

Rice Cultivation, Colonial Agricultural Policy, and Peasant Adaptation in the Priangan Residency, Nineteenth Century

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Abstract: This article examines the development of rice cultivation in the Priangan Residency of West Java during the nineteenth century, focusing on the expansion of paddy cultivation, changes in rice production and prices, and the conditions of rice-growing communities under Dutch colonial rule. Drawing on historical sources and employing the four stages of the historical method heuristics, source criticism, interpretation, and historiography the study reconstructs the changing role of rice cultivation within the colonial agrarian economy. The findings indicate that rice cultivation expanded substantially across the Priangan Residency during the nineteenth century and became an increasingly important component of local subsistence and agrarian life. This development occurred alongside the expansion of export-oriented plantation agriculture, particularly coffee cultivation, which increasingly shaped the region's agricultural landscape and economic structure. Rather than eliminating food-crop production, however, colonial agricultural policies accommodated and, at certain points, encouraged rice cultivation to maintain local food supplies and social stability. The study argues that the history of rice cultivation in Priangan cannot be understood solely in terms of subsistence production; it must also be examined in relation to the broader colonial reorganization of land, labor, agricultural production, and regional markets.

Abstrak: Artikel ini mengkaji perkembangan budidaya padi di Karesidenan Priangan, Jawa Barat, pada abad ke-19, dengan fokus pada perluasan penanaman padi, perubahan produksi dan harga beras, serta kondisi masyarakat petani padi di bawah pemerintahan kolonial Belanda. Berdasarkan sumber-sumber sejarah dan dengan menggunakan empat tahap metode sejarah, yaitu heuristik, kritik sumber, interpretasi, dan historiografi, penelitian ini merekonstruksi perubahan peran budidaya padi dalam ekonomi agraria kolonial. Temuan menunjukkan bahwa budidaya padi berkembang secara substansial di seluruh Karesidenan Priangan selama abad ke-19 dan menjadi komponen yang semakin penting bagi subsistensi dan kehidupan agraris setempat. Perkembangan ini berlangsung bersamaan dengan perluasan pertanian perkebunan berorientasi ekspor, khususnya budidaya kopi, yang kian membentuk lanskap pertanian dan struktur ekonomi kawasan tersebut. Namun, alih-alih meniadakan produksi tanaman pangan, kebijakan pertanian kolonial menoleransi dan, pada saat-saat tertentu, mendorong budidaya padi untuk menjaga pasokan pangan lokal dan stabilitas sosial. Penelitian ini berargumen bahwa sejarah budidaya padi di Priangan tidak dapat dipahami semata-mata sebagai produksi subsistensi, tetapi juga harus ditelaah dalam kaitannya dengan penataan kolonial yang lebih luas atas tanah, tenaga kerja, produksi pertanian, dan pasar regional.

INTRODUCTION

The nineteenth century was a period of profound transformation in the relationship between indigenous political authorities and Dutch colonial rule in Java. While the authority of local rulers and customary elites gradually declined, the Dutch colonial state expanded and consolidated its administrative, political, and economic control. These changing power relations had far-reaching consequences for local societies, particularly in the organization of land, labour, and agricultural production. Across



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Java, colonial intervention increasingly integrated rural economies into systems designed to serve the interests of the colonial state and the European market.

The reorganization of agricultural production was particularly significant. Land and labour were increasingly mobilized to support export-oriented commodities, including coffee, tea, and quinine. In many areas, peasants were required to allocate part of their land and labour to the production of export crops, while colonial authorities exercised extensive control over agricultural resources and rural labour (de Wilde, 1830; Zakaria, 2017). Such policies generated economic pressures and contributed to various forms of social tension and resistance among rural communities.

The history of nineteenth-century Java has consequently been characterized by recurrent episodes of peasant unrest. Kartodirdjo (1973) for example, observed that rural Java experienced repeated movements of peasant unrest, some of which developed into violent confrontations with colonial authorities. He further argued that millenarian movements, religious revivalism, and the growth of religious schools and mystical-religious brotherhoods were closely associated with the social transformations of the period (Kartodirdjo, 1966). Leirissa (1993) similarly emphasized the recurrent occurrence of rebellion, unrest, banditry, and other forms of rural disturbance throughout nineteenth-century Indonesia. Such developments were not confined to Java but were also recorded in regions including the Moluccas, West Sumatra, South Sulawesi, South Kalimantan, Bali, Aceh, and North Sumatra (Leirissa, 1993; Kartodirdjo, 1987).

Against this broader pattern, the Priangan Residency presents an important historical case. Although Priangan was subjected to extensive colonial intervention and was one of the principal coffee-producing regions of Java, no major and sustained peasant rebellion comparable to several well-documented movements elsewhere in Java has been identified for the nineteenth century. This does not necessarily mean that Priangan peasants were entirely passive or compliant. Breman (2014), for example, points to forms of covert resistance, including embezzlement, sabotage, and other forms of non-compliance, in response to heavy demands on peasant labour. Nevertheless, the relative absence of large-scale and openly organized peasant rebellion raises an important question concerning the specific social and economic conditions that shaped rural society in Priangan.

Several explanations have been proposed or

can be derived from the existing historiography. First, the colonial administration in Priangan relied substantially on indirect rule and retained the authority of indigenous regents (*bupati*) within the colonial administrative structure. Rather than completely eliminating local elites, the colonial government incorporated them into the system of political control (Elson, 1994; Fasseur, 2018). This arrangement differed from areas where conflicts between indigenous elites and colonial authorities contributed directly to large-scale political upheaval, most notably during the Java War led by Prince Diponegoro (Ricklefs, 2008).

Second, the long-established *Preanger Stelsel*, particularly its system of compulsory coffee cultivation, had already been institutionalized in Priangan before the introduction of the Cultivation System (*Cultuurstelsel*) in 1830. The relatively established character of this system may have produced a different pattern of colonial intervention from that experienced in areas where the Cultivation System was introduced more abruptly (Fasseur, 2018; Elson, 1994; Booth, 1998). Third, the political and social organization of Sundanese society, including hierarchical relationships between local authorities and rural communities, may have shaped the forms through which dissatisfaction and resistance were expressed (Anderson, 1990). Fourth, the absence of a charismatic leader capable of mobilizing large numbers of peasants may have limited the emergence of sustained collective rebellion (Kartodirdjo, 1984; Ricklefs, 2008). Finally, the strategic economic importance of Priangan encouraged the colonial government to maintain relatively effective administrative and supervisory mechanisms in the region (Fasseur, 2018; Elson, 1994).

