

Labor Crisis and Structural Transformation in the Sragi Sugar Industry during the 1929 Global Economic Depression

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ABSTRACT

The collapse of global commodity markets during the 1929 economic crisis profoundly affected export-oriented colonial industries, including the sugar sector in the Dutch East Indies. While previous studies have examined the macroeconomic decline of the Javanese sugar industry during the Great Depression, limited attention has been given to how global market shocks reshaped labor conditions and local industrial structures at the factory level. This study investigates the impact of the 1929 global economic crisis on the labor conditions and structural transformation of the Sragi Sugar Factory in Pekalongan Regency during the period 1928–1933. Using historical research methods, the study analyzes colonial statistical reports, archival documents, newspapers, and secondary historical literature through heuristic, source criticism, interpretation, and historiographical synthesis. The findings show that the collapse of global sugar prices, which fell from approximately f 14.25 per quintal in 1929 to f 3.46 in 1934, triggered drastic production reductions across Java. At the Sragi Sugar Factory, these pressures led to significant structural changes, including production restrictions under the Chadbourne Agreement, declining plantation areas, and workforce reductions exceeding 60 percent. Labor conditions deteriorated through wage cuts of up to 50 percent, the replacement of permanent employment with daily contract labor, and increased economic vulnerability among workers and their families. Beyond immediate labor impacts, the crisis also transformed the regional economic structure as sugarcane cultivation declined and workers shifted toward subsistence agriculture and alternative sectors. This study contributes to the historiography of colonial economic history by demonstrating how global commodity crises reshaped labor relations and industrial organization at the local level within the plantation economy of colonial Java.

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1. Introduction

The sugar industry played a central role in the colonial economy of the Dutch East Indies, particularly in Java, where plantation agriculture was closely integrated with global commodity markets. Since the nineteenth century, sugar had become one of the most important export commodities, generating significant revenue for both private plantation companies and the colonial government. Numerous sugar factories were established across Java to support this industry, including the Sragi Sugar Factory (PG Sragi) in Pekalongan Regency, which was founded in 1837 by NV Cultuur Maatschappij De Maas. Through the integration of modern milling technology and a contract based sugarcane cultivation system involving

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indigenous farmers, the factory developed into one of the important sugar production centers along the northern coast of Central Java.

During the early twentieth century, the sugar industry in Java experienced a period of rapid expansion driven by technological innovation, improved sugarcane varieties, and increasing global demand. One important development was the introduction of the POJ 1878 sugarcane variety in the 1920s, which increased productivity and resistance to plant diseases. As a result, sugar production in Java reached its peak in 1928 when output exceeded 2.9 million tons, reflecting the strength of the export oriented plantation economy of the Dutch East Indies (Perdana et al., 2019). In regions such as Pekalongan and Tegal, sugar factories relied on networks of contract farmers and access to port infrastructure to distribute their products to international markets. However, this export dependence also created structural vulnerabilities because the industry was closely tied to fluctuations in global commodity markets.

The stability of the sugar industry was severely disrupted by the global economic crisis that began with the collapse of the New York Stock Exchange in 1929. The crisis rapidly spread through international trade networks and caused a sharp decline in commodity prices worldwide, including sugar. The export price of Javanese sugar fell dramatically during the early 1930s as international demand weakened and protectionist policies were introduced in European markets. These developments created significant pressure on the plantation economy of the Dutch East Indies, where export commodities such as sugar, coffee, and rubber constituted the foundation of colonial revenue (Van der Eng, 1992).

The crisis had severe consequences for the sugar industry in Java. Falling prices forced many factories to reduce production capacity, restrict sugarcane cultivation areas, and implement cost reduction policies. International regulatory efforts such as the Chadbourne Agreement and colonial market control mechanisms further limited export opportunities and production levels (von Graevenitz, 2011). As a result, sugar output in Java declined dramatically from more than 2.9 million tons in 1929 to approximately 500,000 tons by the mid 1930s (Kartodirdjo & Suryo, 1991).

