specifically discussing the SCS or the development of the plantation and train transportation business in the Dutch East Indies along the Semarang-Cirebon railway line.

After the sources were compiled, they were verified in the criticism step. The verification of the primary sources was done by ensuring several components, such as creation date, paper condition, writing and physical integrity. Furthermore, the content of the sources was also verified by corroborating and comparing all information within both primary and secondary sources. In this research, each source had a clear identity, ensuring its credibility as a source for this research. By verifying, historical facts requiring interpretation were produced. Interpretation was divided into two forms: analysis and synthesis. Analysis was conducted by the researchers to interpret each fact produced and derive meaning, while synthesis was conducted to interpret combined facts and derive meaning in the form of novel findings. After interpretation, with each fact having its own meaning and creating a harmonious interconnection of facts, the historical writing process of historiography was undertaken.

This study covered the period from 1895 to 1910. The year 1895 was chosen as the starting point of the study not only because it marked the founding of the SCS and the commencement of the Semarang-Cirebon railway construction project, but also because it was part of a series of years during which the Dutch

colonial authorities undertook modernisation efforts in the Dutch East Indies through the implementation of the 1870 Agrarian Law. Meanwhile, 1910 was chosen as the endpoint of this study because it falls within the first period of the implementation of the colonial authorities' new "ethical policy," one of whose programmes was irrigation, which subsequently influenced the dynamics in the areas surrounding the Semarang-Cirebon railway line. The spatial setting of this study was the Semarang-Cirebon region and its surroundings. This area was selected because these regions were part of the SCS railway's operational route.

This research used the modernisation and dependency theory to analyse the Semarang-Cirebon railway line as a colonial modernisation project of the Dutch East Indies. Modernisation is the transition from traditional to modern within a society. This theory states that modern development required assistance from developed countries. Western Europe and the United States became the standard for modernisation because of their economic prosperity and democratic stability. Based on this, modernisation is also often labelled as Europeanisation or Americanisation (Reyes 2001). In modernisation theory, modern society is signified as productive, educated and prosperous. One of the values tied to and offered by modernisation is equality. This was related to how modernisation is a process of homogenisation. Levy stated that the more modern a society is, the more similar it will be with others of its kind (Reyes 2001). Modernisation is marked by the application of new technology by the West, which indicated the difference between a traditional and modern society and spurred economic growth. In the colonisation of the Dutch East Indies, the construction of the Semarang-Cirebon railway line became a colonial strategic agenda of transportation and a symbol of modernity to increase socioeconomic efficiency and productivity within the public.

The modernisation policy reflected in the construction of the Semarang-Cirebon railway line as a colonial agenda caused socioeconomic inequality among the indigenous people. The analysis of this research then used the dependency theory of Andrew G. Frank, Raul Prebisch and Karl Marx. The theory explains that the economy of a nation is influenced by the economic growth of other countries, with dominating countries expanding independently while other countries experience changes caused by the expansion (Nurhadi 2007). The inequality caused by the operation of the Semarang-Cirebon railway line was one of the impacts of a colonial dependency relationship pattern. According to Santos (1970), dependency happens through colonial control of marginalised countries. The colonised countries depend on the decision and policies of the colonisers as suppliers of crops and objects of exploitation for the agenda of the motherland. Colonial modernisation actually showed the underdevelopment of the colonised countries and highlighted the superiority

of the colonisers. The combination of these theories showed the duality of the Semarang-Cirebon railway line operation as both a modernisation effort and a form of colonial dependency, which proved that technological progress did not always come with the prosperity of the indigenous people.

This research used the socioeconomic historical approach, which examines how individuals and the public make ends meet through sociological analysis. The economic approach focuses on economic rationality, while the social approach is based on economy through non-economic rationality (Panut 2019). This approach helped in understanding the train transportation development before and during the Semarang-Cirebon railway line operation as a colonial modernisation project of the Dutch East Indies through SCS, analysing its development factors, as well as the impacts on the socioeconomic aspects of the colonised country because of the inequality within the benefit distribution, which meant not all indigenous people had access. This approach is hoped to provide comprehensive understanding of the colonial transportation modernisation of the Dutch East Indies on the Semarang-Cirebon railway line.

Emergence of Modernisation Imperatives in Semarang-Cirebon Railway Project

Socioeconomic changes in the Dutch East Indies from the late 19th century until the early 20th century were strongly influenced by the Dutch East Indies colonial government's economic policies, which were orientated towards the production of exported plants for the international markets. The Dutch East Indies colonial government attempted to modernise the means of transportation to accommodate the conveyance of plantation produce to factories and produced goods from factories to nearby ports using the train. This was done by the colonial government because they could no longer depend on traditional means of transportation, such as carts and carriages (De Tramwegen op Java 1907).

Carts and carriages possessed several weaknesses, including long travel time, vulnerability to theft of exported commodities and inability to pass Pos Road from Anyer to Panarukan in the rainy season, which would be slippery and damaged because of flooding along the coastal area, as seen in Figure 1. Traditional means of transportation also had to depend on draft animals, such as horses, cattle and water buffaloes, which were prone to illnesses; when draft animals became sick, the conveyance of commodities would be halted (Kartodirdjo 1987). Consequently, the construction of the railway line increased the shipment of exported commodities from rural plantations to

nearby ports, as seen in Figure 2. This success drew the interest of private companies to develop the train business in the Dutch East Indies, especially the construction of the Semarang-Cirebon railway line in 1895 by SCS (Santoso 1988). Archaeological research in 2017–2019 on the train industry in Cirebon showed SCS constructed sidings from the main line to the sugar factory area along the Cirebon-Kadipaten railway line. A similar phenomenon was also observed in an SCS line in the eastern region of Cirebon, where SCS built sidings to Sindanglaut Sugar Factory and other sugar factories along the Cirebon-Losari railway line. This was direct proof that sugar from Cirebon's sugar factories was directly shipped to ports using trains.