These factors, however, do not fully explain the relative stability of Priangan's rural society. An additional factor that deserves closer examination is the organization and availability of food production, particularly rice. Rice was the principal staple food of the population of Java and therefore occupied a fundamentally different position from export commodities such as coffee. The relationship between food-crop production and colonial agricultural policies is consequently crucial for understanding the social and economic dynamics of Priangan during the nineteenth century. The expansion of export-oriented agriculture did not necessarily eliminate subsistence agriculture; rather, export production and food-crop cultivation could coexist within a complex and changing agrarian system (Elson, 1994).

Priangan was one of the major administrative

residencies of nineteenth-century Java. In 1815, Raffles estimated its area at approximately 10,002 square miles (Raffles, 2008), while later descriptions placed the area at approximately 21,524 km², or roughly one-sixth of the island of Java. The residency was bounded by the Batavia and Cirebon residencies to the north, Cirebon and Banyumas to the east, the Indian Ocean to the south and southwest, and Banten to the west. Its geographical configuration included extensive mountainous areas and river systems that influenced patterns of settlement and agricultural production (Stibbe, 1919). These environmental conditions were particularly important for the development of wet-rice cultivation, which depended heavily on access to water, suitable soils, and settled agricultural communities.

Despite the importance of rice to the agrarian economy of Priangan, the historical development of rice cultivation in the residency has received considerably less attention than the region's better-known history of coffee production and the *Preanger Stelsel*. The emphasis placed on export agriculture has sometimes obscured the role of food-crop cultivation in sustaining the population and shaping rural economic relations. Examining rice cultivation therefore provides an opportunity to reconsider the structure of the colonial agrarian economy beyond the conventional focus on export commodities.

This study addresses three main questions. First, what documentary evidence exists for the earliest evidence of rice cultivation in Priangan? Second, how did colonial policies influence the expansion of wet-rice cultivation in the residency? Third, what factors help explain the relative absence of major peasant resistance in the Priangan rice sector?

To address these questions, this study examines documentary evidence concerning the development of rice cultivation, the expansion of paddy fields, changes in rice production and prices, and the social and economic conditions of rice-growing communities during the nineteenth century. It also considers the relationship between rice production and the wider colonial agrarian system, particularly the coexistence of food-crop cultivation with export-oriented agriculture.

The study argues that the development of rice cultivation was an important component of the transformation of Priangan's rural economy during the nineteenth century. The expansion of wet-rice cultivation provided a foundation for local food security while operating alongside the region's export-oriented agricultural economy. The relative

stability of Priangan society should therefore be understood not simply as the result of effective colonial control or the incorporation of local elites, but also in relation to the organization of agricultural production and access to food. In this sense, examining the history of rice cultivation provides a broader perspective on how colonial rule was negotiated, accommodated, and experienced within rural Priangan.

METHODS

This study employs a qualitative approach using the historical method to examine the development of rice cultivation in the Priangan Residency during the nineteenth century. A qualitative approach is appropriate because the study seeks to understand the historical development of rice cultivation through a critical interpretation of documentary evidence, including colonial administrative reports, agricultural records, statistical data, and relevant local sources. The historical method is used to reconstruct past developments systematically, critically, and contextually (Gottschalk, 2008; Kuntowijoyo, 2018).

The historical approach adopted in this study is not merely descriptive. It is analytical, focusing on the relationship between colonial agricultural policies, rice cultivation practices, land-use transformation, and the socioeconomic dynamics of agrarian communities in Priangan. The research follows four principal stages of historical inquiry: heuristic, source criticism, interpretation, and historiography (Wasino & Hartatik, 2020).

The heuristic stage involved collecting primary and secondary sources relevant to rice cultivation in Priangan. Primary sources consist principally of colonial administrative and agricultural records, including the *Algemeen Verslag Preanger, Koloniaal Verslag*, resolutions, agricultural reports, and documents concerning irrigation, land conversion, rice production, taxation, and agricultural improvement. Additional primary materials include colonial maps, statistical records, and reports produced by residents, regents, controllers, and agricultural officials. These materials are particularly important because they provide quantitative information concerning cultivated land, rice production, prices, household structures, irrigation development, and agricultural productivity.

Secondary sources include books, journal articles, and previous studies concerning the history of agriculture, rice cultivation, colonial political economy, and agrarian society in Java. Important works include those of Boomgaard (1989), Boomgaard &

van Zanden (1990), Elson (1994), Geertz (1983), Breman (2014), Kartodirdjo (1973, 1987), and related studies of Sundanese agricultural systems.

Source criticism was conducted through external and internal criticism. External criticism examined the authenticity and provenance of documents, including their dates, institutional origins, authorship, and archival contexts. Internal criticism assessed the reliability, consistency, and possible biases of the information contained in the sources. Colonial reports were therefore not treated as transparent representations of agrarian reality. They were read critically because they were produced within an administrative system whose interests' included taxation, political control, agricultural productivity, and the maintenance of social order. Where possible, information from colonial sources was compared with other documentary evidence and previous historical studies (Kartodirdjo, 1992).

The interpretation stage involved analysing verified historical facts through an interdisciplinary framework combining colonial political economy, social history, and historical ecology. Political-economic analysis was employed to examine the relationship between colonial agricultural policies and the organisation of agricultural production. Social history was used to investigate relations among peasants, local elites, village officials, and the colonial administration. Geertz's concept of agricultural involution was also employed to examine labour intensification and the relationship between population growth and agricultural productivity (Geertz, 1983). Historical-ecological analysis was used to understand the interaction between topography, water availability, soil conditions, irrigation, and agricultural practices.

Finally, historiography involved synthesising the findings into an analytical historical narrative. Rather than following a purely chronological structure, the article is organised thematically around the historical emergence of rice cultivation, the expansion of *sawah*, changes in rice production, price formation, smallholder agriculture, and the relationship between colonial intervention and peasant adaptation. The analysis, therefore, seeks to explain not only what changed but also why rice cultivation expanded and why the expansion did not produce large-scale open peasant resistance.

Data were collected through documentary research and literature review. Data analysis involved selection and reduction of relevant evidence, thematic categorisation, contextual interpretation, and synthesis into a historical argument. Data validity was strengthened through source, methodological,

theoretical, and temporal triangulation (Denzin, 1978).

RESULTS AND DISCUSSION

Rice Cultivation in Priangan

The historical origins of rice cultivation in Priangan remain difficult to establish with chronological precision. Available historical records do not give a definitive date for when rice was first cultivated in the region or when it became the principal staple food of its population. Archaeological and historical evidence from Java nevertheless provides an important comparative framework. The earliest available epigraphic evidence, dating to 804 CE, records the construction of a dam near a river spring in East Java for agricultural purposes. The water supplied by such a structure is generally understood to have been used for irrigating rice fields (van der Meer, 1979).