The economic downturn affected not only the industrial structure of the sugar sector but also the labor conditions of workers who depended on plantation employment. Factory closures, production restrictions, and declining export revenues resulted in large scale layoffs and wage reductions across many sugar producing regions. Workers who had previously relied on relatively stable employment within plantation enterprises increasingly faced precarious working conditions characterized by temporary labor contracts, declining wages, and reduced access to social services provided by factories (Knight, 2000; Ingleson, 2015). In many rural areas, dismissed workers returned to their villages and shifted toward subsistence agriculture or informal labor, which significantly altered the socio economic structure of plantation communities.

Previous studies have examined the broader economic decline of the sugar industry in colonial Java during the Malaise period. Research has explored issues such as falling commodity prices, colonial economic policies, and structural changes in plantation production (Siswoyo et al., 2017; Petrus, 2021). However, relatively limited attention has been given to how global economic shocks reshaped labor conditions and local industrial structures at the level of individual factories. In particular, the local experience of workers and plantation communities during the crisis remains insufficiently explored in historical studies of the Javanese sugar industry.

This study therefore examines the case of the Sragi Sugar Factory in Pekalongan Regency to analyze the local impacts of the 1929 global economic crisis on the sugar industry and its workforce. The research addresses the following question: how did the global economic crisis of 1929 transform labor conditions and the structural organization of the sugar industry in Sragi between 1928 and 1933? By examining changes in production levels, employment patterns, and labor relations, this study seeks to reveal how global economic instability reshaped the plantation economy at the local level.

This article argues that the global economic crisis of 1929 not only reduced sugar production and export revenues but also fundamentally transformed labor relations and the industrial structure of the sugar sector in Sragi. The collapse of global sugar prices forced factories to restructure production systems, reduce plantation areas, and replace permanent labor arrangements with more flexible forms of employment. Consequently, the crisis triggered broader socio economic transformations in the surrounding communities, including rising poverty, labor migration, and the gradual shift from export oriented plantation agriculture toward subsistence based rural livelihoods.

By focusing on the experience of the Sragi Sugar Factory, this study contributes to the historiography of colonial economic history by demonstrating how global commodity crises reshaped labor systems and local economic structures within the plantation economy of Java.

2. Method

This study applies a historical research method to analyze the impact of the 1929 global economic crisis on the labor conditions and structural transformation of the sugar industry at the Sragi Sugar Factory in Pekalongan Regency during the period 1928–1933. The research follows four main stages of historical analysis: heuristics, source criticism, interpretation, and historiography.

In the heuristic stage, primary and secondary historical sources relevant to the study were identified and collected. Primary sources include colonial statistical reports such as *Handboek De Suiker* (1940), archival economic data on sugar production and employment, and contemporary newspaper reports including *De Locomotief*, *De Volkskrant*, and *Nieuwsblad van het Noorden*. These documents provide quantitative information regarding sugar production levels, price fluctuations, employment patterns, and labor conditions in the colonial sugar industry. Secondary sources consist of scholarly books and journal articles discussing the history of the sugar industry in colonial Java, plantation labor systems, and the economic consequences of the Great Depression in the Dutch East Indies (Knight, 2000; Van der Eng, 1992; Ingleson, 2015; Petrus, 2021).

The second stage involves source criticism, which includes both external and internal evaluation of the collected materials. External criticism focuses on verifying the authenticity and origin of archival documents, while internal criticism evaluates the credibility, bias, and reliability of the information contained in these sources. This process ensures that the historical evidence used in the study is valid and consistent.

The interpretation stage involves analyzing the collected data to identify patterns of change in production levels, labor relations, and economic structures during the crisis period. Quantitative data such as production volumes, sugar prices, and employment statistics are compared across different years to examine the magnitude of the economic decline. These findings are then interpreted within the broader context of colonial economic policies and global market fluctuations.

The final stage, historiography, presents the research findings in a systematic analytical narrative. Rather than only describing historical events chronologically, this study emphasizes the relationship between global economic shocks, industrial restructuring, and changing labor conditions in the Sragi sugar industry.

