A.M. Djuliati Suroyo

State-Run Cultivation in Java and the Colonial State

Abstract

This contribution describes the expansion of the system of state-run cultivation in Java. The analysis focuses on the characteristics of this system and the supporting bureaucratic arrangements in the Dutch colonial administration. The author shows that the system of state-run cultivation was highly profitable on all acounts. It had both a positive and a negative impact on the peasantry itself. The gap between the highest and lowest strata in the social structure of the village widened and forced labour was increasingly replaced by landless labour. Finally, it is argued that the response of the peasants to the incentive offered by the system was a positive one rather than the negative one suggested in the conventional literature on agricultural involution in Java.

1. Introduction

State-run cultivation, or as it is usually called the *Cultuurstelsel* (the Cultivation System), which was imposed in Java in the nineteenth century, was a monopolistic political economy which aimed at getting maximum profit for the home country from Java's economic potential. Through this state-run cultivation, the Dutch colonial government directly controlled both the production and marketing system of cash crops, thus making itself the dominant economic power. This was a typical politico-economic condition which had emerged at the very beginning of the Cultivation System. If the colonial state can be said to have started in the early nineteenth century, this politico-economic condition persisted up to the third quarter of the century.

The Cultivation System was unique in the sense that it was not practised by any colonial state in any other Southeast Asian country with similar natural and economic conditions and social structure. This uniqueness certainly had its roots in the beginnings of Dutch colonialism in Indonesia, which the Dutch East India Company (Vereenigde Oost-Indische Compagnie; VOC), as a trading enterprise had initially conducted through its trading monopoly. In order to secure the supply of its export commodities, the VOC trade monopoly was expanded to the monopoly of the production system. In fact, the cultivation system of the VOC, particularly in the production of coffee in Priangan survived, even after the VOC

itself was finally liquidated. The newly instituted colonial government then altered the system of forced cultivations into a semi-liberal one, either by reducing the enforcement of and allowing for more diverse economic opportunities, or by relying on the feudal relationships of indigenous heads to manage the land and labour. This liberal experiment was unsuccessful which led the colonial state to return to the old system of state monopoly in 1830.

The state-run cultivation in Java has continued to be a serious topic of discussion in the literature from the colonial period up to the present. The issues discussed have concentrated particularly on the questions of why the system was imposed and how the implementation was effectuated. Works of the colonial period which criticize the system point out that the colonial system was harming people through the medium of the deployment of strong political force in sustaining a total monopoly imbued by a liberal ideology. Cognisant of the negative effects of the state-run system, such authors demand a *laissez-faire* policy (Van Soest, 1869–1871; Day, 1904). In contrast to them, there are also authors who note an increase in the purchasing-power of the peasants because of the increase in their wages (Reinsma, 1955). Although people did suffer in the early stages of the system, which did not begin without some trials and errors, it is argued that this cannot be generalized either to all the areas under forced cultivation or to the entire period.

Current research on state-run cultivation has been based on reports found in the nineteenth century-archives of the system, particularly those containing quantative data. This research model was pioneered by Van Niel, followed by Fasseur with a great work which introduces a new configuration of aspects of the system containing quantitative data on the development, the implementation practices and the effects on peasants' living conditions in Java (Fasseur, 1975; 1992). Further investigations by other scholars have also been conducted at the residency level. These scholars research the positive as well as the negative aspects of the system in greater detail. For instance, Elson studies the state-run cultivation practices in the residency of Pasuruan whereas Knight looks at Pekalongan and Fernando at Cirebon (Knight, 1982b; Fernando, 1982; Elson, 1984). In their footsteps, others have paid attention to various aspects of the state-run Cultivation System. Van Schaik has studied the exploitation of peasantry, natural resources and labour under state-run cultivation in Tegal and Pasuruan, Boomgaard has analyzed population growth and economic development in the nineteenth century in general whereas Suroyo has examined forced labour in Kedu (Van Schaik, 1986; Boomgaard 1989; Suroyo, 1989).

Studies based on these nineteenth-century reports have yielded more detailed insights into how the system was implemented at the local level. So doing they have provided a clearer understanding of the living conditions of the people, the effects of the system on the development of rural areas, and the development of the system itself.

This article describes the expansion of state-run cultivation in Java, based on the findings published in recent studies. The analysis will concentrate on the

features of the state-run cultivation and its expansion. It is also a study of the bureaucratic arrangements which supported the Cultivation System, in its turn leading to the development of the Dutch colonial bureaucracy. Hence, the following issues will be the major themes:

(1) The growth and decline of state-run cultivation, as well as the factors which affected this development.
(2) The development of the colonial bureaucracy which supported the system.
(3) The impact of state-run cultivation on the peasantry as well as the social changes which resulted from this system.

2. The growth and decline of state-run cultivation

The *Cultuurstelsel* was the brainchild of Governor-General J. van den Bosch, who considered Indonesia as a valuable *wingewest* or profitable colony, where the people could be subordinated for the benefit of the mother-country (Van den Bosch, 1864: 4–5). With this premise in mind, Van den Bosch introduced the state-run cultivation, a system of economic exploitation system which was thought to be the most profitable of its kind. This exploitation was able to finance the colonial government and, most importantly, contributed to the state treasury in the Netherlands.

State-run cultivation was a system of plantation management, controlled by the colonial government uitilizing peasant land and labour. In its final form the *Cultuurstelsel*, as defined by Fasseur, was an agrarian-industrial system in which the colonial government manipulated its power and influence to coerce peasants to cultivate export commodities. The latter then had to deliver the products to the colonial government in return for low wages. It is clear that the government was playing two roles, those of merchant and of ruler, roles that had previously been assumed by the VOC and before that by indigenous rulers (Furnivall, 1948: 343). Sultan Agung of Mataram, the *syahbandar* in Tuban, or King Mindon in Upper Burma were all traditional rulers who also acted as merchants when trading with foreigners (Van Leur, 1955: 133–134). This was the main reason the state-run cultivation was able to succeed without generating any serious social unrest or rebellion and, moreover, also proved highly profitable. The colonial government made no changes to the existing traditional system under which land and labour had been controlled by supra-village rulers in a feudal-type system. To be more effective and profitable the VOC had strengthened this system which will be discussed in greater detail below.

