

Coffee Economy in Late Colonial Netherlands East Indies: Estates and Capital, 1890–1940

DIAS PRADADIMARA

Universitas Hasanuddin

Abstract

This paper provides an attempt to look at the coffee economy in late colonial Netherlands East Indies, by focusing on the private estates that produced coffee and on the capital-owning class who invested in these estates. Since mid-19th century there was an increasing accessibility for would-be planters to gain access to land, especially in Java and Sumatra. Attracted to the increasing, if volatile, the world price of the commodity, coffee-producing estates were established in great numbers across the archipelago, despite the threat of the coffee leaf rust plant-disease. Only the attraction to rubber planting and the economic crisis in the 1930s dampened the enthusiasm. At the same time, the individual planters and Indies-based companies who controlled most of the coffee producing estates in the late 19th century were gradually replaced by incorporated companies both based in the Indies and in the Netherlands. The increasing flow of capital following the rubber boom in the early 20th century made the role of individual planters and Indies-based companies declined further.

Keywords:

coffee;
estates;
capital;
planters

Abstrak

Artikel ini berusaha melihat ekonomi kopi pada masa akhir Hindia Belanda dengan fokus pada perkebunan partikelir yang memproduksi kopi serta pada kelas pemilik modal yang telah berinvestasi pada perkebunan-perkebunan ini. Semenjak pertengahan abad ke-19 terdapat peningkatan akses calon pemilik perkebunan terhadap tanah, khususnya di Jawa dan Sumatra. Tertarik pada komoditas ini yang harganya terus menarik, walau tidak stabil, perkebunan kopi didirikan dalam jumlah yang banyak diseantero kepulauan, meskipun penyakit karat daun kopi terus mengancam. Hanya daya tarik tanaman karet serta krisis ekonomi tahun 1930an yang berhasil mengurangi antusiasme terhadap perkebunan kopi. Pada saat yang sama, pengusaha perkebunan baik perseorangan maupun perusahaan yang berbasis di Hindia-Belanda yang mengontrol sebagian besar daripada perkebunan kopi pada akhir abad ke-19, diganti secara perlahan oleh perusahaan berbadan hukum yang berbasis di Hindia Belanda ataupun di Belanda. Modal yang semakin banyak mengalir masuk mengikuti boom karet pada awal abad ke-20 telah mengakibatkan penurunan peranan dari pemilik perkebunan perseorangan maupun perusahaan-perusahaan berbasis di Hindia Belanda.

Kata kunci:

kopi;
perkebunan;
modal;
pemilik
perkebunan

Introduction

Despite its position as one of the most important commodities produced and exported from the Netherlands East Indies throughout the colonial period, coffee has been subjected to much less study in comparison with other colonial commodities such as sugar and, to a much lesser extent, tobacco. And despite coffee being at the center of Multatuli's most famous literary contribution to the creation of the image the 19th century *cultuurstelsel*—a sort of system of colonial taxation which took the form of forced cultivation and forced delivery of certain cash crops by the Javanese peasantry and channeled through the semi-official Dutch Trading Society (Nederlandsche Handel Maatschappij or NHM)—discussions of the system seldom focus on coffee. And when some works focus on coffee (Clarence-Smith 1993, van Baardewijk 1994, Fernando 2003) they leave out discussion of coffee and coffee economy of the late colonial period. Indeed, by the 20th century, the importance of coffee as an export commodity has declined considerably in the face of growing export of sugar, rubber, and other commodities and yet coffee remained important. Equally absent from those studies are discussions on those who actually had access to capital to be invested in coffee plantations in particular and in agricultural enterprises in general (Gudmundson, 2003: 1993).

This paper is an initial effort to fill the gap and it will briefly review the coffee economy in the period following the agrarian regulations of 1870 and immediately after the serious damage done to coffee plantations in the Indies by the plant disease in the 1880s, up until prior to the Japanese Occupation. Aside from discussing the estates that partially, and in a few cases, wholly produced coffee, this paper will discuss at length the individuals and companies who actually sunk their capital into coffee-producing estates. The paper relies heavily on the voluminous business directory, *Handboek voor cultuur- en handelondernemingen in Nederlandsch-Indie*, annually published by J. H. de Bussy Publisher in Amsterdam from 1888 to 1940.

The paper in particular uses 3 editions of the *Handboek*: the 1900 edition which covers the period of end of 19th century when the expansion of coffee plantation was driven by a more “genuine” interest in coffee rather than in rubber, 1920 edition which covers the late 1910s right after the end of the First World War in Europe, and 1940 edition which covers the late 1930s, a period which absorbed the repercussions of First World War and world economic crisis on the trade and exports of tropical crops. Based on the data collected, the analysis will be conducted in 2 different yet connected directions. First, it will look at data from a particular year/ edition which covers a period and try to understand the pattern which emerges in that period. Second, it will look at that pattern over time, by examining 3 periods, namely the end of the 19th century, the 1910s, and the 1930s, and will analyze

both changes and continuities and will try to explain them.

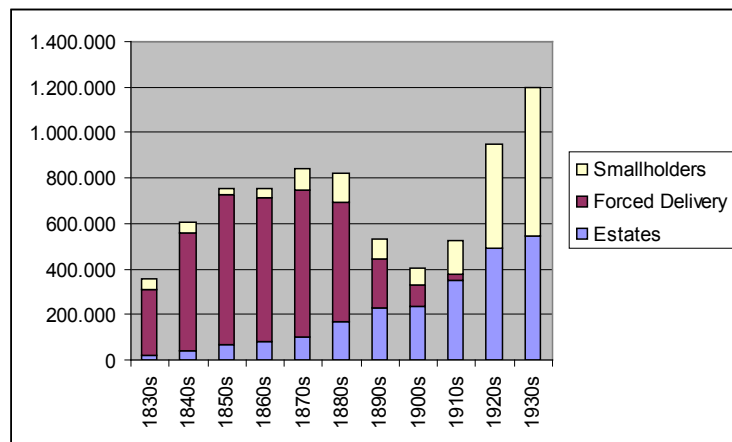
The *Handboek* has been used by several authors on different occasions and for different purposes. J. Th. Lindblad (1993), one of the first scholars who use the *Handboek*, uses the 1930 edition to survey the rise of incorporated companies in the Indies. J. N. F. M. a Campo (1996) uses several editions from 1893 to 1913 to look at the overall trend of incorporation of companies in the Indies, Maarten Kuitenbrouwer and Huibert Schijf (1998) use the 1902 edition to look at the “Dutch colonial business elite” in that period. In his important book, A. Taselaar (1998) uses 1914, 1922, 1929, 1936 and 1940 editions to analyze various important merchants, bankers, and brokers in the Netherlands who had close and personal commercial interests in the colony and who actively lobbied the Dutch and the colonial governments to ensure their interests were protected. Most recently Hiroyoshi Kano (2008) uses 1920, 1928 and 1940 editions to look at the sugar and rubber industries in the Indies and to analyze the various groupings within the two sub-sectors.