Figure 1. *De Groote Pos* (Pos Road) in Central Java
Source: KITLV 49658 (1900)

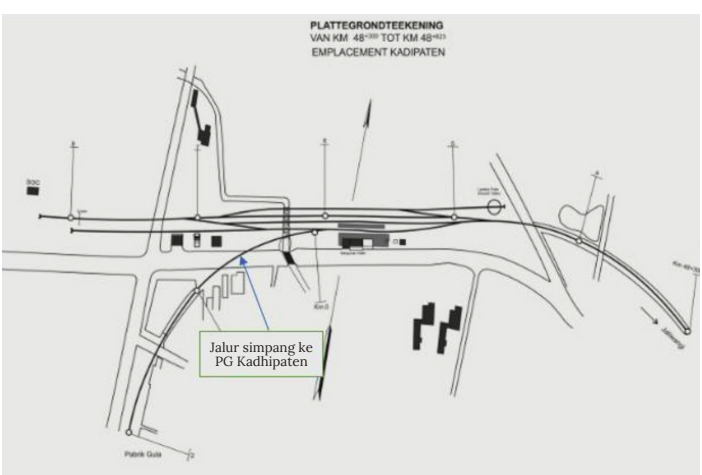


Figure 2. *Plattegroundteekening* (floor plan drawing) of Kadipaten Station emplacement
Source: Hermawan (2017)

Van Delden, a member of the Reynst en Vinju Firm in Batavia, delivered a letter to Finatieele Maatschappij voor Nijverheids-Ondernemingen in Amsterdam on 21st July 1892 for the construction of the Semarang-Cirebon railway line. This was because the Javanese North Coast area along the line was strategic for the colonial economy, especially the sugar and export industries, as well as the largest centre for sugarcane plantations and sugar factories in Java. This gave rise to a need for efficient means of transportation (Elson 1997). Finatieele Maatschappij voor Nijverheids-Ondernemingen then forwarded Van Delden's letter to the Dutch government on 6th July 1893 (*Bijblad van Nederlandsche Indie* No. 4978 1893). The Dutch government responded on 7th December 1893 with Decree No. 1 on the agreement to construct the steam train railway line from Semarang through Kendal, Pekalongan and Tegal on condition that SCS should pay land compensation of 150,000 gulden (f150,000) (*Staatsblad van Nederlandsche Indie No. 39* 1894). Based on the Governor General's Decree on 29 August 1895, No. 17 SCS must take over the Tegal-Balapoelang railway line from JSM by paying back 80 *Nederlandsch Werkelijke Schuld* (Dutch Actual Debt) for f1,000 with 2.5% interest. JSM's railway and concessions became SCS on 16 September 1895, which signified the founding of SCS and the beginning of the Semarang-Cirebon railway line construction project (De Samarang-Cheribon Stoomtram Maatschappij 1897).

In the early days of its founding, SCS attempted several construction efforts to accommodate exported goods distribution from rural areas to nearby ports along the Semarang-Cirebon line by importing 6,000 tonnes of rails, 3,000 tonnes of bridge iron and 20 locomotives. SCS also commissioned 100 covered waggons and 50 uncovered waggons to Nederlandsche Fabriek van Werktuigen en Spoorwegmaterieel in Amsterdam. The railroads were manufactured by Actien Gesellschaft Fur Bergbau, while the bridge iron was manufactured by Eisen-und Stahl-Industrie factory in Dortmund, Germany. Meanwhile, the locomotives were produced by Beyer Peacock & Co. in Manchester, United Kingdom, and were shipped periodically, with each locomotive weighing 16,400 kilogrammes. The shipment of the goods was entrusted to the Fried Krupp firm at a tariff of 60.25 gulden per tonne (De Samarang-Cheribon Stoomtram Maatschappij 1897).

Expanding Colonial Connectivity: Development and Operation of Semarang-Cirebon Railway Line

The Tegal-Balapoelang railway line was the first line owned and operated by SCS after taking over JSM's concessions, which was previously responsible for the line and the train's construction and operation from Semarang to Cirebon.

The Tegal-Balapoelang line was constructed gradually by JSM, starting from the Tegal-Banjaran-Slawi line (14.9 kilometres) and the Slawi-Balapoelang line (9.6 kilometres). Both were finished in 1886 and were aimed towards fulfilling the needs of sugar factories and plantations along both lines (Ma'ruf 1999). After its takeover by SCS, the Tegal-Balapoelang line went through repairs and was ready for use on 16th September 1895. Later, the line became an important part of the Semarang-Cirebon line (Lutfianti and Wahid 2023).

