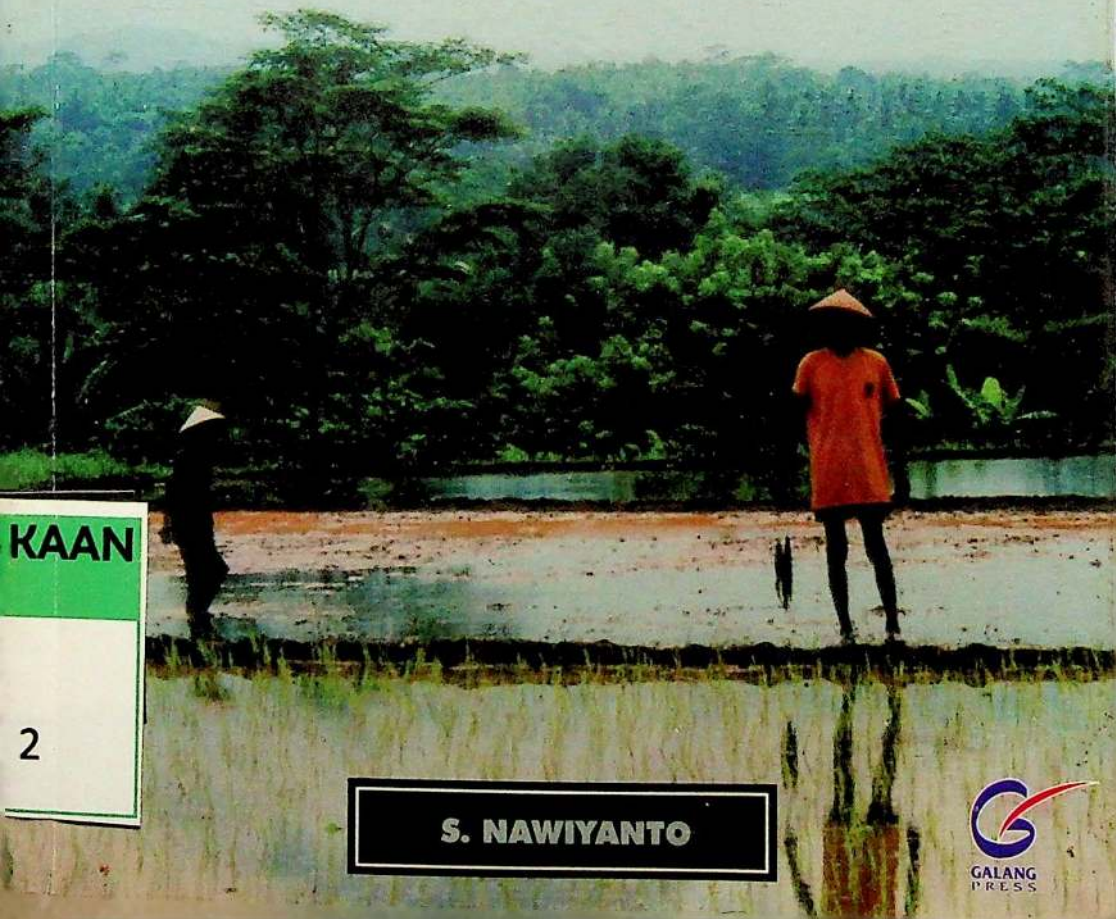
AGRICULTURAL DEVELOPMENT IN A FRONTIER REGION OF JAVA:

BESUKI, 1870 - EARLY 1990s



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Nawiyanto's systematic discussion of the region's main agricultural products establishes that, far from being merely subsistence-oriented oppressed peasants, most farmers in this relatively remote part of Indonesia were in touch with distant markets and sensitive to market opportunities, whether they concerned rice, maize, soybeans, tobacco or livestock. In the context of Indonesia's historiography, a refreshingly innovative part of Nawiyanto's book is the discussion of the fact that increasing land use for subsistence and market production increased the value of this resource. As a consequence, it became increasingly pertinent to formalise rights to land. In the absence of a cadastre, the land tax register performed this function during the colonial era. However, poor maintenance of the register since the 1940s pitched newcomers (tobacco estates and migrant farmers) against those with traditional rights to land, and enhanced the need for certification of ownership. Intersecting this development since the 1940s was the politically uncertain position of the tobacco estates, which had to endure a proliferation of claims to land until their military take-over and nationalisation in 1957-58.