The history of the arrival of coffee and its adoption prior to the 20th century in the Indies has been well documented elsewhere. What perhaps more relevant to mention here is the ways coffee became an important source of revenue for both the Dutch East Indies Company (Vereenigde Oost Indische Compagnie or VOC) and the Dutch colonial government who took over authority over the Indies after the collapse of the VOC in 1799. Already in the 18th century, the VOC made coffee a central part of their lucrative forced delivery (*verplichte leveringen*) of crops. From the seeds which they shipped from South Asia, VOC forced inhabitants of the upland west Java to cultivate and to deliver coffee through the mediation of their local chiefs (Bastin 1957: 4-5). In the 19th century, the colonial government, now directly under the Dutch state, included coffee into the *cultuurstelsel*—a system which for coffee ended only in 1912. Outside Java, the almost similar system was enforced in West Sumatra and Northern Sulawesi (Dobbin 1983; Clarence-Smith 1994; and Henley 2005).

As far as the colonial government was concerned, then, there were three types of coffee: coffee that was produced and delivered through the *cultuurstelsel*, produced by the private estates, and produced by smallholder planters, mostly in, but not limited to, southern Sumatra which was bought by various intermediaries before reaching exporters. Throughout much of the 19th century coffee was the most valuable commodity exported from the Netherlands Indies. During the height of the *cultuurstelsel*, the value of coffee exported was higher than the value of sugar export. Between 1835 and 1870 total export of coffee from the Indies was valued at 990 million guildens while export of sugar was significantly about 100 million guildens less (Korthal Altes 1991). Only when the coffee disease started to affect many of

the plantations after the 1880s the value of coffee exported started to drop. And since the beginning of the 20th century, the importance of coffee as an export commodity was eclipsed by sugar, tobacco, and, later, rubber.

The 1870s and 1880s were the heydays of coffee production in the Indies. From the chart above it can be seen that in both decades the level of production exceeded 800 thousand tons of coffee. Production level dropped significantly in the following decades, due to the devastating coffee disease. The production



started picking up again at the turn of the century and continued to grow even surpassing the 19th century peak. The actors behind this growth were changing, however. Understandably, during the *cultuurstelsel*, the contribution of coffee delivered and produced through *cultuurstelsel* to the overall coffee export was substantial, reaching its peak in the 1850s. But after since, especially after the official end of the forced delivery system, the role of private estates in providing supply for export increased considerably. In absolute terms, the amount of coffee produced by private estates was constantly growing albeit with different growth rates. In percentage, however, especially after the economic crisis of the 1930s, the role of coffee from the private estates to the overall export figure was gradually eroded by coffee supplied by smallholder planters.

In terms of land and technological requirements, coffee was a less demanding crop. At first, coffee was commonly planted in low land areas and upland hills. After the leaf rust disease that ruined the *arabica* coffee on low land areas at the end of the 19th century, other types were tried, first the *liberica* and later, the more successful one, the *robusta* (Ultee, 1946: 10-14). Coffee trees need shade and the forest and forest-like conditions would do no harm to coffee and instead would be beneficial for them. Beginning in early 20th century, rubber trees served as a valuable shade, both for the coffee trees and for the planters who could reap double benefit from coffee and rubber. And when the demand for rubber grew, coffee would serve as a “catch crop” in the estate, proving (additional) income, especially before the rubber trees were mature enough to be tapped.

Coffee processing also demanded relatively low technological level since it was commonly exported in raw condition. Therefore, coffee planting, processing, and export involved a process which aside from the

initial forest-clearing and regular harvesting was straightforward. Although there was the need for capital for the initial stage of establishing the estate and for regular harvesting there was no need for investment for constructing sophisticated factories as would be required in the sugar industry. All these circumstances added to coffee's attractiveness as a commercial venture even in less stimulating periods for agricultural enterprise.

Estates After The Crisis

By the end of the 19th century, the *Handboek* tells us, there were 832 estates (including 15 coffee hullers which were not plantations proper) which produced coffee in various quantities that spread across the archipelago. This fact however masked the varied and complex situations on the ground in terms of the identities of the estates, the land tenure regimes of the land on which each estate was located, their sizes (and the extent to which coffee was planted within each estate) and their major crops (which in most cases, coffee was only one out of many). It was common for an estate to consist of more than one plot of land either with the same name or with different names. The Redjowinangoen Estate in Kendal (in the north coast of central Java) in 1899, for instance, consisted of 2 plots of land of 359 and 256 *bouw* and both officially called Redjowinangoen although local inhabitants knew the plots as Ngarianak and Patoean. While Ngrangkah Estate in Kediri (in east Java) had 4 plots of land of a total 927 *bouw*, all referred to with the same name. At the same time, the 1462 *bouw* Bantoor Estate in Malang (also in East Java) consisted of 4 plots of land, all plots leased and named separately: Kaligading, Kaliloeminoe, Baleardjo and Balesari.

Of the more than 800 estates in late 19th Century, the largest concentration of 329 coffee producing estates (or almost 40% of total estates in the Indies) was in East Java—the present day East Java Province—either on the eastern side, from the City of Surabaya to the east (Pasuruan, Probolinggo and further east) and to the south (Malang), or on the western side (Madiun and Kediri areas). There were 183 estates in the eastern side and 146 estates on the other side that produced coffee. In addition, in the adjacent Surakarta area of the Principalities, there were 78 estates. Surakarta was not the only area in central Java which had coffee producing estates. In areas around Semarang, notably in Kendal and Ambarawa, almost 90 estates could be found. Further west, there were also significant numbers of estates, namely in Priangan, Batavia, and Banten where a total 190 coffee-producing estates (about 22.5%) were listed. In the outer Islands, most of the estates were located on the East Coast of Sumatra—present day North Sumatra Province—with 33 estates, and in Padang Highland—now in West Sumatra Province—with 19 estates. The rest of the estates were spread across the archipelago from Aceh in the west to Ternate in the east, and including areas in the islands of Kalimantan, Sulawesi, and Bali.

	E. Java	C. Java	W. Java	Sumatra	Indies
1890s	329	178	190	75	832
1910s	240	118	136	141	669
1930s	190	59	35	43	344

Table 1.
Coffee Producing Estates.

As the decades went by, and as harvest and prices went up and down following not only domestic circumstances (such as the effects of the leaf rust plant-disease and the end of NHM monopoly) but also external contexts (the rise of the US as the dominant coffee consumer and of Brazil as the dominant global coffee producer and dominant supplier of the US market, and the global economic downturn in 1930s) the total number of estates that produced coffee steadily went down. In the late 1910s, across the archipelago, the number went down from more than 800 estates at the end of the 19th century to only 669 estates, and in late 1930s the number dropped again to 344 estates. If we look at the geographical distribution, however, the picture of decline was not uniform across the archipelago.