After the operation of the Tegal-Balapoelang railway line, SCS then massively expanded the railway line to realise the Semarang-Cirebon railway line project, which began in 1897. The construction of the Semarang-Cirebon railway line was gradual, and it was then combined with other lines to create a unified and connected line (Mirza 2023). The rules for the construction referred to the Government Decree on 7 December 1895, No. 1, which was renewed by the Government Decree on 18 November 1896, No. 11.

Based on Figure 3, the Semarang-Cirebon railway line developed by SCS was marked with the thick red line, which connected several tracks opened around 1895–1899: Semarang-Kendal (distance: 29.7 kilometres; began operations on 2nd May 1897); Kendal-Weleri (distance: 18.4 kilometres; began operations on 1st November 1897); Weleri-Pekalongan (distance: 49.4 kilometres; began operations on 1st December 1898); Pekalongan-Pemalang (distance: 33.8 kilometres; began operations on 1st February 1899); Pemalang-Tegal (distance: 29.3 kilometres; began operations on 23rd June 1898); Tegal-Balapoelang (distance: 24.5 kilometres; began operations on 16th September 1895); Tegal-Brebes (distance: 12.2 kilometres; began operations on 15th November 1897); Brebes-Losari (distance: 27.4 kilometres; began operations on 8 May 1898); Losari-Cileduk (distance: 13 kilometres; began operations on 10th October 1897); Cileduk-Sindang Laut (distance: 18.4 kilometres; began operations on 8th July 1897); and Sindang Laut-Cirebon (distance: 13.7 kilometres; began operations on 1st May 1897) (Yuliati 2009). The opening of SCS's railway line on 1 May 1897 was marked by the first shipment of sugar from Sindanglaut Sugar Factory to Cirebon Port (Hermawan, Abrianto and Shanti 2023).



Figure 3. SCS Train Operation Line

Source: KK 041-05-10 (1901)

In 1896, SCS applied for a permit to install railways to the Cirebon and Semarang ports; in February 1897, to the Pekalongan Port. Though the application had been submitted, the government did not promptly respond. This was because land readiness and port management were not ready to accept contracts for the railway network and other land transportation. After a long discussion between SCS and port management, the application was finally approved by the government through a new rule for SCS: Besluit van Gouverneur-Generaal (Decree of the Governor-General) 26th July 1899 No. 53 in July 1899, which explained that the railway branches to the ports were part of the Semarang-Cirebon railway line (Marihandono et al. 2016).

Based on the new rule, SCS built crossing lines from Cirebon Station to the ports, though these lines were temporary until a new decree from the government was released. This was because Cirebon Station was the meeting point of SCS's railway network with Staatsspoorwegen's (SS) railway network and SS did not confirm the joint use of the Cirebon Station railway. SCS's railways stretched from Cirebon Station to the port warehouses, also built by SCS, as storage for conveyed commodities. After a decision, SS would not build its own railway network to the ports and was advised to use the preexisting railway network jointly. Because of the different kinds of railways, with SCS's railways being tram railways, the deal between SCS and SS was to convey goods from Cirebon Station to the ports and vice versa. Commodities conveyed with SS's wagons would be moved to SCS's waggons to then be carried to the ports (Marihandono et al. 2016). To facilitate the transportation of goods and passengers, in 1914, SS and SCS agreed to cooperate on the construction of a connecting railway line between Prujakan Station (Cirebon SCS) and Kejaksaan Station (Cirebon SS) for one kilometre. Furthermore, within the same year, Prujakan and Cirebon

(SS) stations were also connected with Cirebon Port. Through the construction of the connecting line between Cirebon SS station and Cirebon SCS station, passengers and goods transported from Jakarta to Semarang and vice versa did not need to move stations because the trains operating on the Semarang-Cirebon line could directly carry and pick up passengers and goods at Cirebon SS station (Tim Telaga Bakti Nusantara 1997; Hartatik, Wasino and Trihatmoko 2022; Hartatik 2014).

Figure 3 also showed that, along the Semarang-Cirebon railway line, some train stations in the Dutch East Indies colonial era were divided based on their service level, such as stations, stops and *stopplaats* (rail stop) (Hermawan 2015). Stations were large and equipped with the most complete facilities and services. Stops were smaller and tended to be equipped with more limited services but served the same purpose as stations (Gustiani, Kusdiana and Purnama 2025). Meanwhile, *stopplaats* were simpler and more limited when compared to stations and stops (Utomo 2025). The Semarang-Cirebon railway line mainly shipped agricultural and plantation produce (Wasino and Hartatik 2017). SCS's founding was related to the demand for transportation of goods along the railway line because the area was fertile and had 39 sugar factories. A train was required as a means of transportation to ship sugarcane to sugar factories and sugar to ports for European markets. The railway line also shipped goods from other regions through ports towards rural areas, such as industrial tools and commodities (Kartodirdjo 1987).