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PREFACE

On the cusp of history and economics, economic history is not a widely practiced academic discipline in Indonesia. Although many will readily acknowledge that history is crucial to understanding Indonesia's current state of economic development, not enough scholars have used the available historical sources to probe the still prevailing glib answers to the question what historical factors account for the country's economic plight. Few combine an interest in development economics and history to properly test the adequacy of such interpretations, which tend to caricature the exploitative nature of Western firms during the colonial era.

It is, admittedly, not easy to come to terms with long-term economic change in a country as large as Indonesia. Sufficient historical macro-economic statistics are not readily available to enhance our understanding of the general aspects of Indonesia's past. More importantly, regional diversity was and still is so considerable that any effort to generalise past economic trends in the country is laden with difficulties.

In that light, Nawiyanto's study is one of a growing range that draw attention to regional diversity within the country as a whole, and also in the core island of Java. Nawiyanto's book is particularly welcome, because it covers the Besuki region, an area that was manifestly different from other parts of Java. Nawiyanto's findings therefore throw doubt on the adequacy of previous generalisations. They draw attention to the relevance of the more systematic but gradual forces that drive economic change, including

population growth, infrastructure development, market opportunities and adequately defined property rights.

Not afraid to draw systematically on available statistical data, Nawiyanto introduces Besuki as a long underpopulated part of Java. As a consequence of a mixture of population pressure elsewhere, the improvement of communications and the lure of employment in the newly established tobacco estates in the Jember area, he discusses the movement of people into the region. Crucial to this development was the gradual improvement of transport facilities, which also determined the opportunities for gainful employment in estate tobacco, and, more importantly, in the mainstay of Besuki's rural population: farm agriculture.

Nawiyanto's systematic discussion of the region's main agricultural products establishes that, far from being merely subsistence-oriented oppressed peasants, most farmers in this relatively remote part of Indonesia were in touch with distant markets and sensitive to market opportunities, whether they concerned rice, maize, soybeans, tobacco or livestock. In the context of Indonesia's historiography, a refreshingly innovative part of Nawiyanto's book is the discussion of the fact that increasing land use for subsistence and market production increased the value of this resource. As a consequence, it became increasingly pertinent to formalise rights to land. In the absence of a cadastre, the land tax register performed this function during the colonial era. However, poor maintenance of the register since the 1940s pitched newcomers (tobacco estates and migrant farmers) against those with traditional rights to land, and enhanced the need for certification of ownership. Intersecting this development since the 1940s was the politically uncertain position of the tobacco estates, which had to endure a proliferation of claims to land until their military take-over and nationalisation in 1957-58.

Nawiyanto's book confirms that there are abundant sources readily available to write regional economic history of Indonesia. It is quite novel in demonstrating continuity in economic development during and across the widely accepted political caesura of the 1940s. Lastly, it demonstrates that there are sufficient sources available to piece together changes in the 1950s and 1960s, two decades that have hitherto received but stepmotherly treatment in the historiography of Indonesia.

Canberra, March 2003
Pierre van der Eng

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In the collection of source material, I have incurred many debts to staff of the libraries of the Australian National University and The National Library of Australia. In Indonesia I was helped by staff of several libraries: The Library of *Pusat Penelitian Tanaman Perkebunan* (Research Centre for Estate Crops at Kaliwining,

Jember, East Java); *Pusat Penelitian Pembangunan Pedesaan dan Kawasan* (Research Centre for Rural and Regional Development, Gadjah Mada University, Yogyakarta); *Arsip Nasional Republik Indonesia* (National Archives of the Republic of Indonesia) and *Perpustakaan Nasional Indonesia* (National Library of Indonesia), Hicks Collection of the *Lembaga Ilmu Pengetahuan Indonesia* (Indonesian National Institute of Science), in Jakarta. My gratitude goes to them all. I am also very grateful to Mr. Chimaki Kurokawa, Managing Director of The Toyota Foundation, in cooperation with the *Yayasan Ilmu-Ilmu Sosial*, Jakarta, providing me financial support to conduct the research activities.