The number of estates producing coffee in both eastern and western side of East Java only slightly declined over the decades, leaving east Java as a whole holding the highest number of estates throughout the late colonial period. Meanwhile, a rapid and continuous decline in the number of coffee producing estates took place in Surakarta, as well as in Priangan and Banten. By late 1930s there were only 9 estates produced coffee in Surakarta, 4 in Banten and 10 in Priangan. Both East Coast of Sumatra and Batavia experienced a different pattern when in the 1910s there was a surge of a number of estates producing coffee but the number plummeted 2 decades later. While in the late 1890s there were 32 and 70 coffee producing estates in East Coast of Sumatra and Batavia respectively, in late 1910s the numbers doubled up to 72 and 176 estates, only to almost disappear when there were 2 and 9 estates left in late 1930s.

Although the estates belonged to the owners, the lands where the estates stood mostly did not belong to them. As a general rule, land in the colonial Indies could not be owned by what legally referred as non-natives (*niet-inlanders*, namely Europeans, Chinese, Arabs and so forth and their descendants). Consequently, most of the estates were on lands of which the planters and estate-owners had no rights of ownership. Prior to 1914, there was a great variety of land tenure arrangements through which individual planter or company could get a control over land(s), and the variation reflects different circumstances and different histories of the areas' incorporation into

the expanding Netherlands Indies colonial state. In eastern Java, *erfpacht* or long-lease (mostly for 75 years, which was the maximum length) was secured by would-be planters on “wasteland” either through auction or by applying to the colonial government. In the Principalities in central Java under the control of one of the royal houses of Jogjakarta, Surakarta, Mangkunegara or Pakualam, leases were secured through contracts with individual holders of the land (who mostly were court officials) (Houben 1991). In the outer islands, not unlike the process in the Principalities, prospective planters had to secure contracts with individual traditional rulers and obtained what at times referred to as *landbouw concessie* (agriculture concessions) which could be had for as long as 125 years (Pelzer, 1978: 66-83).

Exceptions to the general rule were estates on *Particuliere Landerijen* or “Private Lands,” a land arrangement closest to the status of *eigendom* (ownership) by, mostly, Europeans and Chinese (and in a few cases, Arabs) or their descendants—an arrangement which had a long history since the final day of the VOC and made official during the brief reign of the British in early 19th century (Bree 1938; Broersma 1916-1917). These Private Lands were transferable and on these lands, the owners had feudal rights on both the land and on the population who cultivated the land. In Java there were hundreds of them, not surprisingly mostly located close to Semarang, Surabaya, and, especially, Batavia where VOC settlements were. One of the largest lands which had a long and complicated history was the Pamanoekan en Tjiassemlanden in West Java which encompassed a region from the Port of Pamanoekan at the coast of the Java Sea all the way to the Mount Tangkuban Prahū in the interior.

Since most of the coffee producing estates were concentrated in east Java, understandably almost 70% of them at the end of the 19th century were on long-leased land. The estates in the Principalities (about 10% of the total in number) were on contracted land and about the same number of estates were on Private Lands. But as the colonial government tried to done away with these variations since the 1910s, by requiring (quite successfully) the conversion of contracts into long-leases and by attempting (mostly failed) to purchase Private Lands back from their various holders (*Encyclopaedie van Nederlandsch Indie* I, “Agrarische Wet”), the variations were narrowed. At the end of the 1930s, almost 90% of the estates were on long-leased land, leaving 21 estates on Private Lands mostly in West Java and the vicinity of Batavia, and a handful of estates on contracted lands in the outer islands.

A reading of the period when the leases of the lands were approved allows us to garner an image of the rush to secure access to land in the late colonial era. At the end of the 19th century, slightly more than half of the long leases for the 571 estates were acquired before 1885, and the rest were after. As mentioned above, with the sugar crisis hit in 1884 and the coffee

disease started to spread at about the same time, certainly, the second half of the 1880s were not supposed to be a good period for planters. Yet the gloomy circumstances did not seem able to stop the flow of applications for long leases. In the following decades, despite a large number of estates failed to continue their operation, new estates continued to be established. Interest for (new) land certainly grew at the beginning of the 20th century and the following decade as the rubber boom started to kick in. Most of the estates that produced coffee in the 1910s were leased after a period of sugar and coffee crises. Only the troubled 1930s seems to dampen the enthusiasm.

	1890s	1910s	1930s
<1885	288	131	89
1885 and after	283	327	186
<10 years	153	108	28
Total	571	458	275

Table 2.
Long-leases

Perhaps it is not surprising that, with exception of estates on Private Lands, estates in the outer island were commonly larger than the ones in Java. With the closing of the frontier in the easternmost of Java by the end of the 19th century and the complete encroachment of the hills in Malang (in East Java) and Ambarawa (in central Java), no large tracts of land were available for large size estates on the island. On the contrary, estates in the East Coast of Sumatra as well as in southern Sumatra (from Bengkulu down to Lampung) could claim enormous areas for their operation. Except the various estates owned by the Oud Djember Maatschappij in East Java, in this island large estates that still produced coffee were only on Private Lands in West Java, especially in areas close to Batavia.

About half of all coffee producing estates (413 out of 832) in the Indies at the end of the 19th century had areas smaller than 500 hectares and these estates were mostly located in East Java. The picture changed 2 decades later when most of the estates were 500 hectares or larger. Since the growth of large size estates was demonstrated mostly in Sumatra, it can be argued that this growth was due to the expansion of rubber estates (with coffee as a catch crop in them) on the island marking the beginning of the rubber boom. In the late 1930s, when the number of overall estates dropped significantly, estates larger than 500 hectares could be found mostly in East Java.

The largest estates with agricultural concessions at the end of the 19th century were all located in the outer islands namely the Gading Estate in Riau, Soekaranda Estate in Upper Langkat (both on the East Coast of Sumatra),

	E. Java			C. Java			W. Java			Sumatra			Indies		
	1890s	1910s	1930s	1890s	1910s	1930s	1890s	1910s	1930s	1890s	1910s	1930s	1890s	1910s	1930s
Coffee Huller													15	7	0
Area I (<100 Ha)	6	12	3	17	21	9	24	19	3	4	6	0	60	62	17
Area II (100-<500 Ha)	166	81	43	74	50	25	76	32	7	31	14	5	353	185	84
Area III (500-<1000 Ha)	118	87	78	12	13	10	24	29	5	13	23	8	170	157	105
Area IV (1000 Ha>)	39	57	63	27	28	14	62	55	19	25	97	25	177	246	127
Not Registered		3	3	48	6	1	4	1	1	2	1	5	57	12	11
Total	329	240	190	178	118	59	190	136	35	75	141	43	832	669	344

Table 3.
Areas and Geographical Distribution of Estates

Lembang en Soekaradja Estate in western Kalimantan, and Tambora Estate in Lombok Island, and each had an area of slightly more than 7 thousand hectares. Some of the largest estates on long lease lands were in Lampung (southern Sumatra), namely the enormous Way Galih Estate, Tandjong Pinang Estate, and Way Ratai Estate. The “G.B.M” Estate which was located in Djember (East Java) was an exception since it was the largest estate in long lease lands outside Lampung that produced coffee. Among the many estates on contracted lands in the Principalities two were strikingly large (over 10 thousand hectares), namely the Tarik Estate and Madjenang Estate. Largest estates on Private Lands were the Pamanoekean en Tjiassemlanden Estate and the Tjipamingkis Estate, both in West Java.