The prototype of state-run cultivation in Java was the forced cultivation of coffee in the Priangan in the early eighteenth century. At that time the Priangan regencies (*Preanger regentschappen*) had actually been under VOC rule. Since the VOC was oriented towards making profit through its control of the trading system, by adopting a policy of indirect rule it allowed indigenous rulers to

manage the region. For highly profitable commodities, such as coffee, all that was required of the local rulers (*regenten*) was that they forced their subjects to cultivate the most profitable crops, and subsequently sell their produce at low prices. To carry out the forced cultivations, the regents instructed their client peasants to cultivate these crops under Dutch extension officers (*opzieners*). The peasants, *cacah*,[1] and their family members had to take responsibility for the whole process of planting from land preparation, transplanting, cultivating, harvesting, and transportation to the godowns. Responding to the increase in market demand and the stronger profit orientation, the plantation areas, which were originally located in the gardens or the field surrounding the village, expanded to mountain slopes in remote areas (Klein, 1930: 46, 50; De Haan, 1910: 154–171). A process spurred on by the fact that, in 1723, the VOC made a 100 per cent profit from coffee cultivation in Priangan (Klein, 1930: 39).

Under this forced cultivation the VOC was able to pay the salaries of Dutch and indigenous bureaucrats as well as that of the officers in the areas with forced plantations. The peasants were bereft of any economic benefit, since the payments were only given to officers at the sub-district level (*cutak*) (De Haan, 1910: 135).

After the liquidation of the VOC at the end of the eighteenth century, Java became a Dutch colony. This offered an opportunity to alter the system of monopoly based on coercion to that of a semi-liberal system which would open up more chances to the peasants to cultivate and market their own crops. However, the government hesitated to take such a step since any reduction of the monopolistic political economy and loosening of the feudal relationships would lead to a restructuring of the traditional social system which was still a self-sufficient economy in terms of feudal relationships. Such changes would involve the implementation of a rational bureaucratic system which would require large monetary expenditure on administration, especially the compensation paid for the loss of apanage lands and labour services and their substitution as monetary salaries of the indigenous officers (Day, 19752: 140–148; Furnivall, 1948: 219–220).

In view of these difficulties, plus the threat posed by the Napoleonic Wars to the Netherlands, the Dutch government decided to continue the trade monopoly of cash crops based on compulsory labour and forced cultivation like that conducted earlier by the VOC. The forced coffee cultivations in Priangan were maintained by both Daendels, the Governor-General who introduced modern bureaucracy into Indonesia by promoting indigenous heads to government bureaucrats and assigning them clear-cut tasks and responsibilities whilst also maintaining the feudal system,[2] and Raffles, the British Lieutenant-Governor

[1] The word *cacah* (peasant) used in this region is the same as that used in Mataram, *i.e.* landholders who were both tax-payers and forced-labourers with respect to their regents (Klein, 1930: 43).

[2] Algemeen Rijks Archief (ARA), The Hague: Ministerie van Koloniën (Kol.). Collectie Daendels. Vol. 166.

(1811–1816), who tried to implement defeudalization and introduce a new tax system as means of economic modernization (Raffles, 1975[2]: II, ccxli–cclvi; Raffles, 1865: 68–86; Bastin, 1957). Both were inspired by the fact that state plantations contributed a major part of total government revenues.

In order to legitimize government state-run cultivation, experts on the colonial economy such as Furnivall have argued that the Netherlands had to treat Java as a producer of export commodities rather than as a market for its products, since the Netherlands had not yet developed any manufacturing industry. Furthermore economic conditions as well as monetization in Java had not been developed properly. Tax payments based on agricultural yields were therefore considered to be more profitable and easier to collect than tax payments in the form of money (Furnivall, 1948: 8–10; Suroyo, 1987).

This description of Java is not fully correct as several studies have shown that Javanese society in the early nineteenth century consisted of two spheres. The first was a supra-village sphere where indigenous heads at all levels had feudal relationship with the peasantry as described by Burger (Burger, 1939: 3–9; Burger, 1975: II, 48–51). Through this kind of feudalism, the supra-village elites had power of command over the peasants' land and could extract their labour. In addition, they could sell the produced commodities to local merchants, particularly Chinese or European.

The second sphere was that of the society of the peasants who were obliged to be primary crops producers, and to pay taxes and services. After these two obligations had been fulfilled, they enjoyed the freedom to produce and sell their own products for their own benefit. For instance, the Javanese peasants who grew tobacco were able to sell their own tobacco to other islands and even to overseas markets (Elson, 1984: 20–25; Fernando, 1982: 55–62; Suroyo, 1989: 128–134, 339–343).[3]

Hence, besides the barter system, monetization had started somewhere within the social system, especially in the core region of the Mataram kingdom, in Cirebon and along the north coast extending to the eastern tip of Java. The problem was that the peasants were still working on their small farms, using traditional agricultural techniques, and most importantly, they still maintained their subsistence farming which focused on the cultivation of food crops (Carey, 1986: 88–108; Knight, 1982a: 122–126).

It is interesting to note that this burgeoning entrepreneurship and its market orientation were neglected by the colonial government, which chose to rely on forced cultivation similar to the forced coffee plantations in Priangan which it considered to be the most efficacious means to obtain profits. Taking the Priangan system as a starting-point, it was felt that this plantation system could

[3] Peasant tobacco cultivation had developed in Kedu since the end of the eighteenth century and the product was sold at high prices to Chinese traders who then exported it to the Outer Islands. British Library, London: Manuscript 33411. J. Crawford, 'Papers on Java, Cochin China, etc.'; Arsip Nasional Republik Indonesia (ANRI), Jakarta: Kedu. Vol. 7. 'Statistiek 1822'; Vol. 24A. 'Report upon the District of Cadoe', 1812.

be developed on a larger scale (Van den Bosch, 1864: 129–136). Similarly itinerant free labourers and landless peasants, who could be employed as paid workers, were not utilized for public works. The government preferred to use compulsory labour which could be easily recruited by the indigenous heads. Apart from the consideration that the Netherlands did not need Java as a market, the precarious financial situation induced by the Java War and the loss of Belgium swayed the colonial government to opt for reliance on state-run cultivation as the main source of its budget.

The giant project of state-run cultivation was introduced in Java by the colonial government in the early 1830s. Although the government had issued a set of general regulations, implementation in the field was left to the local authorities (Residents). Since the Residents also acted as local managers, they were required to encourage the cultivation of cash crops as much as possible.