Table 1. Commodities shipped through SCS in 1896–1909 (in tonnes)

Commodity	Year					
	1896	1899	1903	1905	1907	1909
Tobacco	1,027	1,383	2,642	2,384	3,161	3,680
Tea	239	407	637	845	994	1,134
Coffee	774	578	1488	790	849	775
Rice and grain	1,937	7,124	16,820	14,205	14,627	9,021
Sugarcane	8,795	10,561	13,721	16,622	18,042	20,961
Sugarcane seed	2,756	18,042	19,373	20,269	21,248	23,580
Sacks of sugar	1,608	3,582	5,921	6,312	6,582	9,174
Baskets of sugar	18,088	88,703	154,288	196,860	207,756	235,854
Cotton	43	111	447	2,042	3,624	2,716

(*Continued on next pages*)

Table 1. (*Continued*)

Commodity	Year					
	1896	**1899**	**1903**	**1905**	**1907**	**1909**
True indigo	89	102	170	251	138	283
Rattan	44	155	374	343	293	563
Salt	419	340	991	2,133	3,128	3,678
Kerosene	70	7,192	10,829	10,663	9,673	13,142
Cooking oil	10	198	523	384	963	2,076
Soy	30	1,107	1,461	2,211	3,133	5,101
Machine	184	4099	6022	8,156	8,614	11,002
Vegetable	17	21	90	92	105	171
Household goods	1,173	1,563	2,114	2,459	2,583	3,103
Cement	2,292	4,133	12,875	20,253	23,340	28,357

Source: Quoted from and compiled based on *Statuten van de Naamlooze Vennootschap Samarang-Cheribon Stoomtram Maatschappij* (1886–1909) and De Samarang-Cheribon Stoomtram Maatschappij (1896–1909)

Based on Table 1, commodities from sugarcane and sugar plantations dominated the amount of shipped goods compared to other commodities from 1896 to 1909. This was because SCS aimed to support plantations along the Semarang-Cirebon railway line, turning the commodities into ever-increasing main goods shipped along the line. SCS also shipped other commodities for the public, such as rice, salt, kerosene, cooking oil, soy and vegetables. Machine shipment also increased because of the expansion of exploitation and production, which increased the need for equipment for the sugar industry (Simeon 1953). In the dependency theory, the dominance of sugar cane and sugar as plantation commodities that were widely transported by the SCS from 1896 to 1910 indicated that the construction and operation of the railway network was more aimed at the smooth delivery of export goods than at the improvement of the local economy. This fact also illustrates that the area along Semarang to Cirebon was actually a small part of the peripheral region in the Dutch East Indies that played a role as a supplier for core countries, such as the Netherlands and other European countries. The operation of the SCS transportation line covering Semarang to Cirebon also indicated an interest in establishing a connection between production areas and export port areas to increase the speed and efficiency of the shipping and preservation process. Aside from operating in the railway transportation industry, which handled the conveyance of goods, SCS also expanded its fleet's function to also carry passengers. In this, SCS classified

each passenger into 3 categories based on the social stratification applicable in the Dutch East Indies at the time: Class I was reserved for Europeans, Class II was reserved for Chinese and Foreign Orientals and Class III was reserved for the indigenous people (Ramadhan and Sylvia 2026). Each class had different tariffs; classes with higher tariffs could enjoy more complete facilities and comfort than classes with lower tariffs.

Table 2. Passenger tariffs on SCS in 1896–1910 (per person)

Year	Class I (Europeans)	Class II (Chinese/Foreign Orientals)	Class III (Indigenous people)
1896	f1.21	f0.21	f0.07
1897	f1.21	f0.26	f0.08
1898	f1.44	f0.30	f0.08
1899	f2.05	f0.47	f0.15
1900	f2.01	f0.51	f0.17
1901	f1.94	f0.57	f0.20
1902	f2.10	f0.58	f0.21
1903	f2.19	f0.59	f0.19
1904	f2.19	f0.61	f0.19
1905	f2.16	f0.62	f0.19
1906	f2.19	f0.63	f0.19
1907	f2.33	f0.78	f0.19
1908	f2.45	f0.79	f0.19
1909	f2.46	f0.81	f0.19
1910	f2.59	f0.81	f0.19

Source: Quoted and compiled based on *Statistiek van het Vervoer op de Spoor–en Tramwegen in Nederlandsche Indie* reports (1896–1910)

Based on Table 2, passenger tariffs on each class applied by SCS reflected the sharp inequality between the tariff of Class I and the tariffs of other classes, with the ratio of 14:4:1. This was possible because the social stratification in the Dutch East Indies, which gave rise to different treatment for each social class (Nugroho et al. 2025). At the time, the people of the Dutch East Indies were classified into different categories; Europeans were first-class citizens, followed by Chinese and foreign Orientals as second-class citizens, with the indigenous people in the last place as third-class citizens, who were often

marginalised by the system, as well as targets for racial discrimination (Ricklefs 2001). Economic inequality was depicted clearly too. The European elite and some Chinese people enjoyed lavish lives, while the indigenous people suffered (Rosadi and Putra 2024). This pattern of inequality then created a significant difference in access to modern transportation, such as trains operated by SCS (Aditya et al. 2024). Though the inequality was visible in the passenger tariff scheme, SCS still managed to hugely profit from the train industry throughout 1895 to 1910, as outlined in Table 3.