On average, throughout the late colonial period, coffee-producing estates in the Indies were on land between 1500 and 2000 hectares. Calculating only the estates whose areas were reported in the *Handboek*, in late 19th century the average area of the estates was 1713.9 hectares. However, as indicated above, the geographical variation was large. The average area of the estates in east Java was only 672.6 hectares, while in West Java and Sumatra was more than 5 times that size. Although the average area across the archipelago peaked to 1992.4 hectares in the 1910s before sliding to a below late 19th century average of 1573.1 hectares, interesting enough, the averages in the east as well as west Java changed towards a different direction than the averages in central Java and Sumatra.

There were indications that areas of estates in east Java grew substantially over the decades, albeit never reached even half of the average

of Sumatra estates. Areas of estates in Sumatra gradually became smaller, suggesting the lesser importance planters put on coffee in place of rubber. Estates in central Java too got smaller over the period under study, as opposed to the growing areas of estates in West Java. The large average areas in West Java (even larger than the average in Sumatra) could be attributed to those estates on Private Lands which were commonly excessively large in the first place.

	E. Java	C. Java	W.Java	Sumatra	Indies
1890s	672,6	1144,6	3556,7	3295,5	1713,9
1910s	925,7	910,6	4856,0	2110,6	1992,4
1930s	952,3	651,2	5230,7	2823,4	1573,1

Table 4.
Average (known) Areas (in Ha)

The areas registered as parts of the various estates certainly reflect the potential of each estate had to maximize the land under its control. They also reflect the assets at the hands of the estate-owners when they needed to persuade potential investors. But the areas of the estates should not be mistaken for the actual extent of a coffee plantation on these estates. Coffee trees need taller trees to shade them and consequently, such plant characteristics made it common for coffee to be planted deliberately in-between other trees. This practice was especially profitable in later years during the rubber-boom in the 1910s and after where coffee was planted between rubber trees to generate income to planters while anticipating rubber trees maturity.

It was thus common for an estate not to plant coffee on its entire estate. To cite some extreme examples, the huge Tandjong Pinang Estate in Lampung was on a 15,500 *bouw* of land, but only 70 *bouw* of it in 1894 was planted with coffee. It was also common for an estate to plant coffee only in a section of the estate but not in others. The famous Senembah Maatschappij who owned 9 huge estates, only had one of them planted with coffee while the rest mostly planted with tobacco. More commonly, the previously mentioned Ngrangkah Estate by December 1917 (which by then was controlled by Koloniale Bank) only had its 636 *bouw* (or half of its total area) planted with coffee while the rest was rubber. Similarly, Bantoor Estate had 577 *bouw* of its 763-*bouw* land planted with coffee and even then it was mixed with rubber, cocoa and other crops.

Two decades later, many of those estates either stopped producing coffee and shifted their focus to other crops (such as to tobacco in the case of Gading Estate, to indigo in Madjenang Estate, or, more commonly, to

rubber such as with the Soekaranda Estate) or stopped operating completely (the case of the Way Galih Estate). The opposite case also took place where a large estate previously had no coffee trees, now planted and produced coffee with the Tegalwaroelanden Estate which was on Private Land was such a case. Many large estates, however, had been and continued producing coffee such as the Pamanoekan en Tjiassemlanden Estate, the Tjipamingkis Estate, and the Oud Djember Estate (previously the “G.B.M.” Estate but now named after its owner).

There were more than 130 estates that over the period under study continuously producing coffee (although not exclusively). Almost 100 of these estates were located in East Java with large proportions were in eastern part of East Java. A significant number of these “long age” estates were in central Java, especially in Kendal area close to Semarang. Some were in northern Sulawesi, a few close to Batavia, one in Batjan, and none in the East Coast of Sumatra.

Colony’s Capital and Metropole’s Capital

The origin of privately-owned estates in the Indies certainly did not begin when *cultuurstelsel* ended and new agrarian regulations were implemented. In East Coast of Sumatra where forced cultivation was not implemented and agrarian regulations were not in effect until early 20th Century, figures like the famous tobacco-pioneer J. Nienhuys started his private venture already in 1863. A few years later he managed to secure a 99-year contract for land allocated for tobacco plantations from the ruler of Deli Sultanate and his enterprise was so successful that he, with two Amsterdam merchants, G. C. Clemmen and P. W. Janssen, was able to convince NHM to jointly establish the Deli Maatschappij (Pelzer, 1978: 38). In Java, private entrepreneurs could trace their origins even earlier when the British interregnum (1811-1815) stimulated their growth. The Scots Gillean Maclaine arrived in Batavia in 1820 to take advantage of the less restrictive environment. After some success, two years later he established his own firm and not only acted as agents for coffee planters but also became one. Unfortunately for him, his estate was completely destroyed during the Java War (1825-1830) that ravaged much of central Java (Broeze, 2005: 396-398). In the Principalities, H.G. Nahuys van Burgts, the Resident of Surakarta (1816-1823), actively encouraged the lease of lands by members of the royal houses to European planters—he also was a leaseholder for a coffee plantation (Houben, 1994: 18 and 258). Land lease to private entrepreneurs was a controversial issue among officials of the colonial government even before the Java War, and later day historians argue it was one of the main causes of the war itself (Carey 1986).

The liberal impulse in the Netherlands in mid-19th Century paved

the way to end colonial government's direct involvement in the plantation sector and allowed private estates to take a central role. The 1870 Agrarian Law served as a legal instrument that regulated the estates, some of which had existed before and their numbers grew rapidly in the coming decades. At the end of the 19th century, there were 663 owners of the 832 coffee producing estates, including a few coffee processors. Of those owners, slightly less than half (324) were individual owners, the other half (339) were companies (including firma and *kongsie*) which usually were named after the names of the estates which they owned. It was quite common therefore for each company holding only one estate. Only in several cases, a company held several estates such as the case of the Oud Djember Maatschappij and companies who had multiple estates which were located on Private Lands.