I would like to thank to the Australian Government for granting me a scholarship under the ASTAS Program and to the Rector of the University of Jember for permitting me to temporarily abandon teaching duties in order to pursue further education. I extend thanks to Ms. Yvette Glen, who helped improving the language of this thesis. I am also especially grateful to my colleagues who have supported me during my study in Australia especially: Drs. Edy Burhan Arifin, S.U., Drs. Bambang Samsu Badriyanto, M.Si., Drs. I.G. Krisnadi, M.Hum., Dra. Sri Ana Handayani, M.Si., Drs. Dison Mulyadi, M.Si., Dra. Dewi Salindri.

From the bottom of my heart my thanks go to my *Emak* and *Bapak* Ratnowardoyo for everything they have already done, often beyond their ability, to make a better future for their children. And last but not least, thanks to my beloved wife, Weny Pudyastuti, S.S. and my little angel, Andrea Nina Mutiara Calvaryni for everything they have given during the struggle for a more meaningful life. To them this work is dedicated. Praise to the Lord God, the King of Love, Life, and Universe.

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CHAPTER I

INTRODUCTION

1.1 Background and Research Questions

Agricultural development is an important theme in Indonesian historiography. This can be understood in light of the paramount importance of the agricultural sector in the Indonesian economy in the past. Its importance is reflected in the share of agriculture in employment. In 1930 more than 75 percent of total employment in Indonesia was in agriculture. This share decreased later, but in 1990 the agricultural sector still accounted for 50 percent of total employment. In absolute terms, the number of people employed in the agricultural sector continued to increase, even in densely populated Java. In 1930 there were about 12 million people in Java gainfully employed in agriculture, by 1990 this had increased to more than 18 million.[1]

The importance of the agricultural sector is also evident from the fact that Indonesia has long been known as an important centre of agricultural production for export. Until the end of the 18th century, spices such as pepper and cloves were predominantly produced for export in the outer islands of Indonesia, particularly the islands of Maluku and Sumatera, while rice was largely produced in Java. During the 19th century, agricultural production

1) P. van der Eng, *Agricultural Growth in Indonesia: Productivity Change and Policy Impact since 1880* (Basingstoke: Macmillan, 1996), pp. 276, 279.

diversified. Under the Cultivation System, coffee and sugar gained a dominant position in the export trade from Java. In the second half of the 19th century, tobacco emerged, followed by rubber in the early 20th century. These two commodities were largely produced in the outer islands of Indonesia. They emphasised a geographical reorientation of agricultural production for export from Java to the outer islands.[2]

Observers of economic change in Indonesia long believed that agricultural development was limited to the foreign-owned modern plantation sector, while the indigenous traditional sector remained backward. According to Boeke, the key explanation for this involved the fundamental difference between the two sectors. The plantation sector was driven by economic motives with profit generation as a central aim of all activities. In contrast, in the indigenous sector, economic motives were subordinated to social motives such as religion and tradition. Boeke argued that economic motives, which have been the driving forces of economic activity in western societies, were not found in Indonesia and other Eastern societies.[3]

Geertz extended Boeke's dualistic argument in his thesis of 'Agricultural Involution'. Geertz argued that the claims on land and labour of expanding plantation agriculture had impoverished Javanese farmers and had caused them to become static.[4] Instead of moving forward, the indigenous traditional sector experienced

2) On agricultural development in the outer islands see for example, Thee Kian Wie, *Plantation Agriculture and Export Growth: An Economic History of East Sumatera, 1863-1942* (Jakarta: Leknas LIPI, 1977); J.Th. Lindblad, *Between Dayak and Dutch: The Economic History of South Kalimantan* (Dordrecht: Foris, 1988); B. Purwanto, 'The Economy of Indonesian Smallholder Rubber, 1890s-1940,' in J. Th. Lindblad (ed.), *Historical Foundations of a National Economy in Indonesia, 1890s-1990s* (North Holland: Koninklijke Nederlandse Akademie van Wetenschappen, 1996), pp. 175-192.