Under this policy state-run cultivation developed in almost all districts (*residenties*) but with numerous variations. Although the system was under the full control of the colonial government, most particularly the Governor-General, locally specific conditions and Residents' policies were taken into account as well.

In general, the growth and development of state-run cultivation (1830s–1870s) were influenced by a number of factors, such as:

(1) The kinds of crops, because each crop required a specific ecology, cultivation technique, and had a specific economic value as well.
(2) Climatic conditions in the local area.
(3) The peasantry's social and economic conditions (size of landholdings, frontier areas or settled densely populated areas)
(4) The period of forced cultivation.
(5) The policy of the district heads (Residents).

All these factors were interrelated and therefore the development and results of state-run cultivation in each district varied from the one to the other. Similarly, the effects of the system on the peasants living conditions could also diverge between districts. However, due to the lengthy duration of this system, similar features in the pattern of development can be discerned. Some similarities of the features of each crop can also be identified. The main theme of this article is to describe the development pattern of state-run cultivation of sugar-cane, coffee, and indigo, the three crops which were the main export crops.

3. Sugar-cane

Peasants had been well acquainted with the cultivation of sugar-cane since the eighteenth century when they had cultivated this crop and sold it to Chinese and Dutch merchants. Prior to the forced cultivation, they planted sugar-cane alter-

nately with food crops as their basic means of subsistence. When the colonial government introduced the state-run cultivation in the early 1830s, peasants easily accepted and implemented the programme. However, with the passing of time government enforcement grew more pronounced as reflected in the expansion and control of the cultivation of the crops. The extent to which the peasants could manage their own farms, *i.e.* managing their own lives, declined. The expansion was the direct result of the determination of the colonial government to extract more profits (Elson, 1984: 33–39).

The period of the 1830s and 1840s was the early stage of the development of sugar-cane cultivation, when a number of field trials were conduced to find areas suitable for sugar-cane. It turned out that sugar-cane could be planted in rice-fields which were used for sugar-cane by the implementation of a rotation system.

To obtain the highest yield from sugar-cane, attention had to be paid to soil fertility, water availability, degree of slope, rainfall, and the length of the dry season and the proximity to forests for firewood supplies (Van Schaik, 1986: 46–50). On the basis of these factors the cane areas selected were located on the north coast of Java from Cirebon in West Java to Besuki in East Java, with some other areas as well. In 1840 there were 13 districts with sugar-cane plantations.

During the early stage of development, the cane cultivation was managed by the inexperienced which controlled land and labour through a 'forced agreement' with the village heads. Processing was carried out by a contract with the owners of the sugar factories. The government granted very generous capital loans to obtain the sugar produced by the factories, while the peasants received crop payments with which they could pay the land tax. In other words, the colonial government bought the cane at prices from which the peasant could pay their taxes (Elson, 1984: 20–35; Fernando, 1982: 84–87; Knight, 1982a: 122–126).

Since the position of the peasants was weak measured against that of the government, the former had to adjust to the system by making heavy sacrifices of their resources, time and labour. The colonial government for its parts also tried to make local adjustments in order to obtain the highest yields. Districts which still had enough sawah reserved for cane rotation naturally offered the highest yields.

Since the peasants bore a heavy work burden and had to sacrifice their resources, they had to make adjustments to make the burden lighter. In this way the cultivation of sugar-cane reached an equilibrium and achieved a certain stability. With the high prices for sugar, the state-run cultivation of sugar-cane led to a sugar boom during the second stage of growth (1840–1860), providing huge profits for the colonial government (Table 1).

Many peasants enjoyed a good income from the crop payments they received for cultivating the crops, especially in those districts where favourable factors prevailed (Tables 2, 3, 4 and 5). The lions' share went to the rich peasants, many of whom were village heads. Conversely, sugar-cane cultivated under unfavourable conditions proved detrimental to the welfare of the peasants.

4. Indigo

The cultivation of indigo was a different story from that of sugar-cane. The cultivation of indigo was burdensome and weighed heavily on the shoulders of the peasants. Indigo had been a cash crop on a more modest scale for the peasants already before the introduction of the Cultivation System. The blue powder produced from a decoction of the leaves of the indigo plant was used to dye cloth blue. The cultivation had been adjusted to the cycle of peasant farming in rotation with rice cultivation. Since indigo was a second crop, its planting was subordinate to the main crop, which meant that it offered the peasants an additional income (Knight 1982b: 3–5).

After the government had chosen indigo as one of the main export crops, indigo planting was begun on a large scale. The processing facilities were usually located at some distance from the fields. Employing the same tactics as in sugar-cane cultivation, the colonial government used rice-fields and the labour of peasants for the forced cultivation of indigo. As a state project, indigo cultivation was given greater priority than subsistence rice cultivation. This proved to be more detrimental to rice cultivation than in the case of sugar-cane, since indigo required much more intensive labour, usually involving long-distance transportation to the factory, arduous work in processing, and, above all, offered a much lower return to the peasants than did sugar-cane.

In the first phase of the development of state-run cultivation (1830–1840), both the colonial government and the peasants suffered sorely from the obstacles just mentioned. The successful regions were those which still had sufficient arable land, households of sufficient size and intelligent district heads to cope with the whole problem of the state plantations. Regions which did not have much room to expand their rice-fields, however, suffered most. In response to widespread protests from peasants involved in this forced cultivation at the beginning of the indigo plantation project, the government made many adjustments to lighten the burden of the former (Fasseur, 1975: 47–48).[4]

In 1840 areas under indigo plant cultivation amounted to 42,833 *bouws*, involving 207,118 peasant households. It is interesting to note that the development of indigo cultivation ran contrary to that of cane cultivation in the second phase (1840–1860). In 1860 indigo plantations covered only 15,546 *bouws*, while peasant households involved in this cultivation numbered 103,214 households (Table 2). On the other hand, the area under forced sugar-cane cultivation had by 1860 been expanded to 38,456 *bouws* (Table 1). By 1864 state cultivation of indigo had been abolished altogether (Fasseur, 1992: 247). The miscarriage of the development of indigo state cultivation can be mainly attributed to the low returns it produced for the peasantry. Moreover, the peasants frequently incurred debts in order to pay the land tax (Table 3).