Such irrigation infrastructure does not necessarily imply that sophisticated irrigation systems were a prerequisite for wet-rice cultivation. Rice can grow under relatively simple forms of contour irrigation, in which water moves naturally from higher to lower ground through small channels and streams. Such systems require relatively limited investment in capital and labor (Boomgaard & van Zanden, 1990). It is therefore plausible that irrigated rice cultivation existed before the eighth century, although direct documentary evidence remains unavailable.

This possibility is particularly relevant to Priangan. Its mountainous and hilly topography, combined with numerous rivers and streams, provided ecological conditions favorable to rice cultivation (Ekadjati, 2005; Jaelani et al., 2024; Jamaludin, 2013; Setiawan, 2019). The landscape could support both rain-fed and irrigated agriculture, including cultivation on slopes and in valleys. It is therefore reasonable to suggest that rice cultivation existed in Priangan before the nineteenth century and, potentially, long before intensive colonial intervention (Hardjasaputra, 2005; Iskandar, 1992; Jamaludin, 2013).

By the sixteenth century, rice had clearly become an important staple and commercial commodity in Java. Reid (1988) notes that in the early sixteenth century approximately 50–60 *jung* of rice, equivalent to roughly 15,000 tons, were exported to Malacca. Tomé Pires likewise recorded rice shipments from Sunda Kalapa to Malacca and other destinations (Meilink-Roelofs, 1962). Van Leur (1955) estimated that Java exported approximately 28,000 tons of rice in several years during the sev-

Table 1. Range of rice cultivation in Priangan, 1866–1872 (in *bouw*)

Year	Irrigated sawah	Non-irrigated sawah	Swamp sawah	Tipar	Huma	Total
1866	95,311	21,898	4,031	18,820	29,246	169,306
1867	91,154	30,414	4,062	39,240	22,640	187,510
1869	93,363	32,659	4,427	39,240	22,640	192,329
1872	101,557	34,749	5,022	57,130	37,923	236,381

Source: *Koloniaal Verslag* (1866, 1867, 1869, 1872).

enteenth century. These figures demonstrate that rice production had become deeply integrated into the wider economic system of Java well before nineteenth-century colonial agricultural policies.

Sundanese textual traditions provide further evidence of the antiquity of rice cultivation in Priangan. The *Sanghyang Siksakandang Karesian*, associated with the late period of the Sundanese kingdom of Pajajaran, describes agricultural practices, particularly the dry-field cultivation known locally as *huma* or *tegalan*. The prominence of *huma*, however, should not be interpreted as proof that wet-rice cultivation was absent. Rather, it suggests the coexistence of different agricultural systems adapted to different ecological environments (Hardjasaputra, 2005; Iskandar, 1992; Jamaludin, 2013).

This distinction is important because the historical development of rice cultivation in Priangan should not be reduced to a colonial innovation. The colonial administration encountered an agrarian landscape in which rice cultivation already constituted an important component of subsistence and social life. The central historical question is therefore not whether the colonial government introduced rice cultivation to Priangan, but how colonial intervention reorganized, intensified, and expanded an agricultural system that already possessed local roots.

The colonial administration nevertheless had a strong interest in rice cultivation. Unlike coffee, indigo, and tea, rice was primarily a food crop rather than an export commodity (Gelpke, 1875). Yet food security was fundamental to colonial political stability. A reliable supply of rice was necessary to sustain the population and, indirectly, to maintain the labor force required by export-oriented agriculture. Rice production thus became an important component of colonial administration even though rice itself was not the principal object of export policy.

Colonial officials therefore attempted to improve both the quantity and the quality of rice pro-

duction. K. F. Holle, for example, imported improved rice seed from the United States and introduced new nursery and sowing techniques in Priangan. He worked through local religious and community leaders to encourage farmers to adopt these methods. Other officials, including Booghmans and K. F. Bohl, inspected agricultural areas and promoted the terracing of sloping fields to reduce erosion and landslides (Bohl, 1868). J. H. F. S. Gelpke conducted a comparative study of rice cultivation in Italy to identify practices that could potentially be applied in Java (Gelpke, 1874a).

These interventions show that colonial involvement in rice agriculture was not limited to land acquisition or taxation. It also involved irrigation, seed improvement, agricultural knowledge, capital, tools, livestock, and the organization of labor. The result was a gradual transformation of the scale and organization of rice cultivation.

Expansion of Sawah Land

Population growth created a structural need to expand food production. As the number of rice consumers increased, the expansion of *sawah* (irrigated wet-rice fields) became increasingly important. Raffles estimated that in 1815 the average Priangan village held approximately 44.0 *bouw* of *sawah* and 51.9 *bouw* of *huma*. The *bouw* is a unit of land area, and one *bouw* is approximately 7,096.5 square meters. *Sawah* thus represented approximately 45.88 percent of the cultivated area, while *huma* accounted for 54.12 percent (Elson, 1994).

The balance changed substantially during the following decades. Between 1820 and 1836, the proportion of *sawah* increased to more than 63 percent of cultivated land. This shift indicates that wet-rice agriculture was becoming increasingly important within the agricultural economy of Priangan.

The transformation becomes even clearer in the statistical evidence from the second half of the nineteenth century. In 1846, the colonial administration estimated the total cultivable area of the Priangan Residency at 130,261 *bouw*, of which

more than one quarter consisted of *sawah*. The remainder consisted principally of *tipar* and *huma*. By 1866–1872, the total cultivated area recorded in the colonial statistics had increased substantially (Table 1).

The data indicate that irrigated *sawah* remained the largest category of rice-producing land. At the same time, the expansion of dry fields and other categories shows that agricultural expansion did not depend exclusively on irrigation. Between 1866 and 1872, the total recorded cultivated area increased from 169,306 to 236,381 *bouw*, a substantial expansion of the agricultural frontier.

A closer reading of the table shows that growth was uneven across categories. Calculated from the figures in Table 1, the total recorded area grew by about 39.6 percent between 1866 and 1872. Irrigated *sawah* grew by only about 6.6 percent, non-irrigated *sawah* by about 58.7 percent, swamp *sawah* by about 24.6 percent, *huma* by about 29.7 percent, and *tipar* by about 203.6 percent. Taken together, the three *sawah* categories rose from about 121,240 to 141,328 *bouw*, but their share of the recorded area fell from about 71.6 percent to about 59.8 percent. Expansion in this period was therefore driven less by new irrigated fields than by the spread of rain-fed and dry-field cultivation, especially *tipar*. This qualifies a simple story of steady conversion to irrigated *sawah*. Irrigation remained the core of rice production, but the frontier of cultivation moved largely through dryland categories, which were cheaper to open and did not depend on the construction of canals. The identical *tipar* and *huma* figures for 1867 and 1869 (39,240 and 22,640 *bouw*) may reflect carried-forward estimates rather than new measurements, and this should be borne in mind when reading the series.