The almost equal numbers between companies and individual owners (which could mean one person or several individuals who in most cases were relatives) would be dramatically altered in the 20th century. By late 1910s, when the number of coffee producing estates already went down to 669, there were 530 owners of which 396 of them were companies and only 134 (or a quarter of total) were individual owners. It is interesting to see that while the number of individual planters and overall owners went down, the numbers of companies that owned coffee producing estates actually went up considerably. By the end of the 1930s, of the 263 owners of the 344 estates, only 45 (or 17%) were individual owners. The increasing proportion of companies owning coffee producing estates vis-à-vis individual owners maybe could be seen as a part of a general pattern by estate owners (mostly owners of rubber plantations) to attract outside capital.

A closer look at both the individual owners/planters as well as at the companies who owned estates at the end of the 19th century reveals an interesting picture of a colonial commercial world a decade prior to the arrival of the rubber boom. For many of the owners, coffee was one of the main crops of choice in their estates aside from tobacco, tea, quinine, and cocoa. From their names (and family names) it can be surmised that the individual owners and planters were predominantly of mixed (Indo-European/ Eurasian) origin. Houben (1994: 263) noted that in the Principalities in the 1830s the majority of leaseholders of lands were descendants of soldiers garrisoned there and also were retired officials. After several decades, and after marriages with native partners, the lives of these leaseholders had closely intertwined with local affairs and local politics in the Indies. Certainly, there was a thread that connects the leaseholders from the beginning of the 19th century and those individual planters of the later dates. In fact, it was these *Indisch* families such as Dezentjes, Weynschens, and Biks who appeared regularly as owners and managers of the estates in the *Handboek* at the end of the 19th century.

Not only individual owners were originated from the colony. At the same period, of the 339 companies who owned the estates, slightly less than half of them were based in the Indies, while the rest in the Netherlands (except a Switzerland-based company and 18 others whose based were not registered). The proportion was altered in later decades when in the 1910s and 1930s, more than half of the companies were based in the Indies.

Considering the significant concentration of coffee producing estates in East Java, it was understandable that most Indies-based companies had their headquarters in Surabaya (51 companies). Batavia and Semarang were the other options (with 30 and 22 companies respectively). For Netherlands-based companies, Amsterdam was where the headquarters were mostly located (95 companies), while Rotterdam and s'Gravenhage (The Hague) were distant second and third in term of locations of choice for company headquarters. In the following decades, the positions of Surabaya and Amsterdam as the preferred location for the seats of main offices of companies remained. In the 1910s 53 out of 188 Indies-based companies chose their main offices in Surabaya. For Netherlands-based companies, half of their main offices were located in Amsterdam. And 2 decades later 33 out of 105 were located in Surabaya, while 45 out 92 of were in Amsterdam.

Owners	1890s	1910s	1930s
Companies w/ unknown HQ location	18	7	3
Indies-based Companies	145	188	105
Netherlands-based Companies	175	183	92
Companies Based Elsewhere	1	18	18

All Companies	339	396	218
Individual Owners	324	134	45
Total Owners	663	530	263

HQ Batavia	30	49	17
HQ Semarang	22	25	17
HQ Surabaya	51	53	33
HQ Amsterdam	96	92	45
HQ Rotterdam	40	30	13
HQ Den Haag	24	51	21

Although comparing the number of Indies-based companies with the number of their Netherlands-based counterparts creates an image of almost equal roles these companies had in the colonial commercial world, but a calculation of both their capital and the areas of estates they controlled

suggests a more complex picture. At the end of 19th century, Netherlands-based companies had more capital, both in total or on average, than the Indies-based companies. If the capital held by the NHM was excluded, Netherlands-based companies had capital and hold land about 3 times larger than the Indies-based ones. Later in the 1910s the position of Netherlands-based companies changed somewhat towards a direction which will be more apparent in later decades where they (again NHM excluded) had 3.5 times more capital but their control of land was reduced to twice larger than the Indies-based companies. After the economic crisis, in 1930s Netherlands-based companies (by that time NHM had no direct link with coffee producing estates) still maintained their capital 3 times larger, but at the same time, they controlled less land than the Indies-based ones.

Areas (in Hectares) Controlled by	1890s	1910s	1930s
Company w/ unknown HQ location	157.676	22.947	1.970
Indies-based Companies	191.313	337.932	278.720
Netherlands-based Companies	580.584	769.367	184.059
Companies Based Elsewhere	504	32.968	39.831
Individual Owners	395.023	130.248	16.578
Total area by known owners	1.325.001	1.293.462	521.158

Average Area Owned by I-based Cos	1319,4	1797,5	2654,5
Average Area Owned by N-based Cos	3317,6	4204,2	2000,6
Average Area Owned	1998,5	2440,5	1981,6

Capital (in Gulden) Owned by	1890s	1910s	1930s
Indies-based Companies	31.598.500	80.076.000	81.496.000
Netherlands-based Companies	133.580.000	380.109.400	238.993.950
Total capital (I- & N-based Cos only)	165.178.500	460.185.400	320.489.950

NHM	35.783.000	100.000.000	n.a.
Netherlands-based Cos (minus NHM)	97.797.000	280.109.400	320.489.950

Average Capital Owned (I- & N-based only, NHM inc)	516.183	1.240.392	1.626.853
Average Capital Owned (I- & N-based only, NHM excl)	306.574	757.052	1.635.153

Interlocking And The Decline of *Indische* Capital

A further examination of the companies by looking at the directors, members

of the board of non-executive directors (*commissariaten*) and agents of each company, allows us to obtain a better grasp of the colonial commercial world of the era. A striking feature of the day was a phenomenon referred to as “interlocking” which seems to be a common practice in the Dutch business world. Several scholars (Kuitenbrouwer and Schijf 1998; Taselaar 1998) have suggested that for companies controlling rubber, sugar, and tobacco estates, many of their directors and agents occupied (almost) similar positions in other companies both in the Netherlands and in the Indies. As Jonker (1991) has demonstrated in the case of industrial development in the Netherlands since 1910, in analyzing the interlocking of companies, connections with non-agricultural enterprises, especially banks, need to be taken into considerations.

At the end of the 19th century, the prominent George Birnie and his son David Birnie served as directors and non-executive directors in 15 companies. The 2 of them, however, most of the time did not serve the same company, not even their own flagship the Oud Djember Maatschappij (other members of the Birnie family accompanied George in the board). An exception was Soember Tjoeling Maatschappij where David was the superintendent and George a non-executive director. In these 15 companies, they were accompanied by other directors, executive, and non-executive, 47 men in total. Further, these men served in various capacities in 48 other companies which had coffee producing estates. George Birnie also sat on the board of the Nederlandsch-Indische Landbouw Maatschappij (NILM), a special arm of the agricultural bank Nederlandsch Indisch Handelsbank set up specifically to handle all agricultural companies with whom the bank had dealt with (including directly managing them). One of the most important persons within Birnie’s network was J. van Hoboken Azn of the Hoboken & Co.