A second cause of the failure was that indigo exhausted the soil more than did other crops, thus damaging the rice cultivation. Lastly, there was the aversion

[4] ARA: Kol.: Collectie De Vriese. Vol. 50 [on the liquidation of some state-run cultivations].

of both peasants and indigenous heads to the cultivation of this crop due to the meagre incentive (the low crop payments and low *cultuurprocenten*). This led the indigenous heads to neglect their duty to inspect the fields or force peasants to work better, which in any case would have encouraged the peasants to flee their villages (Suroyo, 1989: 259–262).

5. Coffee

Among all the state-run cultivation of export crops, the cultivation of coffee was considered to be the most stable. Coffee had been cultivated for almost 200 years, assuming the forced cultivation under the VOC regime can be regarded as state cultivation. The coffee cultivation had provided the colonial government with huge profits before other state-run cultivations exceeded coffee after the 1870s. Several specific ecological conditions made the cultivation of coffee advantageous and meant that the cultivation of coffee had expanded to almost every district in Java. Firstly, coffee was not planted in rice-fields, thus interfering with the main food crop, but on *tegal* or dry fields. This made the crop more valuable since *tegal* was planted with less valuable food crops (cassava, corn, sweet potatoes). Secondly, coffee was a very valuable export crop which fetched higher prices on the international market, notwithstanding considerable fluctuations from time to time.

In the first stage of the coffee cultivation many workers were needed to open up vast tracts of virgin forest or uncultivated land and to prepare the coffee seeds. After three years the shrubs were mature and could bear fruits every year. During the period under discussion, around 50 per cent of peasant households were involved in this cultivation. Since coffee was not unfamiliar to Javanese peasants, the colonial government had no difficulty in persuading them to grow this particular crop. Sometimes enthousiastic Residents committed excesses in their efforts to expand coffee cultivation, thus adding considerably to the burdens borne by the people, but this was the exception rather than the rule. Over time coffee cultivation was adopted by the majority of villagers as a steady source of income for the peasant households.

Since most of the organization was handled by the Javanese rural elite, namely the village heads and rich peasants, they received the lion's share of the planting wage. Besides the cultivation of coffee, *i.e.* coffee planted on permanent tracts of land, the villagers who were used to cultivating coffee in their own gardens and around their houses (*pagger* coffee) even before the forced cultivation, continued to grow coffee in this way, because it saved a great deal of time. This so-called hedge coffee was very much appreciated by the peasants since it yielded them additional income.

The first period of growth (1830–1840) proceeded relatively smoothly and coffee production was more or less stable. During the second period (1840–1870) growth was also stable. Total yields remained steady although the planting area was extended. The reason was that the peasants tended to neglect the older coffee

shrubs and kept on planting new shrubs as long as there were still new tracts to be planted. Another reason must have been that the number of coffee shrubs given in the reports was a mere fiction (Tables 4 and 5). The decline of state-run coffee cultivation set in at the end of the 1870s when a coffee plague attacked the coffee shrubs, damaging most crops.[5]

Since the colonial government had chosen to manage the whole economic enterprise itself, it had to appoint a number of officers to administer the enormous enterprise. The colonial government was well aware that by implementing the state-run cultivation along the lines of that in Priangan, it had to manipulate the traditional Javanese feudal structure. By orchestrating this structure, the people could be forced to work in the state plantations. Conversely the colonial government was dependent on indigenous heads and their subordinates to operate this system. Van den Bosch states clearly that, if the Javanese people were to continue to be ruled by their own indigenous heads, their loyalty to the Dutch government could be secured (Van den Bosch, 1864: 105–106). So far so good, but if the colonial government was going to expand the huge plantations producing export crops that could compete in the world market, the entire enterprise had to be run by modern management techniques. This required a combination of two kinds of officials in tandem. The first category was indigenous officers responsible for supervision and therefore able to enforce obedience on the people involved in the state plantations. The second category consisted of Dutch officials who controlled the overall operation of the project.

This combination of a dual administration to support the Cultivation System was a lopsided one. The real power of decision-making in all kinds of matters was in the hands of Dutch administrators. The indigenous administration was headed by a *bupati*, the traditional ruler in pre-colonial times who was treated as a 'younger brother' ruling the Javanese under the strict orders of his 'older brother', the Dutch official.

6. The development of the colonial bureaucracy

The policy of dual administration, which was to lead to the development of the colonial bureaucracy, had its roots in the VOC regime. Absorbed by its concern with the pursuit of profits from trade, the VOC left the administration of the territories in Java under its control to the *bupati*. This traditional political structure enabled the exploitation of peasant products and services. This kind of indirect control was gradually reduced when Java came under the direct rule of the colonial government (Kartodirdjo, 1988: 310–311; Sutherland, 1979: 8–10). Under Daendels the concept of modern bureaucracy was introduced into the colony. Daendels changed the administration of Java into a centralized system, under which Java was divided into administrative regions (*prefecture*, later

[5] ANRI: Pasar Ikan: Vol. 304. 'Verzameling'.

residentie) under regional heads (*prefect*, later Resident). The *bupati* were incorporated into the colonial administration as government officers who were provided with a carefully specified set of rights and duties, fixed salaries and the provision of limited services to be rendered by their subjects.[6]

Daendels' aim was to defeudalize the colonial administration by changing it to one of direct rule. The great obstacle to its success was that there were not sufficient resources to achieve this goal. For one thing, Daendels did not have enough money to pay the salaries of all the indigenous officials. He also had to build an infrastructure for governmental and defence purposes, but could only do so through the traditional compulsory means of raising revenue, *i.e.* by maintaining, and even extending, the forced cultivation of coffee. In this way he had to compromise with the traditional order which meant that the indigenous administration remained essential alongside the newly introduced Dutch administration.

Daendels' other legacy to the foundation of the colonial state was a set of regulations concerning traditional institutions, such as the compulsory labour to be rendered by the peasants to government officials and income-yielding land, aimed to reduce the arbitrary nature of these institutions, albeit in name only. The failure of Raffles to extend the administrative reforms seemed to inspire Van den Bosch in his ideas about the best way to manage the colony profitably. As a conservative Van den Bosch abandoned the reforms and ruled the colony directly. The *Cultuurstelsel*, which Van den Bosch initiated, was a in fact state-run cultivation, a combination of traditional and modern systems geared to obtain maximum profits.