The conversion of land into *sawah* was nevertheless particularly pronounced in several regencies (Table 2).

Table 2. Transformation of Cultivated Land to *sawah*

Regency	Size (bouw)
Cianjur	7,548
Bandung	7,226
Sumedang	2,630
Limbangan	511
Sukapura	2,557
Total	20,472

Source: Algemeen Verslag (1837)

The figure of 20,472 *bouw* transformed into *sawah* illustrates the scale of colonial agricultural intervention. Cianjur and Bandung accounted for the largest portions, together about 72 percent of the total, followed by Sumedang and Sukapura. Limbangan, with only 511 *bouw*, is a striking outlier, particularly because it is the district where the improved sowing and terracing experiments discussed below were carried out. This suggests that intensification and extensification did not necessarily coincide in the same places. The expansion was closely associated with the construction and improvement of irrigation systems.

The need for irrigation became particularly urgent during the rice shortages of the late 1820s and early 1830s. Around 1833, the Dutch administration sought recommendations on how to increase rice production. Most participants proposed irrigation construction. The government subsequently ordered the development of new irrigation systems, initially on a relatively limited scale but later with increasing technical sophistication (Elson, 1994).

The government established a commission under Kraijenbrink to plan irrigation development and land conversion. Between 1831 and 1834, farmers in Priangan received approximately f17,803 in financial assistance for purchasing tools and equipment needed to construct irrigation canals (Algemeen Verslag, 1837). An agricultural report in 1834 stated that the area of *sawah* had doubled following the introduction of new irrigation systems (Koloniaal Verslag, 1834).

In 1835, the Resident of Priangan reported that more than 3,358 *bouw* of forest and sloping land had been converted into rice fields, producing approximately 18,000 *caing* of paddy. The *caing* is a traditional Sundanese unit of weight, and sources disagree on its metric equivalent: Danadibrata (2009) equates one *caing* with 200 kilograms, whereas Hardjadibrata (1985) gives a considerably different value. Figures in *caing* are therefore approximate. The Resident further estimated that 20,472 *bouw* of *huma* and *tegal* had been transformed into *sawah* (Table 2).

The colonial government did not bear the entire burden of agricultural expansion. Farmers contributed labor, while the government supplied financial assistance, tools, livestock, and administrative supervision. In Cianjur, for example, farmers received f9,540 in 1835. Another f11,000 was allocated to purchase tools and equipment for irrigation and land reclamation in Sumedang, Limbangan, and Sukapura. The government also

Table 3. Comparison between old and new methods of planting paddy fields per *bouw*, Priangan, 1867

Indicator	Old method	New method	Improvement
Seed	45 gedeng	24 gedeng	17 gedeng
Cost	f1.05	f0.34	f0.73
Seedling to harvest	8 months 25 days	8 months 1 day	24 days
Result	3 caing 83 gedeng	3 caing 164 gedeng	81 gedeng

Source: "Brief en bijlage gerigt aan de Direkter der Maatschappij van Nijverheid en Landbouw, omtrent de padi-kultuur in de residentie Preanger-Regentschappen, Afdeeling Limbangan" (1868).

Table 4. Comparison of dry-field paddy productivity in Limbangan, Priangan, 1866

	Before terracing	After terracing	Increase
Production	16 caing 49 gedeng	21 caing 147 gedeng	5 caing 98 gedeng
Per bouw	12.68 pikul	16.97 pikul	4.29 pikul

Source: Bohl (1868)

supplied 200 pairs of buffaloes (Algemeen Verslag, 1837).

Agricultural expansion also received support from local administrations. In 1836, the Regent of Cianjur provided f3,000 to assist poor farmers in purchasing buffaloes, constructing irrigation canals, and converting uncultivated land into irrigated *sawah*. The government also allocated f5,000 to support private agricultural enterprises (Besluit, 25 September 1836).

By the 1840s, at least twelve irrigation systems had been constructed in several parts of Priangan, followed by the opening of thousands of *bouw* of new *sawah*. By 1851, approximately 29 irrigation canals had been completed, converting at least 600 *bouw* of land into *sawah*, and another 21 canals, covering approximately 3,453 *bouw*, were under construction. In Sumedang, a canal approximately nine *pal* long enabled the conversion of 1,000 *bouw* of rain-fed land into irrigated *sawah* (Koloniaal Verslag, 1851).

Between 1856 and 1868, the colonial administration reported the creation of approximately 94,809 *bouw* of *sawah* (Elson, 1994). These figures show that the expansion of rice cultivation was not simply the result of spontaneous population

growth. It was supported by a combination of peasant initiative, local administration, colonial investment, and infrastructural development.

AGRICULTURAL INTENSIFICATION AND PRODUCTIVITY

The expansion of cultivated land was accompanied by efforts to intensify production. Agricultural improvement involved seed selection, nursery management, sowing techniques, soil management, and terracing.

K. F. Holle introduced an experimental rice variety imported from the United States and encouraged H. M. Moesa, a *penghulu* in Limbangan, to test new methods. The innovation was subsequently promoted through local religious figures, including *kiai*, *amil*, and *lebé*. This strategy is significant because colonial agricultural knowledge was not disseminated exclusively through coercive administrative structures; it was also transmitted through local social and religious networks (Table 3).

The new method reduced seed requirements, lowered costs, shortened the cultivation period, and increased output. At six cents per *gedeng*, the estimated financial benefit was approximately f5.88, in addition to savings of 24 labor days. The gains were modest in absolute terms, but they were achieved with a change of technique rather than additional land, and they cost the farmer less than the old method. This is one reason why the innovation could spread through trusted local intermediaries: it asked little of households in capital and promised a visible return.

Soil management was another important aspect of intensification. K. F. Bohl instructed the Regent of Limbangan to encourage farmers to terrace rice fields on slopes. The practice reduced erosion and improved soil retention (Table 4).

The increase of 4.29 *pikul* per *bouw*, about 34 percent over the pre-terracing yield, shows that technological intervention could produce substantial gains even without expanding the agricultural frontier. Terracing is also relevant to the pattern seen in Table 1. Because *tipar* and *huma* fields were largely located on slopes, improvements in dry-field productivity bore directly on the categories that grew fastest.