Table 3. SCS profits from passenger and goods tariff in 1895–1910

Year	Profit		Total
	Passenger	Goods	
1895	f5,261.38	f15,705.60	f20,966.98
1896	f17,107.33	f48,979.42	f66,086.75
1897	f59,703.46	f112,416.56	f172,119.72
1898	f158,868.51	f192,198.03	f351,066.54
1899	f321,385.82	f406,453.23	f727,839.05
1900	f366,679.24	f542,198.03	f908,877.37
1901	f382,657.27	f682,593.44	f1,065,150.71
1902	f441,190.48	f734,227.34	f1,175,417.82
1903	f477,997.70	f819,978.08	f1,297,975.78
1904	f499,701.02	f954,776.99	f1,454,478.01
1905	f522,186.60	f983,883.14	f1,506,069.74
1906	f555,950.53	f980,775.38	f1,536,725.91
1907	f609,211.80	f1,065,546.96	f1,674,758.76
1908	f652,154.96	f1,113,034.89	f1,765,249.85
1909	f685,253.55	f1,163,844.61	f1,849,098.16
1910	f724,913.22	f1,265,131.73	f1,990,044.95

Source: De Samarang-Cheribon Stoomtram Maatschappij (1896–1911)

Based on Table 3, SCS's profits from goods conveyance and passenger transport significantly and consistently increased for 16 years since SCS's foundation. In total, profits increased 95 times, from 20,966.98 gulden (1895) to 1,990,044.95 gulden (1910). A sharp increase was observed when SCS was actively attempting to expand and construct the Semarang-Cirebon railway line from 1897 to 1899.

SCS's profits from goods conveyance reached twice the total of profits from passenger transport, which showed that the demand for goods conveyance was higher. This was possible because the main purpose of the Semarang-Cirebon line was to support the conveyance of exported and imported commodities, which covered plantation, agriculture, household and technology sectors along the railway line. Furthermore, the Agrarische Wet in 1870, which indicated the beginning of the liberal economy in the Dutch East Indies, soon transformed Javanese lands into plantations for exported produce, dominantly sugar. This focused trade in Java towards exported commodities, especially sugar. Masyrullahushomad and Sudrajat (2019) stated that Java Island had 54,176 bouws of land used as sugarcane plantation in 1870, which increased to 128,301 bouws in 1900.

In Table 2, the facts found clearly contradicted the ideal concept of modernisation. In modernisation theory, one of the values offered is equality, while the implementation of new technologies, such as railways, is an effort to achieve this state of modernisation. The emergence of trains was expected to provide people with access to transportation, trade and various economic opportunities without being limited by class status. However, the modern values offered in this theory were not truly achieved in the construction of the Semarang-Cirebon railway line. The categorisation of passenger fares into three social classes indicates that the modernisation efforts implemented were not fully capable of producing inclusive social change. Although the existence of trains marked a symbol of progress and modernity, their use was still tied to a hierarchical colonial social structure that allowed for discriminatory practices, such as differences in fares between classes, which guaranteed benefits and comfort for those with higher fares compared to those with lower fares. Thus, Tables 2 and 3 suggest that the existence of railways along the Semarang to Cirebon route tended to be an instrument for colonial economic and administrative efficiency, rather than a means of realising an egalitarian society, which was not only equal in terms of openness of access, but also equal in terms of the opportunities obtained.

Uneven Outcomes: Railways' Impacts on Sugar Industries and Indigenous People

The construction of the Semarang-Cirebon railway line increased the interest of private companies, the majority of which were Europeans from the Netherlands and Chinese or foreign oriental merchants, to develop their businesses on colonised lands, especially to develop sugarcane plantations. Sugarcane was the main exported commodity in the Dutch East Indies from the late 19th century to

the early 20th century. This interest was proven by the increase in the quantity and area of sugarcane plantations along the Semarang-Cirebon railway line, as seen in Table 4.

Table 4. Increase of quantity and area of sugarcane plantation along Semarang-Cirebon railway line in 1900–1905

Residency	1900	1905
Semarang Residency		
Plantation quantity	3	12
Area (hectares)	1,973	8,343
Pekalongan Residency		
Plantation quantity	4	15
Area (hectares)	2,497	9,850
Tegal Residency		
Plantation quantity	11	14
Area (hectares)	6,276	7,983
Cirebon Residency		
Plantation quantity	15	12
Area (hectares)	7,133	8,458

Source: Booth, O'Malley and Weidemann (1988)

Based on Table 4, Cirebon Residency actually had a decrease in plantation quantity but an increase in plantation area. This was because some plantations were merged and expanded (*Tijdschrift voor Nederlandsch Indie* 1905). The increase in the number of plantations along the Semarang-Cirebon railway line was possible due to rising market demand, supported by adequate infrastructure, including large landholdings, available labour and modern transportation such as trains (Ma'ruf 1999). From the perspective of dependency theory, the phenomenon of increasing quantity and expansion of plantation areas in colonial territories is not an indicator of the success of the colonial power in establishing economic independence in the colonies. Rather, it was seen as a manifestation of the increasing integration of the colonial economy into the global capitalist system controlled by the colonial powers. In such conditions, the colony appeared forced to focus on the production of raw materials and primary commodities, while processing industrial activities and capital control remained controlled by the colonisers. As a result, although production and export value increased, profits tended to flow to colonial companies and foreign

investors, rather than to the communities in the commodity-producing regions. This phenomenon also indicated that the colonial power successfully controlled the economic space for the benefit of capital accumulation. Therefore, infrastructure, policies, labour and transportation systems were developed and utilised to the maximum extent possible by the colonial power to support the export of commodities in the colonies.