To manage this far-flung enterprise, the government established the Colonial Office for Agriculture Affairs, under a *Directeur der Cultures*. This was a central body to deal with reports, issue regulations and conduct inspections to be reported to the Governor-General. Both Dutch and indigenous officials at the regional and district level, even right down to the villages, were involved in this gigantic project. They generally combined the role of manager with that of police officer in getting the people into action. These officials became part of the state apparatus centralized in Batavia, which was able to control people down to the inhabitants of the remotest villages. To encourage officials to fulfill this duty properly, the government provided incentives according to the productivity of the region. The state had the power to recruit and command people on a large scale to suit its own purposes.

In short, the state-run cultivation fostered the evolution of a colonial state which adapted itself smoothly to the indigenous structures and socio-economic conditions prevailing in the colony. Only very gradually was a system of modern bureaucracy and other social institutions introduced to further the state's economic interest, and to avoid the high cost of colonial administration.

[6] ARA: Kol.: Collectie Daendels. Vol. 166. 'Organique Stukken: Staat der Nederlandsch Oost-Indische Bezittingen onder het Bestuur van den Gouverneur-Generaal Herman Willem Daendels in de jaren 1808–1811'.

7. Conclusion

Many recent studies on the working of the state-run cultivation or the *Cultuurstelsel* have opened up a new dimension which diverges from the excessively gloomy picture of the nineteenth century when the system was in operation (1830–1870). Some conclusions of the findings of those studies will be summed up below.

First, the state-run Cultivation System in the nineteenth century was a device used by the colonial government to exploit the economic potential of Java and the Javanese people to achieve a maximum profit in the most effective and economic fashion. The system yielded huge profits to the home country, to the colonial state, and in a modest way it also benefited the peasantry, albeit in varying degrees according to their social status. At least many peasants were now in a position to pay their land tax from crop payments.

Second, the state-cultivation had both a positive and a negative impact on the peasantry itself. It had a positive impact in the sense that it offered an additional income to the peasants by the expansion of the acreage of rice-fields and the diversification of work opportunities. It had a negative impact in the sense that it imposed huge compulsory labour inputs on the peasants either without any monetary reward or at best a meagre one. Some ambitious Residents made the burden of compulsory labour unbearable by coercing additional labour in the fields, factories or on public works, sometimes leading to famine in the villages or leaving peasants no choice but to run away. It was obviously disadvantageous to the peasants when their crop payments were lower than their land tax. In the long run the system resulted in both a shortage of arable land and in deforestation.

Third, the state-run cultivation had fostered a pattern of economic development which forced social change upon the peasant society in the nineteenth century. Such a change involved a widening gap between the village elite and the lower classes of the peasantry, engendered by the increased income and ever stronger political power accruing to these elites, especially the village heads. On the other hand, due to the demand for labour and population growth, a class of landless labour emerged to replace forced labour.

Fourth, contrary to what is suggested in the older literature, especially the theory of agrarian involution, the peasants responded positively to this state-run cultivation demand, so there was no levelling force or shared poverty among the various social groups (cf. Geertz, 1963).

Table 1. *Sugar-cane cultivation in Java, 1840–1860.*

	1840	**1841**	**1842**	**1843**	**1844**	**1845**
Contracted sugar factories	99	111	112	110	10	98
Households assigned to sugar cultivation	148,247	150,895	160,595	165,968	168,169	165,092
Harvested area (*bouw*)	31,989	33,668	36,672	37,545	37,941	38,534
Production (piculs)	752,657	734,427	858,039	902,396	1014,752	1073,103
Average per *bouw* (piculs)	23.5	21.5	23.4	24.0	26.7	27.8
Amount delivered to the government (piculs)	692,614	673,865	773,998	803,479	879,591	871,135
Amount left at disposal of manufacturers (piculs)	60,193	60,562	84,041	98,917	135,161	201,968
Crop payment (guilders)	1990,355	2038,825	2335,925	2416,895	2645,320	2774,310
Average per household (guilders)	13.51	13.61	14.65	14.67	15.87	16.96
Average per *bouw* (guilders)	62.26	59.95	63.84	62.38	67.35	71.12
Cost of sugar delivered to the government (guilders)*	6350,345	6167,190	7101,215	7551,610	8360,845	8404,615
Average per picul (guilders)	9.20	9.18	9.21	9.47	9.60	9.78
Land rent owned by village cultivating sugar (guilders)	1732,070	1589,280	1733,675	1881,075	1967,285	2225,350
Cultivation revenues (guilders)	288,595	280,780	322,515	298,850	343,760	337,330

* This includes the cost of obtaining the sugar in accordance with the existing contracts, the cost of packing and transport to the major storehouses, cultivation percentages, etc., but not crop payments because these were the responsibility of manufacturers.

Table 1 (Continued)

	1846	1847	1848	1849	1850	1851
Contracted sugar factories	97	95	93	97	99	97
Households assigned to sugar cultivation	154,776	157,782	154,148	158,518	151,836	156,579
Harvested area (*bouw*)	37,090	37,255	37,417	40,143	41,151	41,588
Production (piculs)	1105,101	1193,696	1231,912	1203,523	1406,464	1374,715
Average per *bouw* (piculs)	29.8	32.0	32.9	30.0	34.2	33.1
Amount delivered to the government (piculs)	929,796	945,935	987,785	949,329	1046,666	991,859
Amount left at disposal of manufacturers (piculs)	174,953	245,760	241,500	254,195	359,580	367,781
Crop payment (guilders)	2816,135	2926,492	2911.380	2906,939	3343,703	3380,135
Average per household (guilders)	18.16	18.66	18.11	18.40	22.02	21.70
Average per *bouw* (guilders)	75.11	78.29	77.97	72.49	81.30	81.33
Cost of sugar delivered to the government (guilders)	8940,166	8952,698	9475,425	9166,051	10187,370	9619,337
Average per picul (guilders)	9.74	9.56	9.71	9.78	9.88	9.84
Land rent owned by village cultivating sugar (guilders)	2033,040	1988,011	1937,574	2389,900	2434,111	2218,341
Cultivation revenues (guilders)	357,489	359,702	354,830	340,151	372,982	338,032

Table 1 (Continued)