RICE PRODUCTION IN THE PRIANGAN RESIDENCY

The expansion of agricultural land, irrigation infrastructure, livestock, agricultural tools, and improved cultivation techniques contributed to a sub-

stantial increase in rice production. In 1815, Priangan ranked only seventh among Java's rice-producing residencies, producing approximately 66.9 metric tons, compared with 176.4 metric tons in Surabaya. By 1828, however, Priangan had risen to second place, producing approximately 117.3 metric tons, while Surabaya remained first with 127.1 tons. By 1833, Priangan had overtaken Surabaya and subsequently remained one of Java's principal rice-producing regions for much of the nineteenth century (Elson, 1994).

This development is particularly significant because Priangan's agricultural structure differed from that of many Central and East Javanese residencies. Sugarcane, which was extensively cultivated elsewhere, competed directly with rice for wet agricultural land. Priangan, by contrast, had no major sugarcane sector. Its principal export crops were coffee and, later, tea. Coffee was a perennial crop cultivated mainly in dry upland environments and therefore did not compete directly with *sawah* land (Boomgaard, 1989; Geertz, 1983). Although coffee and tea competed with rice for labor and time, they did not create the same direct competition for wet agricultural land as sugarcane did elsewhere in Java.

Rice yields in Priangan fluctuated between approximately 22.3 and 32.05 *pikul* per *bouw*. These variations resulted from climatic conditions, including droughts and floods, as well as plant diseases and pests such as rats and grasshoppers (Boomgaard & van Zanden, 1990).

The high level of production enabled Priangan to become an important supplier of rice to neighboring regions, including Cirebon, Buitenzorg, Karawang, and Batavia (Algemeen Verslag, 1837). Yet the relationship between production and consumption reveals an important contradiction. In 1851, the colonial administration calculated Priangan's rice harvest at approximately 377,200 *caing*, equivalent to 1,886,000 *pikul* if one *caing* is taken as five *pikul*. The population was recorded at 767,989, excluding foreign residents. With an estimated annual requirement of three *pikul* per person, local consumption should have reached approximately 2,303,967 *pikul*. The calculation therefore suggested a deficit of approximately 417,967 *pikul*, about 18 percent of the estimated requirement. Yet Priangan simultaneously exported substantial quantities of rice to neighboring regions.

The discrepancy prompted an investigation by the Resident. It eventually emerged that the Regents of Cianjur and Sumedang had underreported their actual harvests (Algemeen Verslag, 1852). Other reports similarly acknowledged discrepancies be-

tween recorded and actual production and export because transactions frequently occurred outside official administrative reporting systems (Algemeen Verslag, 1856).

This evidence is important for understanding both colonial statistics and peasant economic behavior. Production figures should not automatically be regarded as complete representations of agrarian reality. Informal transactions, local trade networks, and the interests of local officials could all influence what was reported to the colonial administration. The 1851 case is useful precisely because the arithmetic could not be reconciled with observed exports. A reported deficit combined with substantial outflows is an internal inconsistency in the record, and it was resolved only when officials discovered that the harvest figures had been understated.

PADDY PRICES AND THE ECONOMICS OF RICE CULTIVATION

Rice prices in Java fluctuated seasonally. They were generally lowest immediately after harvest and rose gradually until the next harvest. Priangan, however, was notable for its persistently low rice prices (Table 5).

The table shows that the seasonal gap between low and high prices was often large, in some years more than 100 percent (for example 1863, from *f*1.16 to *f*2.79). A farmer who had to sell immediately after harvest, for instance to meet tax obligations, therefore received a much lower return than one who could store grain. This is one reason why a *leuit* (granary) had economic as well as cultural value. The unusually high prices of 1861 (*f*2.60 to *f*4.10) also stand out and presumably reflect a har-

Table 5. Price of rice in Priangan, 1854–1868 (*f* per *pikul*)

Year	Low	High
1854	1.13	1.66
1855	1.52	2.05
1860	1.20	2.50
1861	2.60	4.10
1863	1.16	2.79
1866	1.34	2.26
1867	1.44	2.08
1868	1.01	1.81

Source: Algemeen Verslag (1854, 1855, 1860, 1861, 1863, 1866, 1867)

vest shortfall or localized scarcity, although the table itself does not say so.

The consistently low price of rice raises an important question: why did farmers continue to cultivate rice if the monetary return appeared so limited? Gelpke estimated that one *bouw* of irrigated *sawah* could produce approximately 25 *pikul* of paddy under favorable conditions. At *f*3.50 per *pikul*, the gross return would have been approximately *f*87.50. Yet production costs could exceed this amount (Table 6).

On this calculation, the farmer would theoretically incur a monetary loss of approximately *f*19.80. For rain-fed rice cultivation, the situation was even less favourable (Table 7). The calculated monetary loss was approximately *f*38.70

Table 6. Irrigated sawah cultivation expenses per bouw

Item	Cost
Harvesting	<i>f</i> 17.50
Plowing	<i>f</i> 14.00
Agricultural tools	<i>f</i> 2.00
Manual labor	<i>f</i> 30.80
Rice tax (1/10)	<i>f</i> 8.75
Zakat (1/10)	<i>f</i> 8.75
Seed	<i>f</i> 3.50
Celebrations and rituals	<i>f</i> 10.00
Village and public compulsory work	<i>f</i> 12.00
Total	<i>f</i> 107.30

Source: Gelpke (1874b)

Table 7. Rain-fed rice cultivation expenses per bouw

Item	Cost
Harvesting	<i>f</i> 41.20
Plowing	<i>f</i> 14.00
Agricultural tools	<i>f</i> 2.00
Manual labor	<i>f</i> 30.80
Rice tax (1/10)	<i>f</i> 5.60
Zakat (1/10)	<i>f</i> 5.60
Seed	<i>f</i> 3.50
Celebrations and rituals	<i>f</i> 10.00
Village and public compulsory work	<i>f</i> 12.00
Total	<i>f</i> 94.70

Source: Gelpke (1874b)

Several features of these accounts deserve attention. A large part of the cost consisted of items that a modern accountant would treat as obligations or social expenditure rather than production costs: the rice tax, *zakat*, ritual expenses, and compulsory village and public work together amounted to *f*39.50 in the irrigated case. Labor, much of it presumably supplied by the household or by neighbors, was priced at market-style rates (harvesting and manual labor together *f*48.30). The calculation therefore converts the household's own work and its social obligations into cash costs, and then compares them with a gross return valued at a price that is higher than most of those recorded in Table 5.

These calculations, however, should not be interpreted as evidence that rice cultivation was economically irrational for peasants. They impose a modern commercial conception of profit on a predominantly subsistence-oriented agrarian economy. Farmers did not necessarily value family labor, time, reciprocal labor, subsistence security, or access to stored food in the way a modern commercial enterprise would. Rice provided food security, could be stored in a *leuit*, and served important social and cultural functions. Its value therefore exceeded its market price.