3. Result and Discussion

Collapse of Global Sugar Prices and the Crisis of the Colonial Sugar Economy

The Global Economic Crisis of 1929, which began with the collapse of the stock market in the United States, exerted a profound influence on the global commodity market, including the sugar industry in the Dutch East Indies. As a colonial territory highly dependent on export commodities such as sugar, coffee, and rubber, the Dutch East Indies quickly experienced the consequences of declining international demand and falling commodity prices (Petrus, 2021).

Even before the crisis fully unfolded, signs of economic instability had already appeared in the sugar market. Colonial economic reports noted that the export price of Javanese sugar had begun to decline since mid-1928. Newspaper reports from the period, including *Nieuwsblad van het Noorden*, indicated growing concerns among plantation entrepreneurs about overproduction and stagnating European markets. When the global financial crisis spread to international trade after 1929, these early concerns developed into a severe economic contraction.

The price of sugar declined dramatically during the early 1930s. Historical economic data show that the price of Javanese sugar fell from approximately *f*14.25 per quintal in 1929 to only *f*3.46 per quintal by 1934. This collapse created a situation in which the selling price of sugar was significantly lower than production costs. As a result, many sugar factories across Java experienced severe financial losses and were forced to reduce their production activities (Van der Eng, 1992).

The decline in prices was also closely linked to structural changes in the global sugar market. International agreements such as the Chadbourne Agreement sought to regulate global sugar production and stabilize prices. However, these arrangements largely favored European beet sugar producers and restricted the export opportunities of colonial cane sugar producers such as those in Java (von Graevenitz, 2011). Consequently, the colonial sugar economy faced a dual pressure: declining international demand and regulatory limitations on export markets.

These developments resulted in a dramatic contraction of the sugar industry. Total sugar production in Java, which had reached approximately 2.9 million tons in 1929, declined sharply to around 513,554 tons by 1935 (Kartodirdjo & Suryo, 1991). This collapse illustrates the vulnerability of export-oriented colonial industries to global market fluctuations.

Industrial Restructuring of the Sugar Industry in Sragi

The economic crisis forced significant structural adjustments within the colonial sugar industry. Sugar companies attempted to survive the downturn by reducing production capacity, limiting plantation areas, and implementing strict efficiency measures.

These policies were reinforced by colonial economic regulations aimed at controlling sugar production. The establishment of the *Nederlandsch-Indische Vereeniging voor de Afzet van Suiker* (NIVAS) centralized the distribution and regulation of sugar exports. Through production quotas and restrictions on sugarcane cultivation, colonial authorities attempted to stabilize the market by limiting oversupply.

For sugar factories such as the Sragi Sugar Factory in Pekalongan Regency, these policies resulted in significant operational changes. Milling activities were reduced, plantation areas contracted, and many sugarcane fields were converted to food crop cultivation. The contraction of plantation areas reflected the declining profitability of sugar production and the increasing uncertainty faced by both factory owners and sugarcane farmers.

The number of active sugar factories in Java also declined significantly during the crisis. Of the approximately 179 sugar factories operating in the late 1920s, only around 35 remained active by the mid-1930s. Although the Sragi Sugar Factory managed to continue operating, its production capacity was substantially reduced as global demand remained weak and export markets were restricted.

These developments demonstrate that the global economic crisis not only caused short-term financial losses but also transformed the industrial organization of the colonial sugar economy. The plantation system that had previously relied on large-scale export production was forced to adapt to a period of declining international trade and increasing economic uncertainty.

Transformation of Labor Relations and Wage Decline

One of the most significant consequences of the economic crisis was the transformation of labor relations within the sugar industry. Before the onset of the crisis, sugar factories in Java typically maintained a relatively stable workforce that included permanent employees and large numbers of seasonal laborers during the milling season.