	1852	1853	1854	1855	1856	1857
Contracted sugar factories	97	100	97	96	96	96
Households assigned to sugar cultivation		160,009	169,981	169,490		
Harvested area (*bouw*)	42,276	42,034	41,308	40,606	40,694	40,645
Production (piculs)	1373,693	1411,295	1393,849	1351,645	1498,489	1650,806
Average per *bouw* (piculs)	32.5	33.6	33.7	32.3	36.8	40.6
Amount delivered to the government (piculs)	936,014	941,751	881,833	876,788	878,567	927,434
Amount left at disposal of manufacturers (piculs)	437,679	469,544	513,312	463,566	623,899	723,373
Crop payment (guilders)		3586,602	3760,191	3601,824	3940,891	4144,291
Average per household (guilders)	21.10	22.47	22.14	21.30	22.11	23.10
Average per *bouw* (guilders)	81.64	85.38	91.04	91.19	96.10	101.12
Cost of sugar delivered to the government (guilders)	9138,014	9250,032	8613,504	8735,607	8701,252	9276,049
Average per picul (guilders)	9.91	9.99	9.11	9.12	9.11	10.00
Land rent owned by village cultivating sugar (guilders)**		2678,493				
Cultivation revenues (guilders)		347,539	320,932	288,580	300,786	320,274

** There are no data on this after 1853.

Table 1 (Continued)

	1858	**1859**	**1860**
Contracted sugar factories	96	96	96
Households assigned to sugar cultivation			
Harvested area (*bouw*)	40,259	39,413	38,546
Production (piculs)	1703,483	1639,263	1764,505
Average per *bouw* (piculs)	42.3	41.6	45.8
Amount delivered to the government (piculs)	905,162	830,580	888,715
Amount left at disposal of manufacturers (piculs)	798,320	808,682	875,789
Crop payment (guilders)	4264,352	4214,400	4317,237
Average per household (guilders)	24.29	21.78	22.86
Average per *bouw* (guilders)	105.71	106.90	112.00
Cost of sugar delivered to the government (guilders)	9065,130	8291,081	8718,621
Average per picul (guilders)	10.00	9.98	9.90
Land rent owned by village cultivating sugar (guilders)			
Cultivation revenues (guilders)	366,074	392,869	435,656

Source: Fasseur, 1992: 246.

Table 2. *Indigo cultivation in Java, 1840–1860.*

	1840	1841	1842	1843	1844	1845
Indigo factories	749	749	698	701	690	683
Households assigned to indigo cultivation	207,118	202,479	192,683	193,203	193,184	187,329
Harvested area (*bouw*)	42,833	40,869	39,075	40,728	42,158	41,578
Production (pounds)	2121,226	1741,446	1432,238	1560,184	1484,138	1432,793
Average per *bouw* (pounds)	49	42	37	38	35	34
Crop payment (guilders)	2604,790	2116,280	1738,225	1878,675	1765,405	1710,900
Average per household (guilders)	12.69	10.54	9.02	9.87	9.16	9.16
Average per *bouw* (guilders)	60.97	51.93	44.80	46.15	41.11	40.58
Cost of sugar delivered to the government (guilders)*	3238,290	2714,975	2267,295	2486,175	2351,745	2277,810
Average per pound (guilders)	1.63	1.67	1.70	1.71	1.70	1.71
Land rent owned by villages cultivating sugar (guilders)	1436,675	1455,350	1619,470	1723,945	1190,005	2149,315
Cultivation revenues (guilders)	441,920	362,800	281,800	291,555	274,505	263,085

* This includes crop payments, transport, cultivation revenues, etc.

Table 2 (Continued)

	1846	**1847**	**1848**	**1849**	**1850**	**1851**
Indigo factories	663	650	515	509	482	437
Households assigned to indigo cultivation	168,720	160,093	123,517	124,920	108,577	107,408
Harvested area (*bouw*)	39,984	37,370	30,703	28,640	26,037	22,905
Production (pounds)	1582,130	1218,678	1114,069	895,919	614,767	679,580
Average per *bouw* (pounds)	40	32	36	31	23	29
Crop payment (guilders)	1971,733	1449,224	1330,829	1113,490	731,524	825,624
Average per household (guilders)	11.82	9.06	10.96	8.11	6.88	7.82
Average per *bouw* (guilders)	49.38	38.93	43.41	39.04	28.11	36.05
Cost of sugar delivered to the government (guilders)	2637,028	1998,840	1808,722	1493,534	1072,825	1149,083
Average per pound (guilders)	1.80	1.77	1.75	1.80	1.89	1.83
Land rent owned by villages cultivating sugar (guilders)	1444,133	1671,301	1339,929	1090,728	940,035	935,371
Cultivation revenues (guilders)	289,499	230,366	209,345	176,492	106,185	110,723

Table 2 (Continued)

	1852	**1853**	**1854**	**1855**	**1856**	**1857**
Indigo factories	368	365	365	365	324	314
Households assigned to indigo cultivation	110,419	104,682	108,356	113,081	110,858	110,996
Harvested area (*bouw*)	18,832	18,682	18,840	18,838	17,716	18,313
Production (pounds)	798,886	673,365	657,986	448,259	732,973	614,784
Average per *bouw* (pounds)	42	36	34	24	41	34
Crop payment (guilders)	791,731	975,369	951,042	641,919	1052,872	876,696
Average per household (guilders)		9.41	8.93	5.82	9.60	7.09
Average per *bouw* (guilders)	51.72	52.25	50.57	34.10	59.50	43.12
Cost of sugar delivered to the government (guilders)	1358,728	1370,656	1287,957	971,209	1416,622	1205,153
Average per pound (guilders)	1.84	2.04	1.11	2.20	1.11	1.11
Land rent owned by villages cultivating sugar (guilders)**						
Cultivation revenues (guilders)		150,807	130,561	104,553	147,266	126,191

** There are no data on this after 1851.

Table 2 (Continued)

	1858	**1859**	**1860**
Indigo factories	300	275	273
Households assigned to indigo cultivation	110,032	98,862	103,214
Harvested area (*bouw*)	17,552	17,386	15,546
Production (pounds)	773,811	575,545	467,672
Average per *bouw* (pounds)	44	33	28
Crop payment (guilders)	1110,555	1026,093	933,838
Average per household (guilders)	10.11	10.38	9.04
Average per *bouw* (guilders)	63.32	59.02	56.44
Cost of sugar delivered to the government (guilders)	1493,827	1293,897	1191,637
Average per pound (guilders)	1.11	2.24	2.55
Land rent owned by villages cultivating sugar (guilders)			
Cultivation revenues (guilders)	174,424	121,224	97,277

Source: Fasseur, 1992: 247.