Local elites, moreover, benefited considerably from the rice economy. Regents and lower-ranking officials obtained rice from tax-exempt land and through the collection of a rice tax equivalent to one-tenth of the harvest. Under the Preanger Stelsel, the distribution of this tax gave local authorities a substantial economic incentive to maintain and increase rice production.

This distinction between the economic interests of peasants and those of local elites is important. Large-scale rice marketing was probably dominated by local elites and intermediaries, while farmers tended to conduct smaller transactions. Nevertheless, these transactions were increasingly incorporated into colonial statistical reporting.

Price fluctuations also reflected the uneven distribution of rice across Priangan. In 1863, Cianjur experienced shortages caused by locust infestations and by substantial rice exports to Buitenzorg, Batavia, and Karawang. In 1865, prices rose sharply in Cianjur because rice was exported from Bandung to compensate for shortages there, while Cianjur itself continued exporting rice to Buitenzorg (Algemeen Verslag, 1863, 1865, 1866).

This shows that rice production and food security were not identical. A region could produce substantial quantities of rice while particular districts or villages simultaneously experienced scarcity.

Table 8. Distribution of households in the Priangan Residency, 1866–1872

Year	Households	Farming households	Land-owning households
1866	170,204	126,881	89,181
1867	183,269	136,458	91,452
1869	202,467	151,331	105,068
1872	216,382	175,431	129,653

Source: Koloniaal Verslag (1866, 1867, 1869, 1872)

Market integration, administrative decisions, transportation constraints, and export practices all affected local food availability.

Rice Cultivation and Smallholder Agriculture

The expansion of rice production depended fundamentally on smallholder agriculture. Although colonial records do not give precise statistics on the number of households involved at every stage of rice cultivation, the household data for 1866–1872 indicate the structure of the agrarian population (Table 8).

Between 1866 and 1872, farming households constituted approximately 76 percent of all households, and land-owning households approximately 70 percent of the farming households. This suggests that a substantial proportion of the population was directly connected to agricultural production.

The table also shows that the agrarian population grew faster than the population of households as a whole. Calculated from the figures, total households rose by about 27.1 percent between 1866 and 1872, farming households by about 38.3 percent, and land-owning households by about 45.4 percent. Land ownership therefore expanded more quickly than farming, which is consistent with the opening of new fields. Combining Tables 1 and 8, the recorded cultivated area per farming household was about 1.33 *bouw* in 1866 and about 1.35 *bouw* in 1872, roughly 0.95 hectare in both years. The expansion of cultivated land thus appears to have kept pace with the growth of the farming population, not to have increased the holdings of each household. In other words, the land opened in these years largely absorbed demographic growth, which fits the structural need for expansion noted at the beginning of this section. These ratios are the author's calculations from aggregate data and should be treated as indicative rather than as measures of actual household holdings.

Land ownership, however, did not necessarily mean cultivating only one's own land. Land-owning farmers could work their own fields while also cultivating the land of others. Labor was frequently organized through reciprocal assistance, known local-

ly as *gotong royong* (mutual assistance) or *sambatan* (communal mutual assistance) (Boomgaard, 1989; Manggistan, 1986).

Rice cultivation was highly gendered. Women were heavily involved in planting, weeding, and harvesting, while men were more commonly responsible for plowing and transporting agricultural produce. Buffaloes played a major role in soil preparation. Compensation for labor varied considerably: some labor was reciprocal and unpaid, whereas other labor was paid in cash or rice. Because there was no uniform wage system, compensation differed across localities and between employers (Gelpke, 1874b).

Private enterprises also cultivated rice. Although the total area under their control is difficult to establish, colonial records indicate estates in several districts, particularly Bandung and Cianjur, that produced thousands of *pikul* of rice annually.

The significance of smallholder agriculture therefore lies not simply in the number of peasant households but in the institutional and social organization of agricultural labor. Rice production depended on networks of household labor, reciprocal assistance, local authority, religious leaders, buffalo ownership, irrigation infrastructure, and access to land.

Colonial Policy, Rice Cultivation, and Peasant Adaptation

The evidence presented above shows that colonial agricultural policy affected rice cultivation in Priangan through two interconnected processes: extensification and intensification. Extensification expanded the cultivated area by converting forests, dry fields, slopes, and uncultivated land into *sawah*. Intensification improved the productivity of existing land through irrigation, improved seed, sowing techniques, nursery practices, terracing, livestock, and agricultural knowledge.

These policies cannot be understood independently of the colonial political economy. The colonial government had a direct interest in maintaining adequate food supplies, because the survival

of export-oriented agriculture depended on food for the population and the labor force.

The expansion of rice cultivation was also compatible with the ecological structure of Priangan. Coffee and tea generally occupied upland environments and did not compete directly with *sawah* in the way sugarcane did in Central and East Java. Priangan could therefore develop an important rice sector while remaining a major coffee-producing region.

The relationship between rice and export agriculture was nevertheless not entirely harmonious. Coffee and tea demanded labor and time, so even where competition for land was limited, competition for household labor remained significant. Farmers had to balance subsistence production against the obligations attached to export crops and colonial administration. This helps explain why peasant responses did not necessarily take the form of open rebellion.

The absence of large-scale resistance in the rice sector should not be read as complete acceptance of colonial policy. Peasant responses lay along a continuum that ran from compliance and adaptation to negotiation, avoidance, underreporting, and everyday resistance. The underreporting of rice production by local regents shows how official statistics could be manipulated. Farmers and local communities also maintained reciprocal labor systems and local agricultural practices that could coexist with, modify, or partly circumvent administrative expectations.

The institutional structure of colonial rule further shaped these responses. The Dutch administration governed largely through existing indigenous elites. Regents, village heads, religious leaders, and other local officials mediated between colonial authorities and rural communities, which reduced the likelihood that each colonial policy would be experienced by peasants as direct confrontation with European officials. The *menak* (Sundanese aristocracy), village heads, *amil*, *kiai*, and other intermediaries were therefore at once agents of colonial administration and participants in local society. Their position was ambiguous: they could transmit colonial agricultural instructions while adapting them to local interests.

This structure helps explain the relative absence of large-scale open resistance in the rice sector. Peasants depended on land, irrigation, local authority, and community networks, and under such conditions adaptation and negotiation could be more effective survival strategies than open confrontation.

The absence of rebellion should therefore not be confused with the absence of resistance. Following a broader insight of agrarian history, resistance may operate through everyday practices, negotiation, evasion, selective compliance, manipulation of information, and preservation of local institutions, not only through organized rebellion (Kartodirdjo, 1973).