The Semarang-Cirebon railway line facilitated the production conveyance from areas around the railway line, especially sugarcane and sugar. Sugarcane was picked up from plantations using lorries pulled by locomotives or draft animals. Lorries pulled by locomotives were usually used by big sugar factories with large areas of plantations located far from the sugar factories' locations, such as Tjepiring Sugar Factory, Doekoehwringin Sugar Factory and Tjomal Sugar Factory. Meanwhile, lorries pulled by draft animals were usually used by sugar factories whose sugarcane plantations were nearby, such as Bandjarjawa Sugar Factory, Pagongan Sugar Factory and Kalimati Sugar Factory. After, processed sugar would be picked up by trains from sugar factories to ports in Semarang (*Tijdschrift voor Nederlandsch Indie* 1905).



Figure 4. Java Sea seen along SCS railway line

Source: KITLV 182570 (1925)

Plantation commodity conveyance using trains was effective because it was faster, more economical and safer. This was possible because SCS managed and repaired the railway line to ensure smooth operation. The main challenge of managing the railway was its location in the coastal area, as seen in Figure 4, which made the railway prone to flooding. One railway in the Semarang-Cirebon line, the Regentschap Pemalang, was flooded multiple times in 1908, 1913 and 1916. In some cases, a great flood happened in 1908, which affected SCS's operations. The flood affected most of Pekalongan Residency's coastal regions, one of which was the border of Pemalang and Tegal Residency, where

one of SCS's railway lines was located. The line was damaged because of the flood, which affected around 500 metres of region and was caused by overflow from Rambut and Srengseng Rivers (*Bataviaasch Nieuwsblad* 1908). Because of frequent flooding, SCS was forced to execute urgent repairs by dispensing funds for repair (Utomo 2020).

The train, sugarcane and sugar companies depended on each other. This could mean that, if sugarcane plantations' crop yield declined, sugar factories' production would also decline. The decline could be caused by external factors outside of conveyance methods, causing train companies' profits to decline because they transported fewer commodities. However, when conveyances from plantations to factories were impeded, product distribution would also be impeded, which would stagnate the interregional economy (Susilowati 2012). Therefore, limited means of transportation would decrease the products' time and cost efficacy and efficiency (Zuhdi 2002).

Losses suffered by train companies caused by a decrease in crop yield and factory production, caused by external factors outside of conveyance methods, had happened in the 1880s. In that period, Semarang, whose port was vital in the international trade network as a distribution point for plantation-export commodities for European markets, was easily influenced by changes in international trade, such as the world trade crisis in the 1880s. This, when combined with the sugar crisis and the infestation of coffee plant leaves, caused a decrease in crop yield (Suryo 1989).

The sugar crisis was noted through a decrease in sugar prices in international markets because of competition from sugar beets from Germany, which flooded European markets in 1883, causing a decrease in sugar prices in that year because of a production surplus. This phenomenon affected countries producing sugar out of sugarcane plantations, including the Dutch East Indies' Java Island. Semarang Residency, specifically from 1883 to 1890, was affected by the sugar crisis and *sereh* (meaning lemongrass; here refers to a plant disease) infestation on sugarcane plants during the same period. *Sereh* caused a decrease in sugar production, which then caused the price of exported sugar to decrease. Furthermore, the situation was worsened by infestation on coffee plant leaves through spores carried over by the wind, which quickly damaged the leaves. This infestation caused the leaves to fall out, the branches to rot and the fruit to become unripe, which significantly decreased coffee production and export in Semarang Residency in 1883–1887 (Suryo 1989). These crises affected the train companies, many of which went bankrupt and whose concessions were taken over by others, such as SCS taking JSM (Santoso 1986).

The modernisation of means of transportation through the construction of the Semarang-Cirebon railway line caused inequality because the railway's main purpose was to facilitate the conveyance of exported plantation commodities and sugar factory production, most of which came from private companies owned by Europeans or foreign Orientals, to the port in Semarang. Meanwhile, the Semarang-Cirebon railway line negatively affected the indigenous people; traditional means of transportation, such as carts and carriages, managed by the indigenous people, were cast aside in favour of more modern means of transportation, such as trains. These traditional means of transportation used to have a vital role in the distribution of produce from plantations to sugar factories and nearby ports, but, because of trains, they were only used to carry produce to nearby railway lines (Central Kantoor voor de Statistiek 1906).

The Semarang-Cirebon railway line supported the plantation economy system by assisting the management and overseeing the day-to-day affairs in the plantations. This economic system was exploitative and aimed to create as much profit as possible through oppression and repression, which gave rise to suffering and poverty among the indigenous people. Because of this, the Semarang-Cirebon railway line actually added to the weight of oppression and repression among the indigenous people because the Dutch East Indies colonial government used the railway lines as a means to apply exploitative plantation policies (Ma'ruf 1999). This phenomenon could be proven through the use of arable land along the Semarang-Cirebon railway line; most of the arable lands were used for sugarcane plantations, which decreased the production of rice as the staple crop of the indigenous people. This decrease caused the indigenous people to be unable to make ends meet, as seen in Table 5. Because of this, the Dutch East Indies colonial government fulfilled the need for rice by distributing or importing it from other regions.