However, the collapse of global sugar prices forced factories to reduce labor costs drastically. Wage reductions became a common strategy to maintain production under declining revenues. In many regions of Java, including Pekalongan Regency, workers' wages were reduced by up to 50 percent while working hours remained largely unchanged (Wardana, 2013).

In addition to wage reductions, factories increasingly replaced permanent labor arrangements with temporary or daily contract systems. This shift allowed companies to reduce long-term labor obligations and adjust their workforce according to fluctuating production levels. However, for workers, this change resulted in growing employment insecurity and declining income stability.

At the Sragi Sugar Factory, these changes were particularly evident during the early 1930s. Employment numbers declined sharply as production was reduced and plantation areas contracted. According to historical economic estimates, the workforce in several sugar producing regions declined by more than 60 percent between 1933 and 1935 (Van der Eng, 1992). Many workers who had previously relied on regular factory employment were dismissed or reemployed as lower-paid daily laborers.

The crisis also intensified gender inequality in plantation labor. Female workers were often among the first to lose their jobs as factories attempted to reduce household wage expenditures. This practice significantly affected household economies because many families depended on multiple wage earners to survive during the economic downturn (Knight & Brown, 2016).

These developments indicate that the global economic crisis fundamentally reshaped labor relations in the colonial sugar industry. The shift from relatively stable employment toward more flexible and precarious labor arrangements reflected broader structural adjustments within the plantation economy.

Social Consequences for Workers and Rural Communities

Beyond the transformation of industrial production and labor relations, the economic crisis also produced profound social consequences for plantation communities. Large-scale layoffs and declining wages generated widespread poverty among workers who depended on the sugar industry for their livelihoods.

Many dismissed workers were forced to return to rural villages because they could no longer survive in plantation settlements or factory towns. However, rural areas were often unable to absorb the sudden increase in labor supply. As a result, many former plantation workers turned to subsistence agriculture or informal labor activities.

In regions such as Pekalongan and Comal, the contraction of sugarcane cultivation led to the conversion of plantation land into rice fields. While this transition helped communities secure basic food supplies, it also reduced income opportunities because subsistence agriculture generated significantly lower economic returns than plantation employment.

This situation reflects what Clifford Geertz later described as agricultural involution, a condition in which increasing numbers of rural workers depend on limited agricultural resources without significant technological improvement (Zainun, 2006). In such circumstances, economic productivity per capita tends to decline despite the continued expansion of labor inputs.

Historical studies also indicate that the Great Depression led to increasing poverty and social instability across many regions of Java. According to Ingleson (2015), the crisis contributed to the expansion of informal labor networks, migration to urban areas, and growing dependence on charity and relief measures provided by colonial authorities.

For workers around the Sragi Sugar Factory, the crisis therefore represented not only an industrial downturn but also a broader transformation of local economic life. The collapse of the sugar industry disrupted established labor systems, altered rural livelihoods, and reshaped the social structure of plantation communities.

4. Conclusion

The decline of the sugar industry at the Sragi Sugar Factory in Pekalongan Regency during the period 1928–1933 demonstrates how the 1929 Global Economic Crisis fundamentally disrupted the export-oriented plantation economy of colonial Java. The collapse of world sugar prices, combined with export restrictions under the Chadbourne Agreement and production control policies administered by NIVAS, forced significant reductions in production capacity across the Javanese sugar industry. At the Sragi Sugar Factory, these pressures resulted in declining output, contraction of sugarcane cultivation areas, large-scale layoffs, and wage reductions of up to 50 percent.

Beyond the immediate economic impacts, the crisis also transformed labor relations and the social structure of plantation communities. The shift from relatively stable factory employment to temporary and daily labor arrangements increased the vulnerability of workers and reduced income stability for many households. As employment opportunities in the plantation sector declined, many workers migrated to rural areas or shifted toward subsistence agriculture, contributing to broader changes in the local economic structure of Pekalongan Regency.

The findings of this study highlight the structural vulnerability of colonial plantation economies that relied heavily on global commodity markets. The experience of the Sragi Sugar Factory illustrates how fluctuations in international trade could rapidly destabilize local production systems and labor arrangements within colonial industries. In this context, the crisis did not merely represent a temporary economic downturn but also marked a significant transformation in the organization of labor and production within the colonial sugar sector.