The history of rice cultivation in Priangan reveals a complex interaction between agrarian continuity and colonial transformation. Neither the story of a colonial "creation" of rice farming nor the story of an unchanged peasant tradition fits the evidence. The record shows a long-established agricultural system that colonial rule reorganized, enlarged, and tied to new markets, and that peasant households also used for their own purposes. The six themes below develop this argument. Studies of other Javanese settings serve as comparative context, not as direct evidence about Priangan.

Local Roots and Colonial Encounter

The documentary evidence does not support the claim that the Dutch colonial administration created rice cultivation in Priangan. Colonial officials encountered an agricultural system already made up of *huma* (shifting dryland fields), *tegal* (permanent dryland), *tipar* (dryland fields cultivated with rice), and *sawah* (irrigated wet-rice fields). Sundanese textual traditions, the ecological conditions of the highlands, and early agricultural practice all point to deep local roots. This system was not a single crop regime but a repertoire in which households combined different field types according to terrain, water, and labor.

Comparable work on Java suggests why such continuity is easy to miss. Studies of food traditions show that foodways carry ethnic and cultural identity and persist through memory and practice, not through official records (Wargadalem et al., 2023). In Priangan, the field types and the rituals around planting and storing rice should be read in the same way, as the living record of an older agrarian order.

The historiography of Java also warns that ordinary villagers are underrepresented in official sources. The literature on *wong cilik* (ordinary people) shows that the labor and knowledge of common people sustained agrarian life while rarely appearing as agents in the archive (Wasino et al., 2021). This is relevant to Priangan because colonial reports described what officials introduced more readily than what peasants already did. The experiments of Holle and Bohl are documented in detail precisely because they were official initiatives,

whereas the everyday decisions of households about which field type to open, when to sow, and how much to store are visible only indirectly, through aggregates such as Tables 1 and 8.

Colonial Intervention and The Scale of Production

Colonial intervention nevertheless fundamentally altered the scale and organization of rice production. The construction of irrigation systems, the conversion of land to *sawah*, the provision of buffaloes and tools, the dissemination of improved seed, and the introduction of new cultivation methods contributed to an extraordinary expansion of rice-producing land. These measures were administrative as much as technical. They required surveys, officials, and the authority to direct village labor.

Research on peasant economies under plantation capitalism shows that Javanese rice land was repeatedly organized around the demands of the colonial economy (Wasino & Hartatik, 2017). Priangan's rice expansion should be seen as part of this wider pattern, in which colonial authority reshaped land, labor, and institutions in order to raise output. The detailed mechanisms, including how irrigation works were financed and which districts benefited, belong to the Priangan sources and cannot be inferred from Java-wide comparisons. What the Priangan sources do show is that the state combined small, targeted outlays (f17,803 in assistance between 1831 and 1834, f9,540 in Cianjur in 1835, f11,000 for tools in three regencies, and 200 pairs of buffaloes) with the labor of farmers themselves. This was a low-cost model of expansion, in which public money mainly lowered the entry cost for households, and it depended on the cooperation of regents and village heads.

Infrastructure mattered beyond the fields. Studies of road development in Central Java show that transport followed commercial and administrative priorities and reshaped land use around them (Hartatik et al., 2022). In the same way, the expansion of rice in Priangan depended on routes that carried grain, officials, and goods, and these routes decided which areas were drawn into the market.

Peasant Agency and Converging Interests

The increase in rice production cannot be explained by colonial policy alone. Peasant households had powerful reasons of their own to expand rice. Rice was the principal staple, an important form of stored wealth, and a central element of Sundanese social and cultural life. Ownership of *sawah* and the

quantity of rice kept in the *leuit* could influence social status. Colonial policy and peasant interests therefore sometimes converged, although their underlying objectives differed: the state sought production and revenue, while households sought security, standing, and obligations they could meet.

The village granary offers a useful comparison. In Java, the *lumbung desa* functioned as a store against scarcity and as a credit institution, and in places it was later transformed into village unit cooperatives (Hartatik et al., 2023). That history shows both the value peasants placed on stored grain and the way the state could absorb community stores into its own structures. The *leuit* in Priangan served similar purposes, and its social meaning helps explain why households accepted, and sometimes sought, the expansion of *sawah*.

The expense accounts in Tables 6 and 7 point in the same direction. Gelpke's calculation includes f10.00 per *bouw* for celebrations and rituals, together with *zakat* and the rice tax. These items show that the cost of growing rice included religious and social obligations, and that cultivation was embedded in a moral economy as well as a market. Status, obligation, and ritual shaped decisions about land and grain as much as price did, and a household that expanded its *sawah* was also expanding its capacity to meet those obligations.

The Contradiction of Surplus and Shortage

The expansion of rice cultivation produced an important contradiction. Priangan became a major rice-producing region and an exporter to neighboring territories, yet some local districts simultaneously experienced food shortages and high prices. This contradiction resulted from uneven production, market integration, export flows, transportation difficulties, administrative practices, and the underreporting of production.

Each of these factors has parallels elsewhere in Java. Transport networks integrated some places into the market while leaving others poorly connected, so that grain could leave one district while another went short (Hartatik et al., 2022). The cases of Cianjur and Bandung in the 1860s illustrate the point at district scale. Cianjur exported to Buitenzorg, Batavia, and Karawang while suffering locusts and high prices, and it drew rice from Bandung to compensate. Scarcity in one place and surplus in another were thus connected by trade flows that the market, not a food policy, directed.

The role of reporting deserves emphasis. If production was underreported, official statistics would show less rice than existed, and shortages

could be misread. If export flows were recorded better than local consumption, the apparent surplus would be larger than the one households experienced. Disorder and political upheaval could deepen such vulnerabilities. Research on coastal Semarang shows how individual violence developed into collective violence in the revolutionary period (Hartatik et al., 2021), a reminder that rural food security repeatedly depended on the stability of the surrounding order. In Priangan, the relationship between security, administration, and grain supply should likewise be examined district by district.

The Economic Rationality of Rice

The economic rationality of rice cultivation cannot be assessed through monetary profit alone. Gelpke's calculations show that production costs could exceed the market value of rice. Yet such calculations underestimate the value of subsistence security, household labor, reciprocal labor arrangements, stored grain, and cultural functions. Rice cultivation was therefore economically meaningful even when its direct cash return appeared negative.

This reading fits what is known about Javanese peasant economies. Households counted labor supplied by the family and by neighbors at a different value from wage labor, and they valued stored grain as insurance against bad years (Wasino & Hartatik, 2017). Where wage work was available, labor had a price, and the wider colonial economy built institutions to maintain it. Research on colonial health policy in Semarang suggests that the colonial state's investments in welfare were shaped by the interests of modernization and administration, with marginalization as an accompanying consequence (Hartatik et al., 2025). The contrast is instructive. Peasant rice farming carried its own costs, such as illness, seasonal hunger, and the need to keep a household going between harvests, yet these were largely absorbed by households and communities, not by the state. A calculation that leaves them out makes rice farming look irrational when it was in fact a strategy for security.