Table 5. Amount of rice production along the Semarang-Cirebon railway line in 1895–1910 (in tonnes)

Residency	1895		1900		1905		1910	
	Rice production	Imported rice	Rice production	Imported rice	Rice production	Imported rice	Rice production	Imported rice
Semarang	123	80	104	108	97	117	89	133
Tegal	105	87	97	102	93	106	90	114
Pekalongan	97	89	87	103	84	112	79	122
Cirebon	99	93	90	101	87	109	83	119

Source: De Samarang-Cheribon Stoomtram Maatschappij (1895–1910)

Based on Table 5, rice production along the Semarang-Cirebon railway line decreased. This decrease was caused by the decline in land productivity because the land management for rice fields was of lower quality compared to plantations and the damage suffered by arable lands after being taken over by the expansion of plantation lands. When private companies' contracts for renting land expired, the lands would be returned to their initial owner, but the ground would be damaged and would have difficulty growing rice after. This was why rice production along the Semarang-Cirebon railway line could not fulfil the needs of the indigenous people and why rice had to be imported by using trains from other regions or countries with rice production surplus, such as from the regions along the Demak-Wirosari railway line or Yangon, Myanmar (Koloniale Studien 1924). The decline in local food crop productivity due to the expansion of export plantations indicated a shift in economic orientation from domestic needs to export needs. Dependency theory viewed this as a consequence of the changing function of the colonial region as a peripheral region whose agricultural resources were maximised to produce export-orientated commodities for the benefit of the central government. As a result, the food sector became significantly marginalised, and local rice needs were met through imports. This phenomenon demonstrates that colonial economic integration did not produce independence but instead created dependence on external food supplies as a consequence of export interests within the colonial economic structure.

To obtain imported rice, the indigenous people must purchase it with money gained through the rent of their lands and wages as labourers in train stations and plantations, such as train stevedores and construction workers on warehouses or railways, as seen in Figure 5. The pay received by the indigenous people was not enough to buy imported rice, so many indigenous people had difficulty making ends meet. Because of this, the indigenous people along the Semarang-Cirebon railway line had to survive by consuming cassava instead of rice, so the indigenous people along the railway line lived below the subsistence line (Ropke 1988). This condition forced the indigenous people along the railway line to maximise arable lands or any other available land to produce something useful. Cassava, in this case, managed to fulfil the demand because of its ability to grow in a subpar irrigation system and subfertile and dry land. Cassava would also avoid any infestation before its yield and could be used as foodstuffs, which would benefit the farmers. However, the indigenous people still did not see cassava replacing rice. This was because the Javanese people had a strong cultural, symbolic and social standing tied to the concept of prosperity and agrarian rituals, which made it harder to replace rice with any other plant (Rinardi 2002).



Figure 5. Indigenous people as construction workers of Semarang-Cirebon railway line clearing out stones for the railway line construction

Source: KITLV 101275 (1898)

Modernisation by the construction of the Semarang-Cirebon railway line could not stabilise the economy and bring prosperity for the indigenous people; in reality, modernisation burdened the indigenous people. The process of poverty was caused by the burden of colonial taxes and the colonial sugar factories along the railway line, which strained the indigenous people (Lucas 2019). When analysed further, poverty in the Dutch East Indies had been present long before modernisation by the construction of the Semarang-Cirebon railway line. The development of export crops through the *cultuurstelsel* (cultivation system) since 1830 lowered the quality of crop management, such as rice, and, along with a population boom on Java Island during the 19th century, gave rise to famine. The famine often peaked during seasons when crop yields were low (*paceklik*), which was sometimes followed by malnutrition (Hugenholtz 1986). During the first half of the 20th century, the region along the Semarang-Cirebon railway line, Pekalongan Residency, was one of the regions often besieged by famine. In 1900, for example, when famine hit Java and Madura, many regions in Central Java suffered an increase in food prices. The price of white and red rice was allegedly much lower in West Java when compared to Central and East Java. Pekalongan Residency, along with September, October and November of 1900, had imported 126,355 piculs of paddy (unmilled rice) and 47,782 piculs of rice (*Soerabaiasch-Handelsblad* 1901).

Aside from the massive famine on Java Island, poor prosperity was also observed among the indigenous people living along the Semarang-Cirebon railway line, especially in Pekalongan Residency. Alexander Idenburg, the Dutch East Indies's Governor-General from 1909 to 1916, concluded that the poverty in Java Island was also because of a population boom among the indigenous

people in the early 20th century. The population, which was 28.3 million in 1900, increased to 40 million in 1930 (Furnivall 2010). Though this increase was slower when compared to other residencies in Java Island, the poverty caused by the population boom in Pekalongan Residency was proof of the failure of the modernisation policies of the Dutch East Indies colonial government. The construction of the Semarang-Cirebon railway line should have benefitted the indigenous people living around the railway line. In reality, the railway line only benefitted the colonial government, European-owned private companies, Chinese and foreign Orientals (Wertheim 1958).

Based on Table 6, poverty caused many kinds of illnesses in Pekalongan Residency, including the bubonic plague. The bubonic plague is an infectious disease that infects humans and rodents, usually happening sporadically (Luwis 2020). Poverty in Pekalongan Residency caused illnesses, such as the quickly spreading and deadly bubonic plague, with the patient zero of the plague reported in July 1921 (*Dagblad van Zuid-Holland en 's-Gravenhage* 1921). Tegal was the region most severely affected by the plague, with 618 deaths in 1932, while Pemalang was the region least affected by the plague, as seen in Table 6. Aside from the bubonic plague, malaria was also a serious issue spreading in various regions, such as Watukumpul, Ulujami, Petarukan and Pemalang (Utomo et al. 2026). Poverty also caused *hongeroedeem* (Kwashiorkor), with 800 individuals suffering Kwashiorkor in the southern parts of Pemalang in 1939 (*De Indische Courant* 1939).