By examining the case of the Sragi Sugar Factory, this study contributes to the historiography of colonial economic history by demonstrating how global economic shocks reshaped labor relations and regional economic structures at the local level. The study therefore underscores the importance of understanding colonial plantation economies not only through macroeconomic trends but also through their concrete impacts on workers and rural communities.

References

- Centraal Kantoor voor de Statistiek. 1940. Handboek "De Suiker" 1940. Soerabaia: Uitgevers-Maatschappij "Soerabaia."
- Ingleson, J. (2015). Race, class and the deserving poor: Charities and the 1930s Depression in Java. *Journal of Southeast Asian Studies*, 46(2), 205-226.
- Kartodirdjo, S., & Suryo, D. (1991). *Sejarah perkebunan di Indonesia: Kajian sosial ekonomi*. Yogyakarta: Aditya Media.
- Knight, G. R. (2000). The sugar industry of colonial Java and its global trajectory. *South East Asia Research*, 8(3), 213-238.
- Knight, G. R., & Brown, C. (2016). Commanders and Subalterns: Foreign Capital, the Sugar Industry, and Farmers and Workers in Rural Java, 1931–59. *Indonesia*, (101), 85-102.
- Mizuno, K., & Isnaini, Z. L. Agrarian, Agricultural, and Wage Changes in Comal 1905–2012: Trending with the Indonesian Economy.
- Nugroho, P. S. (2020). Identifikasi pabrik gula sebagai industrial heritage di Jawa. *Arsitektura: Jurnal Ilmiah Arsitektur dan Lingkungan Binaan*, 18(1), 119-128.
- Petrus, A. (2021). Pengaruh Industri Gula Masa Krisis Malaise terhadap Masyarakat di Karesidenan Jepara Tahun 1930-1940. *Mozaik: Jurnal Kajian Sejarah*, 12(2), 132-48.
- Siswoyo, T., Ekwandari, Y. S., & Wakidi, W. (2017). Pengaruh malaise terhadap perkebunan kolonial di Hindia Belanda tahun 1930-1940. *PESAGI (Jurnal Pendidikan dan Penelitian Sejarah)*, 5(9).
- Surat Kabar De Locomotief: Samarangsch Handels- en Advertentie-Blad No. 36. Tanggal 12 Februari 1931.

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- Surat Kabar De Volkskrant, No. 15. Tanggal 15 Januari 1931.
- Surat Kabar Nieuwsblad van het Noorden No. 259. Tanggal 1 November 1928.
- Tegegn, D. A., & Dhont, F. (2023). The downhill journey of the Java sugar economy in the Netherlands Indies (Later Indonesia) from the late 19th century to the mid-20th century. *Cogent Arts & Humanities*, 10(1), 2220213.
- Van der Eng, P. (1992). The real domestic product of Indonesia, 1880–1989. *Explorations in Economic History*, 29(3), 343-373.
- von Graevenitz, F. G. (2011). Exogenous transnationalism: Java and “Europe” in an organised world sugar market (1927–37). *Contemporary European History*, 20(3), 253–270.
- WARDANA, A. E. E. (2013). Dinamika Pabrik Gula Kerebet Malang 1906-1957. *Avatara*, 1(1), 108-117.
- Yusuf Perdana, YP, Henry, S., & Ekwandari, YS (2019). Dinamika Industri Gula Sejak Masa Cultuurstelsel Hingga Krisis Malaise 1830–1929. *HISTORIA: Jurnal Program Studi Pendidikan Sejarah*, 7(2), 227-242.
- Zainun, N. (2006). Depresi Ekonomi Dunia 1929-1935: Perubahan Dasar Ekonomi, Hala Tuju dan Involusi Pertanian di Pulau Jawa. *EKUITAS (Jurnal Ekonomi dan Keuangan)*, 10(1), 105-122.