Since the names Birnie and also Hoboken will appear repeatedly, a brief note on the Birnie family and their long-term relation with the important Rotterdam merchant and banking firm Hoboken & Co (Taselaar, 1998: 56) perhaps is useful at this point. George Birnie was a Dutchman of Scottish descent who in the 1850s worked for the colonial government in East Java. That was also the time the merchant house Reynst & Vinju, a subsidiary of A. Hoboken & Co, expanded their interest into that part of Java (Bosma and Raben, 2008: 139-141). They worked together where George Birnie provided the local knowledge critically needed by the firm and more. Their cooperation, which naturally extended to Hoboken & Co as the mother company, proved to serve as a strong basis for their subsequent position of prominence in the colonial plantation world through their Oud Djember Maatschappij.

The story of George Birnie and his family who were based in the Indies

when he started his commercial venture, and their relation with Hoboken & Co—and the almost similar story of Nienhuys-NHM cooperation in East Coast of Sumatra—illustrates 2 crucial factors that were necessary for a commercial enterprise to be successful in the expanding agricultural-commodity production in late colonial era. First is the critical role of local knowledge to ensure successful and sustainable production activities. Since many of the areas where the new estates were to be established were considered “frontier” areas hence demanded many adjustments and improvisations, such local knowledge owned by George Birnie (who by then already wed a Javanese woman) was immensely necessary. Secondly, a merchant-cum-banking firm company such as Hoboken & Co was crucial not only as financial backers but also as merchants who would ensure the profitable entry of the commodity produced into the world market.

The Birnie-Hoboken (as well as Nienhuys-NHM) link that connected the Netherlands and the colony were extremely valuable and understandably was not commonly found. Rather, as will be shown below, many of the interlocks in the late 19th century were mostly operating either in the Netherlands or in the colony, but not both. The case of another active interlocking, W. Heijbroek Jr., would clearly illustrate this point. Heijbroek, an Amsterdam-based coffee trader who in 1887 managed to establish the *Vereeniging voor den Koffiehandel* (Association for Coffee Trade), served 11 companies. He served 5 of them as director, while the rest as a non-executive director, all based in the Netherlands. Served with him were 37 men and 4 firms who also served as directors of 43 other companies. Among the men were well-known personalities in the colonial commercial world such as A. J. E. A. Bik and C. W. baron Sloeten van Hogendorp who were closely associated with *Internationale Crediet- en Handelsvereniging “Rotterdam,”* commonly referred to as “Internatio” (*Gedenkboek 1863-1938*, 1938).

If all companies linked to Heijbroek were based in the Netherlands and served other Netherlands-based companies, on the contrary companies linked to the Semarang lawyer, Mr. C. W. Baron van Heeckeren were all based in the Indies. Van Heeckeren served 10 Semarang-based companies, mostly as non-executive directors although he was the director of *Cultuurmaatschappij Panggoongsari*. With his 19 fellow directors, they served 14 other companies of which at least 3 had the *Koloniale Bank* as their directors. Among his colleagues was G. F. van Maanen of the old Semarang merchant house *Van Maanen & Co* (established by J. van Maanen, who for 2 years was the first head agent of Internatio during its first years in the Indies in the mid-19th century). Heijbroek’s and Van Heeckeren’s webs of linkages demonstrate the division that still existed between Netherlands-based interlockers and the Indies-based.

In the late 1910s, personalities connected with the Birnie-Hoboken

cooperation remained to be one of the most important interlockers of the period. George Birnie passed away some years before but his descendants and relatives took over some of his roles. In terms of seats, it was Hoboken who held the most positions in boards of various companies who owned coffee producing estates. He sat in 12 of them and also he served as a non-executive director of the NHM. In those companies, he was accompanied by 39 men while there were 41 men served with him in NHM. Between the 81 of them (including Hoboken), they served 49 companies, including *Nederlandsch Indisch Landsyndicaat* which was closely associated with the NHM. Together with him in the NHM board was a merchant H. C. Rehbock, another active interlocking.

Rehbock's link was more Netherlands-based not unlike Heijbroek's before him. Rehbock served 11 companies, including NHM and the *Handelsvereniging Amsterdam* as well as the *Moluksche Handelsvereniging* and *Sumatra Rubber Cultuurmaatschappij* with 46 other men (excluding his colleagues in the NHM board). Despite their names, all these companies were Netherlands-based but with very big interests in plantations and other concerns in the Indies. In the colony itself, it was F. Neumann, the chair of Peet & Co, a British firm which had been active since the 19th century and dealt mostly with tea trade (*Pakhuismeesteren van de Thee*, 1924: 80), served as non-executive director in 8 companies.

The commercial world in the late 1930s, as far as coffee producing estates and their owners were concerned, must have been very different than the previous decades. The list of active interlockers looks very different than previously with names of various companies and firms (instead of personalities) dominated it. Furthermore, names of Indies-based merchants and firms were few and in-between. Indeed, a closer look at the boards, it can be seen that most Indies-based companies which still owned estates in the 1930s had some links with the administrative offices in various capacities. They had them either as non-executive directors, agents, representatives, or, in many cases, directors.

Perhaps the only thing which gives a sense of continuity to the 1930s was the Birnie-Hoboken link which remained influential in the post-crisis colonial commercial business. P. A. Birnie, a son of David Birnie, now became the most prominent member of the Birnie family, sat in 6 boards wherein 4 of them (including the *Oud Djember Maatschappij*) he served with Hoboken. Other members of Birnie family served yet 3 other companies, while Hoboken, aside from the 4 he shared the board with P. A. Birnie, served in another company (he was already in his late 70s at the time). But the most striking feature of the period was the central position occupied by *administratiekantoren* (administrative offices or managing offices) in running the companies.

The offices served various functions, most frequently as directors of the companies. Of the most active offices in the 1930s were Ross, Taylor & Co, Tiedeman & van Kerchem, Kooy & Co, Wattie & Co and Peek & Co. These offices were not new offices, and they had played their roles in serving various companies in the past. In late 19th century another Dutch firm, Waller & Plate was one of the most important players when it served 12 different companies (although by 1930s its role has diminished quite significantly). But it seems that by the late colonial period, these offices have transformed their positions as the pivot of capital and commodity flows from various colonies to metropolis and back.