Table 6. Number of deaths caused by bubonic plague in Pekalongan Residency in early 20th century

Regions	Number of deaths
Tegal	618
Brebes	276
Pemalang	18
Total	912

Source: *De Koerier* (1933)

The suffering among the indigenous people increased even more because of the trade control along the line of the Semarang-Cirebon railway line by the Chinese or foreign orientals because they occupied positions with special rights given by the Dutch East Indies colonial government. Because of this, they held and played important roles in the economy of the Dutch East Indies, especially along the Semarang-Cirebon railway line. This was observed in how the Chinese

were able to import and market products even in remote villages along the railway line by using trains. The distribution of imported products from the Semarang port to remote villages caused the decline of traditional industries managed by the indigenous people, such as pottery, batik, *tenun* (traditional weaving) and household appliances. This was deliberately used by the Chinese or foreign Orientals to introduce the credit system for the indigenous people. The credit system, in its development, shackled and tormented the indigenous people because the system evolved into *ijon* (buying rice before its yield time and only receiving it after it yielded) and gave rise to loan sharks. Because of this, the main factor in the formation of the credit system in the villages was the lack of capital, both cash and non-liquid assets. In other words, poverty was the root cause of debt (Rinardi 2011).

Poverty among the village residents along the Semarang-Cirebon railway line was caused by several factors: the high population growth in the colonised lands, especially along the railway line; the high demand for cash for village residents; periodic income causing economic turmoil; and the income decline gained through plantations and train companies, both from wages and land rent (Rinardi 2011). Another factor causing poverty was the lack of an official institution where the indigenous people could save their money as well as borrow money. This caused the indigenous people to not have the habit and ability of accumulating wealth as capital in the form of cash to save. These factors caused the indigenous people to easily fall into debt with Chinese traders, who lent money at high interest (Fernando 1996). The difficulties suffered by the indigenous people living along the Semarang-Cirebon railway line gave rise to crime, such as theft and riots, done by manual labourers or other indigenous people currently suffering (*Tijdschrift voor Nederlandsch Indie* 1863). Because of this, Philip J. Cook in *Crime Control in the City* stated that crime and violence would rise when the public was socioeconomically pressed (Wijayati 2019).

Within the modernisation theory, this situation indicated a balance or failure in the modernisation process. Modernisation encompassed not only the technological and infrastructural developments embodied by the presence of railways along the Semarang-Cirebon route, but also social, institutional and public welfare transformations, including poverty alleviation, improvements in health and sanitation and colonial efforts to protect the people of the colony. The presence of railways was actually used more for colonial economic interests than for improving the welfare of vulnerable groups. As a result, some communities along the Semarang-Cirebon route, such as in Pekalongan Residency and several other areas, continued to live in poverty, malnutrition and lived in areas with poor sanitation, making them vulnerable to the spread of disease. From

this perspective, poverty was not seen as a failure of modern technology itself, but rather as an institutional failure accompanying the modernisation process itself In other words, the modernisation of transportation that occurred along the Semarang-Cirebon route was not balanced by modernisation in other sectors that could have guaranteed public health, social policies and improved economic conditions of local communities to be more adequate.

Conclusion

The modernisation approach evident in the operational dynamics of the Semarang-Cirebon railway line by SCS was, in fact, heavily influenced by the closely intertwined patterns of colonialism and capitalism in the Dutch East Indies. On the surface, capitalism stimulated the establishment of factories, created new employment opportunities and promised greater socioeconomic mobility and productivity. However, the findings of this study reveal a different reality. Passenger fares applied at a differential ratio of 14:4:1; the 95% increase in profits earned by SCS from railway transportation services and the massive conversion of agricultural land into sugar plantations that displaced local food crops clearly demonstrate that behind the rhetoric of modernisation lay a system of economic exploitation and social inequality embedded within the colonial social hierarchy. Rather than promoting equality and improving the welfare of society, the colonial modernisation agenda implemented through the operation of the Semarang-Cirebon railway line generated new forms of structural inequality, including poverty, famine, environmental degradation, the spread of disease and increasing crime. The suffering became even more severe during periods of natural disaster, when Chinese merchants and other foreign commercial groups were able to capitalise on the crisis while indigenous communities experienced worsening economic hardship.

These findings demonstrate that colonial modernisation was presented as a progressive and beneficial project while simultaneously functioning as a mechanism of exploitation that reinforced social and economic inequality among the colonised population. Beyond contributing to the historiography of colonial transportation and modernisation, this study also highlights important human values that can be drawn from this historical experience. It demonstrates that technological advancement and economic growth cannot be regarded as genuine progress when they are achieved through exploitation, discrimination and the marginalisation of vulnerable communities. Instead, modernisation should be grounded in the principles of equality, social justice, human dignity and respect for all members of society. In this sense, history not only helps us understand the past but also provides ethical lessons for policymakers and

society by emphasising that development should prioritise human welfare, inclusiveness and social equity rather than merely economic growth. As part of the efforts to advance future research, this study recommends comparative investigations into the impacts of colonial transportation modernisation in regions beyond the Dutch East Indies, as well as further analysis of indigenous responses and various forms of resistance to colonial transportation policies, thereby contributing to a broader understanding of the diverse social consequences of colonial modernisation across different historical contexts.

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