Reading the Sources: Strength and Limits

The argument of this article rests on colonial administrative sources, and their character shapes what can be concluded. The *Algemeen Verslag* and *Koloniaal Verslag* were produced by officials for officials. They recorded what the administration wished to count, namely land under cultivation, harvests, prices, households, and expenditure on irrigation, and they did so through the same regents

and village heads whose interests were bound up with production and with the rice tax. The underreporting discovered in Cianjur and Sumedang in 1851 shows that these figures could be systematically understated, and the admission in the 1856 report shows that officials were aware of the problem.

Three consequences follow. First, absolute figures should be treated with caution, and trends are more reliable than levels. The growth rates calculated from Tables 1 and 8, for example, are more defensible than any single total, although even they depend on the consistency of reporting methods across years. The identical *tipar* and *huma* figures for 1867 and 1869 are a reminder that some entries may be estimates carried forward. Second, the sources describe the state's actions far better than peasants' reasons. The costs in Gelpke's accounts reflect an observer's reconstruction of household economies, not household bookkeeping, and the motives attributed to farmers in this article are inferences from structure, such as the value of storage, the social meaning of the *leuit*, and the obligations built into the cost tables. Third, the evidence on resistance is necessarily indirect. Open protest leaves records, whereas evasion, underreporting, and selective compliance appear only when officials noticed and wrote about them. The relative silence of the sources on rice-sector resistance should therefore be read as a limit of the record as well as a possible indication of peasant adaptation.

These limits do not undermine the main findings. Local roots, colonial reorganization, the convergence of state and peasant interests, the gap between production and local food security, and the inadequacy of cash accounting all emerge from several independent kinds of evidence: textual traditions, land statistics, expenditure records, price series, and the investigations of officials. Where such evidence converges, the interpretation is more secure. Where it depends on a single report, as with Gelpke's cost accounts or the 1851 harvest estimate, it should be held more tentatively, and future work in Dutch and Indonesian archives could test it against district-level reports, village records, and Sundanese sources.

CONCLUSION

This study examined the historical development of rice cultivation in the Priangan Residency during the nineteenth century through three interrelated questions: the documentary evidence for the origins of rice cultivation, the influence of colonial policy on the expansion of wet-rice agriculture, and the reasons for the relative absence of large-scale peasant resistance in the rice sector.

On the first question, the evidence indicates that rice cultivation in Priangan predated nineteenth-century colonial intervention. Existing sources do not permit a precise date for its beginning, but Sundanese agricultural traditions, the *Sanghyang Siksakandang Karesian*, ecological conditions, and evidence from elsewhere in Java point to a long-established agrarian tradition. The presence of *huma*, *tegal*, *tipar*, and *sawah* shows that rice cultivation was embedded in a diverse agricultural system adapted to local ecology. The colonial administration therefore did not introduce rice cultivation into an agrarian vacuum. It encountered an established system and reorganized and intensified it.

On the second question, colonial policy substantially influenced the expansion and transformation of wet-rice cultivation. The government promoted both extensification and intensification. Extensification converted forests, dry fields, slopes, and uncultivated land into *sawah*, while intensification involved irrigation, improved seed, tools, buffaloes, new sowing techniques, nursery practices, and terracing. The conversion of 20,472 *bouw* into *sawah* and the later expansion of irrigated fields show the scale of this intervention. Rice production rose substantially, and Priangan became one of Java's leading rice-producing regions. The land statistics also show that the cultivated frontier grew largely through rain-fed and dry-field categories, especially *tipar*, so that expansion cannot be reduced to the spread of irrigated *sawah*.

Colonial intervention should not, however, be read as imposed on passive farmers. Expansion also corresponded to the interests of peasant households, for whom rice was essential to subsistence, food security, social status, and cultural life. Colonial policy and peasant interests intersected, though their objectives differed: the government needed adequate rice to sustain political and economic stability, while households sought subsistence and secure access to land and resources. Gelpke's cost accounts, which show a cash loss per *bouw*, do not prove that cultivation was irrational. They leave out the value of subsistence security, household and reciprocal labor, stored grain, and cultural obligations.

The expansion of rice also produced a contradiction. Priangan became an exporter of rice while some districts experienced shortages and high prices, a result of uneven production, market integration, export flows, transport difficulties, administrative practice, and underreporting. Production totals therefore cannot stand in for local food security.

On the third question, the relative absence of large-scale resistance in the rice sector should not be read as unconditional acceptance of colonial policy. Peasant responses ran along a spectrum from compliance and adaptation to negotiation, avoidance, selective participation, and everyday resistance. The indirect structure of colonial rule, in which regents, village heads, religious leaders, and other local elites mediated between government and villagers, reduced the likelihood of direct confrontation. Farmers also depended on local institutions, irrigation networks, land access, and community cooperation, and under these conditions adaptation and negotiation often served household survival better than open rebellion. The discrepancy between official statistics and actual transactions, produced by underreporting, informal exchange, and local marketing networks, points to the limits of colonial administrative control and is better understood as evidence of agency than as mere administrative irregularity.

Overall, the history of rice cultivation in Priangan was shaped by the interaction of precolonial agrarian traditions, ecological conditions, population growth, colonial agricultural policy, local institutions, and peasant agency. The nineteenth century did not mark the beginning of rice cultivation in the region but a period of significant reorganization, expansion, and intensification of an existing agricultural system. The development of *sawah* was not a linear process of colonial modernization. It was negotiated and uneven, shaped by colonial objectives, peasant subsistence needs, local elite interests, ecological opportunities, and community institutions, and the absence of large-scale resistance does not signify the absence of conflict, which often took less visible forms of adaptation, selective compliance, and everyday practice.

The Priangan case thus contributes to a broader understanding of colonial agrarian history: peasants were not merely objects of colonial agricultural policy but active historical actors who negotiated, adapted to, and sometimes circumvented the structures imposed on them. The study has limits. It rests mainly on colonial administrative sources that recorded what the administration wished to count and that were compiled through local elites with their own interests, so absolute figures should be treated cautiously and peasant motives are inferred rather than documented. Future research drawing on district-level reports, village records, and Sundanese sources could test and refine these findings.

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AI USE DISCLOSURE

AI tools (ChatGPT, OpenAI, and Claude, Anthropic) were used in a limited capacity to assist with English language editing, academic style, manuscript organization, table formatting, and the identification of textual inconsistencies. They were not used to generate research data or archival evidence. The author independently verified all sources and content and assumes full responsibility for the final manuscript.

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