Ross, Taylor & Co was a Surabaya-based company but had a strong link with British managing offices. It was the director of 12 companies and served in various capacities in 7 others, which among them were London-based companies as well as companies floated in that city's capital market. Tiedeman & van Kerchem was actually a very old firm from the first half of the nineteenth century who established one of the first banks in the Indies, the *Nederlandsch Indisch Escompto Maatschappij* in 1857 (C. F. W Wiggers van Kerchem served as the President of the *Javasche Bank* between 1863-1868). *Handboek* tells us, *Handel Maatschappij J. A. Wattie & Co*, the *Handboek* tells us, was established in 1921 (Wattie himself has started his involvement with Shanghai rubber companies some years before) and based in Batavia where it managed 11 companies that owned coffee producing estates and which mostly were floated in London and Shanghai. Francis Peek & Co was an off-shoot of the influential British company Peek Bros & Winch, based in Liverpool and then London, which mostly handled tea (Forrest, 1973: 82, 121 and 236). Francis Peek & Co. held directorships and other positions of various companies and apparently did not limit itself to tea but into rubber and coffee as well.

The rise of administrative offices can be explained by the growing complexity of capital flow into the Indies in the wake of the rubber boom. In the 1910s a new trend developed where many companies were also registered in London and, to a lesser extent in Shanghai. This trend was popular among rubber planters in Malaya where they floated their companies in stock markets in those cities to seek investment to support their plantation expansion (Tate 1996; Thomas 1998; Voon 1976). As mentioned earlier, in the Indies coffee was closely linked with rubber since it was commonly used as a catch crop planted between (and underneath the shade) of rubber trees. The rubber boom and the global capital behind it, as it were, overwhelmed coffee plantation. Already by the late 1910s, of the 396 companies who owned coffee producing estates, aside from the Netherlands-based companies, 36 other companies were registered in London and 13 were based in that city. In addition, 4 companies were registered in Shanghai (through 2 companies

namely Anglo Java and Kroewoek). In the late 1930s, of the 218 companies, 26 were registered in London, and 12 was based there. If in the 1910s there were companies registered in Shanghai, in 1930s 5 companies were based there. And all predominantly were interested in rubber.

The interlocking, therefore, allowed great possibilities for businessmen, lawyers, managing agencies, administrative offices, investors, and traders to occupy many directorships or almost similar positions but in various different companies. And indeed, in the coffee industry, many did so. In 1899 there were 101 men and companies (including firms and corporations) who served in 3 or more different boards of (other) companies who owned coffee producing estates. The top 10 men or companies who served most companies in late 19th century served 101 different companies (out of all 339 coffee estates owning companies or almost 30%). In 1919 there were 111 men and companies who served 3 or more companies in various different capacities. The top 10 of them served 86 companies (out of 396 companies or 22% of total).

In the 1930s there were 62 men and, mostly, companies who served more than 3 companies. The top 10 interlockers served 98 companies (out of 218 companies, or 45%). Judging from a large number of companies served by the same men/ companies, it can be argued that there was a trend towards greater concentration of management, if not outright control, of the coffee producing estates by smaller groups of people and companies who were first and foremost interested in rubber. Furthermore, since these 62 men/ companies were mostly non-Indies-based (mostly Netherlands-based but also a significant number of London- and Shanghai-based), it can be suggested that towards the end of the colonial era, Indies-based planters and capital-owning class were dominated by international metropole-based owners.

People's Coffee: A Note On Smallholders

Since the beginning of the 20th century, more and more coffee that was exported from the Indies came from smallholders plantations (*bevolkingskoffiecultuur*) mainly in, but not limited to, the southern part of Sumatra. These plantations started to emerge in the 1870s or somewhat later (Potter, 2008: 178; Hoedt, 1930: 54) in regions close to Bengkulu but not included in the forced cultivation scheme. At the beginning of the 20th century colonial government introduced the *robusta* coffee into the region and after 1925 credit was made available (Touwen, 2001: 169). Then on the cultivation of the crop rapidly spread to various areas in southern Sumatra which made the region as the most important coffee growing area until today.

As shown in the chart at the beginning of this paper, the importance

of smallholder coffee plantations could not be underestimated. If in 1914 coffee from southern Sumatra contributed less than 1% of coffee export from the Indies, 15 years later the areas supplied 37% of total export (Hoedt, 1930: 59). Coffee was sent from the region to Batavia to be put for auction or sent straight from Tanjung Priok overseas (Touwen, 2001: 170-1). By the 1930s, the contribution of smallholder plantations to coffee production in the Indies was more than half of total or more than the contribution of private estates.

Concluding Remarks

The implementation of 1870 agrarian regulations created a rush to establish plantation estates across the Indies. Coffee was one of the crops of choice due to its increasing if the volatile price on the world market and the profits it promised. Hundreds of estates, many of them had coffee and other crops at the same time on the same plot of land, were set up with a strong concentration of coffee producing estates in East Java. By the end of the 19th century, the number of estates has reached its peak.

The planters and owners of the estates—but mostly not the owner of the lands where the estates stood—were individual planters, Indies-based companies, and Netherlands-based companies, and one company based in Switzerland. At the same time, there was interlocking of directors and non-executive directors (*commisariesen*) which linked many of the companies into wide webs of interests. The individual planters and owners as well as the Indies-based companies represented a strong presence of the *Indisch* capital-owning class, a class that has started to take shape in the beginning of the 19th century, grew during the implementation of the *cultuurstelsel*, and now expanding benefited from the regime of land tenure and to the growing world market for tropical agricultural commodity products. There was interlocking among them, as well as interlocking among directors of the Netherlands-based companies. The Birnie-Hoboken long-time cooperation was one of the few links that connected the Indies and Netherlands webs of interests. All these growth and expansion took place against the odds created by the crisis that has hit the plantation sector in the colony in the 1880s.

By the 1910s, some signs of decline could be seen. There was a high level of estate “mortality” with older estates stopped operating, or new crops were attempted in the surviving estates. The number of estates dropped significantly, and a further examination suggests the remaining estates (some of the newly opened ones) joined in the rubber frenzy and planted the tree, used coffee as a catch crop to generate income while waiting for the rubber tree to be mature enough to be exploited.

The rubber boom also underlines the growing complexity of capital

flow which originated not only from the European capital markets (London and Amsterdam, in particular) but also from Shanghai. The changes of capital movement not only affected the capital structure of the plantation sector in the Indies but also created a new space for administrative/ managing offices to direct estate-owning companies. Since in many cases rubber estates were also coffee producing estates, the two sectors were merged with coffee sector subsumed into the expanding rubber sector. The number of individual planters and owners (who mostly came from *Indisch* families in the colony) dropped significantly in comparison with the previous 2 decades, while at the same time the number of incorporated companies owning the estates grew, suggesting the efforts to attract more capital to sustain production activities.

The 1930 crisis dealt a severe blow to the plantation sector, especially the coffee producing estates. Their number dropped again to less than half of the number of estates in its peak years. Many of the estates which stopped producing coffee mostly located in Sumatra and central Java, leaving east Java with the most coffee producing estates. The decline in the number of estates and in the areas covered by the estates happened at the same time total production from them for export increased. There was no clear explanation of such a paradox, but it can be suggested that on the one hand many of the estates that previously produced coffee in fact only planted coffee trees in a small section of the estate. On the other hand, the remaining estates might have intensified its coffee planting and production.