Table 3. *Crop payment set against land rent in indigo cultivation, 1840.*

	Percentage of total indigo growers	Crop payment per household (guilders)	Land rent per household (guilders)	Financial results per household (guilders)
Bagelen	33.8	12.62	5.93	6.69
Banten	6.0	0.98	5.07	(4.09)
Banyumas	13.7	17.00	7.46	9.54
Besuki	2.1	16.17	26.03	(9.86)
Cirebon	20.5	15.53	8.24	7.29
Jepara	1.4	4.63	6.57	(1.94)
Kediri *	1.8			
Madiun *	3.1			
Pekalongan	9.1	15.86	6.86	9.00
Priangan **	5.4			
Tegal	3.0	7.63	12.53	(4.90)
Total	100	13.29	7.42	5.87

* Kediri and Madiun have been omitted from the last three columns of this table because of the fictive system of land rent in operation in these residences.
** Priangan has been omitted from the three columns of this table since the land rent system did not operate there.

Source: Elson, 1994: 54.

Table 4. *Coffee production per residency and coffee-growing household, 1854–1870.*
(in piculs)

	per residency				
	1854	**1858**	**1862**	**1866**	**1870**
Bagelen	53,122	60,564	13,707	53,887	40,818
Banten	22,188	30,972	9,229	20,130	9,502
Banyumas	17,904	35,319	5,294	36,148	13,236
Banyuwangi	13,831	19,891	1,171	4,246	8,607
Besuki	116,703	68,039	66,541	44,599	52,179
Cirebon	41,438	31,184	18,755	45,156	30,078
Jepara	4,056	3,544	11,003	7,262	7,333
Karawang	1,384	1,656	835	1,590	1,682
Kediri	48,104	35,721	28,462	28,707	44,201
Kedu	103,860	84,194	49,004	98,060	75,854
Madiun	54,940	29,453	43,516	50,362	71,673
Pacitan	33,919	28,430	12,874	25,424	***
Pasuruan	203,441	159,407	152,052	239,424	273,877
Pekalongan	20,278	22,226	14,887	29,536	18,201
Priangan	230,838	156,230	82,785	205,375	126,698
Probolinggo *		29,911	30,245	33,284	41,260
Rembang	1,365	682	**		
Semarang	46,738	47,943	59,729	57,052	69,439
Surabaya	10,352	9,717	11,259	12,833	9,408
Tegal	30,027	29,833	27,748	69,726	45,381
Total	1054,488	884,916	639,096	1062,801	939,427

* Probolinggo, previously a division of Besuki, became a separate residency in 1855.
** Withdrawn in 1862.
*** Merged with Madiun in 1867.

Table 4 (Continued)

	per household				
	1854	**1858**	**1862**	**1866**	**1870**
Bagelen	1.6	1.8	0.4	2.1	1.1
Banten	0.7	1.3	0.3	0.6	0.4
Banyumas	0.8	1.7	0.2	1.1	0.3
Banyuwangi	3.9	5.6	0.3	1.1	2.2
Besuki	3.4	2.9	2.6	1.6	1.5
Cirebon	1.9	1.2	0.8	1.4	0.8
Jepara	0.8	0.6	1.6	1.1	1.0
Karawang	2.5	1.8	1.0	2.4	1.4
Kediri	2.0	1.4	1.0	0.9	1.0
Kedu	1.2	1.2	0.6	1.1	0.7
Madiun	3.5	1.8	2.6	2.5	2.0
Pacitan	2.8	2.4	1.1	2.2	-
Pasuruan	7.0	5.3	4.7	5.5	6.9
Pekalongan	2.5	2.6	1.3	2.7	1.2
Priangan	1.2	1.3	0.6	0.8	0.7
Probolinggo	-	1.9	1.8	1.9	2.1
Rembang	0.5	0.2	-	-	-
Semarang	1.6	1.5	1.8	1.3	1.5
Surabaya	3.3	3.1	2.5	3.1	1.6
Tegal	4.1	3.6	2.8	6.2	2.7
Total	2.6	2.0	1.3	1.9	1.5

Source: Elson, 1994: 139.

Table 5. *Coffee cultivation in Java, 1840–1860.*

	1840	1841	1842	1843	1844	1845
Households assigned to coffee cultivation	470,673	453,289	445,419	447,691	443,915	439,882
Coffee received in government storehouses (piculs)	702,634	872,807	971,564	1040,444	950,186	633,031
Crop payments	5746,872	7170,810	7400,275	8337,025	6610,250	4580,640
Cost of coffee delivered to the government (guilders)*	7554,270	9326,340	9783,920	10816,920	8927,355	6190,170
Average cost per picul (guilders)	10.90	10.82	10.08	10.47	9.47	9.93
Number of government coffee storehouses	159	174	181	187	191	182
Cultivation revenues (guilders)	395,811	467,355	630,220	580,105	536,600	308,300

* This figure includes crop payments, the cost of staff in the coffee storehouses, the cost of transporting coffee from storehouses in the interior to storehouses at the ports, cultivation percentages, remission of land rent, etc, but not the cost of transport to the Netherlands nor the costs involved in its sale there.

Table 5 (Continued)

	1846	1847	1848	1849	1850	1851
Households assigned to coffee cultivation	441,773	421,947	425,915	413,469	407,009	422,789
Coffee received in government storehouses (piculs)	874,408	766,891	854,108	455,868	968,879	1064,030
Crop payments (guilders)	6198,250	5332,263	6079,357	3363,275	6929,579	7175,044
Cost of coffee delivered to the government (guilders)	8340,576	7252,447	8193,530	4691,250	9092,031	9698,398
Average cost per picul (guilders)	9.64	9.55	9.71	10.35	9.46	9.14
Number of government coffee storehouses	191	188	189	192	209	218
Cultivation revenues (guilders)	445,612	390,131	403,090	215,565	436,284	622,176

Table 5 (Continued)

	1852**	1853**	1854	1855	1856	1857
Households assigned to coffee cultivation		446,805	465,737	460,245	454,229	445,723
Coffee received in government storehouses (piculs)	880,689	686,499	1074,163	1152,261	742,102	882,193
Crop payments (guilders)		4718,617	7085,488	7560,935	4865,570	6305,403
Cost of coffee delivered to the government (guilders)	8172,225	6312,931	9579,797	10174,547	6857,339	8263,325
Average cost per picul (guilders)	9.34	9.24	8.11	8.11	9.29	9.16
Number of government coffee storehouses		224	221	219	211	211
Cultivation revenues (guilders)		392,010	614,407	697,544	485,451	497,622

** The colonial reports for 1852 and 1853 contain only incomplete data (the same applies for sugar and indigo cultivation). The figures for these years also include data on coffee deliveries from Surakarta and Yogyakarta.

Table 5 (Continued)

	1858	1859	1860
Households assigned to coffee cultivation	450,628	455,316	466,207
Coffee received in government storehouses (piculs)	897,288	724,192	982,134
Crop payments (guilders)	6712,863	6556,850	9278,231
Cost of coffee delivered to the government (guilders)	8858,128	8059,179	11250,856
Average cost per picul (guilders)	9.10	11.00	11.38
Number of government coffee storehouses	213	213	220
Cultivation revenues (guilders)	530,118	414,382	563,914

Source: Fasseur, 1992: 245.

References

Bastin, J., *Native policy of Sir Stamford Raffles in Java and Sumatra*. Oxford: Clarendon Press, 1957.

Boomgaard, P., *Children of the colonial state; Population growth and economic development in Java, 1795–1880*. Amsterdam: Free University Press, 1989.

Bosch, J. van den, *Mijne verrigtingen in Indië*. Amsterdam: Müller, 1864.

Burger, D.H., *De ontsluiting van Java's binnenland voor het wereldverkeer*. Wageningen: Veenman, 1939.

Burger, D.H., *Sociologisch-economische geschiedenis van Indonesia*. Wageningen: Landbouw Hogeschool [2 vols], 1975.

Carey, P., 'Waiting for the "Just King"; The agrarian world of South-Central Java from Giyanti (1755) to the Java War (1825–30)'. In: *Modern Asian Studies*, 20, 1986, 59–137.

Day, C., *The policy and administration of the Dutch in Java*. Kuala Lumpur: Oxford University Press, 1904, 1975^2.

Deventer, S. van, *Bijdragen tot de kennis van het landelijk stelsel op Java*. Zaltbommel: Normann [2 vols], 1865.

Elson, R.E., *Javanese peasants and the colonial sugar industry; Impact and change in an East Java residency, 1830–1940*. Singapore: Oxford University Press, 1984.

Elson, R.E., 'Kemiskinan dan kemakmuran kaum petani pada masa Tanam Paksa di Jawa'. In: A. Booth, W.J. O'Malley & A. Weidemann, eds., *Sejarah ekonomi Indonesia*. Jakarta: LP3ES, 1988, 38–73.

Elson, R.E., *Village Java under the Cultivation System, 1830–1870*. Sydney: Allen & Unwin, 1994.

Fasseur, C., *Kultuurstelsel en koloniale baten; De Nederlandse exploitatie van Java 1840–1860*; = *The Politics of colonial exploitation in Java; The Dutch and the Cultivation System*, trans. by R.E. Elson & A. Kraal. Leiden/Ithaca: Universitaire Pers/Cornell University Press, 1975, 1992.

Fernando, R., *Peasants and plantation economy: The social impact of the European economy in Cirebon residency from the Cultivation System to the end of First decade of the twentieth century*. Ph.D. dissertation, Monash University, Clayton, 1982.

Furnivall, J.S., *The colonial policy and practice*. Cambridge: Cambridge University Press, 1948.

Geertz, C., *Agricultural involution; The process of ecological change in Indonesia*. Berkeley: University of California Press, 1963.

Haan, F. de, *Priangan*. Batavia: Bataviaasch Genootschap van Kunsten en Wetenschappen [2 vols], 1910.

Kartodirdjo, Sartono, *Modern Indonesia; Tradition and transformation*. Yogyakarta: Gadjah Mada University Press, 1984.

Klein, J.W., *Het Preangerstelsel (1677–1871) en zijn nawerking*. Delft: Waltman, 1930.

Knight, G.R., 'Capitalism and commodity production in Java'. In: H. Alawi *et al.*, eds., *Capitalism and colonial production.* London/Canberra: Croom Helm, 1982a, 119–158.
Knight, G.R., 'The indigo industry and the organisation of agricultural production in Pekalongan residency, North Java, 1800–1850'. Paper presented at the Fourth national conference of the Asian Studies Association in Australia, Melbourne, 1982b.
Leur, J.C. van, *Indonesian trade and society.* The Hague/Bandung: Van Hoeve, 1955.
Raffles, T.S., *History of Java.* London: Black Parburry & Allen [2 vols], 1817, 1975[2].
Raffles, T.S., 'Memorie van de Luitenant-Gouverneur T.S. Raffles, over het landelijk stelsel, gerigt aan de Raad van Indie, dd. 14 June 1813'. In: S. van Deventer, *Bijdragen tot de kennis van het landelijk stelsel op Java.* Zaltbommel: Normann, 1865, 68–86.
Reinsma, R., *Het verval van het Cultuurstelsel.* The Hague: Van Keulen, 1955.
Schaik, A. van, *Colonial control and peasant resources in Java; Agricultural involution reconsidered.* Ph.D. thesis, University of Amsterdam, 1986.
Soest, G.H. van, *Geschiedenis van het Cultuurstelsel.* Rotterdam: Nijgh & Van Ditmar [3 vols], 1869–1871.
Suroyo, A.M. Djuliati, 'Condition and systems of exploitation; Some preliminary remarks on the colonial exploitation system in Java and India in the nineteenth century'. In: *Itinerario,* 11, 1, 1987, 61–76.
Suroyo, A.M. Djuliati, *Kerja-wajib sebagai eksploitasi kolonial; Perkembangan di karesidenan Kedu, 1800–1890.* Ph.D. dissertation, Universitas Gadjah Mada, Yogyakarta, 1989.
Sutherland, H.A., *The making of a bureaucratic elite; The colonial transformation of the Javanese priyayi.* Singapore: Heinemann (Asia), 1979.