The number of owners as a whole and the number of companies that owned estates was declining at the same time the number of estates dropped. Within this shrinking number of companies, administrative offices which started to assert important roles in the past with the growing complexity of capital flow, by the end of the 1930s became really the dominant players among the companies. Most Indies-based companies that were still operating estates were either directed by these administrative offices or had them in their non-executive director board. Such transformation suggests the subsuming of the Indies capital-owning class by metropole bankers, merchants, and managers—not unlike the subsuming the coffee sector by the rubber sector.

References

- Baardewijk, Frans van (1994). "Rural Response to Intensifying Colonial Exploitation. Coffee, Sate and Society in Central and East Java, 1830-1880", in: G. J. Schutte (ed). *State and Trade in the Indonesian Archipelago*. Leiden: KITLV Press.
- Bastin, John (1957). *The Native Policies of Sir Stamford Raffles in Java and Sumatra. An Economic Interpretation*. Oxford: Clarendon Press.

- Bosma, Ulbe & Raben, Remco (2008). *Being "Dutch" in the Indies: A History of Creolisation and Empire, 1500-1920*. Singapore: NUS Press.
- Bree, L. de (1938). *Gedenkboek van de Javasche Bank, 1828-24 Januari-1928 I*, Weltevreden: Kolff.
- Broeze, Frank (2005). "A Scottish Merchant in Batavia (1820-1840): Gillean Maclaine and Dutch Connections" in: Ina Baghdiantz McCabe, Gelina Harlaftis & Ioanna Pepelase Minoglou (eds). *Diaspora Entrepreneurial Networks: Four Centuries of History*. Oxford: Berg.
- Broersma, R. (1916-1917). "Particuliere Landerijen in West Java," *Koloniale Studien* 1, 3.
- Campo, J.N.F.M. a (1996). "The Rise of Corporate Enterprise in Colonial Indonesia", in: J. Th. Lindblad (ed). *Historical Foundations of a National Economy in Indonesia, 1890s-1990s*. Amsterdam: North-Holland.
- Carey, Peter (1986). "Waiting for the Just King: The Agrarian World of South-Central Java from Giyanti (1755) to the Java War (1825-30)", *Modern Asian Studies* 20, 1: 59-137.
- Creutzberg, P. (1975). *Changing Economy in Indonesia 1 Indonesia's Export Crops, 1816-1940*. The Hague: Martinus Nijhoff.
- Dobbin, Christine (1983). *Islamic Revivalism in a Changing Peasant Economy. Central Sumatra, 1787-1847*. London: Curzon Press.
- Encyclopaedie van Nederlandsch Indie I*.
- Forrest, Denys (1973). *Tea for The British. The Social and Economic History of a Famous Trade*. London: Chatto & Windus.
- Gedenkboek 1863-1938*, 1938.
- Gudmundson, Lowell W. (2003). "On Paths Not Taken. Commercial Capital and Coffee Production in Costa Rica", in: William Gervase Clarence-Smith, and Steven Topik (eds). *The Global Coffee Economy in Africa, Asia, and Latin America, 1500-1989*. Cambridge: Cambridge University Press, pp. 335-359.
- Henley, David (2005). *Fertility, Food and Fever. Population, Economy and Environment in North and Central Sulawesi, 1600-1930*. Leiden: KITLV Press.
- Hoedt, Theopile George Emil (1930). *Indische Bergcultuurondernemingen voornamelijk in Zuid Sumatra*. Wageningen: H. Veenman & Zonen.
- Houben, Vincent (1994). *Kraton and Kumpeni*. Leiden: KITLV Press.
- Jonker, Joost (1991). "Sinecures or Sinews of Power? Interlocking Directorships and Bank-Industry Relations in the Netherlands, 1910-1940", *Economic and Social History of the Netherlands* 3: 119-131.
- Kano, Hiroyoshi (2008). "Indonesian Exports, Peasant Agriculture, and the World Economy, 1850-2000", *Economic Structures in a Southeast Asian State*, Singapore: NUS Press.
- Korthal Altes, W. L. (1991). *Changing Economy in Indonesia 12 A. General Trade Statistics, 1822-1940*. Amsterdam: KIT.
- Kuitenbrouwer, Maarten & Huibert Schijf (1998). "The Dutch Colonial Business at the Turn of the Century", *Itinerario* 22, 1: 61-86.
- Lindblad, J. Th. (1993). "Ondernemen in Nederlands-Indie c.1900-1940", *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden* 108, 4: 699-710.
- Paerels, B. H. (1946). "Bevolkingskoffiecultuur", in: C. J. J. van Hall and C. van de Koppel (eds). *De Landbouw in de Indische Archipel Deel IIb Genootmiddelen en Specerijen*. 's-Gravenhage: van Hoeve, pp. 89-119.

- Paige, Jeffrey (1997). *Coffee and Power. Revolution and the Rise of Democracy in Central America*. Cambridge: Harvard University Press.
- Pakhuismeesteren van de Thee (1924). "De Java Thee en de Nederlandsche Markt", in: *Gedenkboek der Nederlandsch Indische Theecultuur, 1824-1924*. Weltevreden: G. Kolff, pp. 70-82.
- Pelzer, Karl J. (1978). *Planter and Peasant. Colonial Policy and the Agrarian Struggle in East Sumatra, 1863-1947*. 's-Gravenhage: Martinus Nijhoff.
- Potter, Lesley (2008). "Production of People and Nature, Rice, and Coffee. The Semendo People in South Sumatra and Lampung", in: Joseph Nevins and Nancy Lee Peluso (eds). *Taking Southeast Asia to Market. Commodities, Nature, and People in the Neoliberal Age*. Ithaca: Cornell University Press.
- Taselaar, Arjen (1998). *De Nederlandse Koloniale Lobby. Ondernemers en de Indische Politiek, 1914-1940*. Leiden: Research School CNWS.
- Tate, D. J. M. (1996). *The RGA History of the Plantation Industry in the Malay Peninsula*. Kuala Lumpur: Oxford University Press.
- Thomas, W. A. (1998). "An Intra Empire Capital Transfer: Shanghai Rubber Company Boom, 1909-1912", *Modern Asian Studies* 32, 3.
- Ultee, A.J. (1946). "Koffiecultuur der Ondernemingen," in: C. J. J. van Hall and C. van de Koppel. *De Landbouw in de Indische Archipel Deel IIb Genootmiddelen en Specerijen*. 's-Gravenhage : van Hoeve, pp. 9-88.
- Voon Phin Keong (1976). *Western Rubber Planting Enterprise in Southeast Asia 1876-1921*. Kuala Lumpur: Penerbit Universiti Malaya.