3) J.H. Boeke, *Economics and Economic Policy of Dual Societies: As Exemplified by Indonesia* (New York: Institute of Pacific Relations, 1953), pp. 10-11.

4) C. Geertz, *Agricultural Involution: The Process of Ecological Change in Indonesia* (Berkeley: University of California Press, 1963), p. 142.

growth without development due to the seemingly endless ability of rice agriculture to absorb the growing labour force, which inhibited any real improvement in the indigenous sector. With the continued increase of population and limited opportunities for the expansion of arable land, Geertz suggested that a process of shared poverty among indigenous farmers inhibited the development of farm agriculture in Java.[5] Other authors have argued that the development of plantation agriculture had detrimental effects on indigenous food crop production because plantations took land from the farmers.[6]

These sweeping interpretations of the broad features of economic change in colonial Indonesia, or the lack of it, have not taken full account of the regional differences across the Indonesian Archipelago and even across Java. A growing number of regional studies have suggested this. In his work on Pasuruan, Elson argued that the development of plantation agriculture enhanced indigenous prosperity, although its impact was complex.[7] Based on evidence taken from Tegal and Pasuruan, Van Schaik maintained that indigenous farmers responded actively to the opportunities created by plantation agriculture.[8] In the case of the sugar industry in Tegal and Pekalongan, Knight showed that the industry largely depended on landless villagers as source of labour, rather than farmers.[9] In relation to this,

5) Geertz, *Agricultural..., ibid.*, pp. 96-98.

6) For example, S. Kartodirdjo and D. Surjo, *Sejarah Perkebunan di Indonesia* (Yogyakarta: Aditya Media, 1991), pp. 8-9.

7) R.E. Elson, *Javanese Peasant and the Colonial Sugar Industry: Impact and Change in an East Java Residency, 1830-1940* (Sydney: Allen and Unwin, 1994), pp. 253-254, also *Java under the Cultivation System* (Sydney: Allen and Unwin, 1994), pp. 307-322.

8) A. van Schaik, *Colonial Control and Peasant Resources: Agricultural Involution Reconsidered* (Amsterdam: Koninklijk Nederlands Aardrijkskundig Genootschap, 1986), pp. 106-113.

9) G.R. Knight, 'Gully Coolies, Weed-Women and Snijvolk: The Sugar Industry Workers of North Java in the Early Twentieth Century,' in J. Th. Lindblad (ed), *New Challenges in the Modern Economic History of Indonesia* (Leiden: Programme of Indonesian Studies, 1993), p. 81; G.R. Knight, *Colonial Production in Provincial Java: The Sugar Industry in Pekalongan-Tegal, 1800-1942* (Amsterdam: VU University Press, 1993), pp. 33-34.

Fernando and Padmo underlined the growing importance of off-farm activities, in response to the development of plantation agriculture and the continued population growth.[10] Evidence from Malang, presented by Hartveldt, and from the north coastal areas of Central Java, presented by Hüsken, also contradicted Geertz's suggestion that the flexibility of *sawah* ecology in absorbing labour inhibited the process of social differentiation.[11] Other recent regional studies have emphasised the existence of differences across regions, and the shortcomings of the generalisations made in earlier studies.[12]

Despite the growing interest in regional economic change in Java, little is known about Besuki. This is in spite of the fact that since the 19th century agricultural production in Besuki had developed rapidly. In 1912 the region was described as 'an emerging region'.[13] The region became one of the centres of agricultural production in colonial Indonesia. During 1926-1930, for example, 25 percent of tobacco exports from Java originated from Besuki, while the region constituted only 7.5 percent of

10) M.R. Fernando, 'Growth of non-agricutural Indigenous Economic Activities in Java, 1820-1880,' in Lindblad (ed.), *New Challenges..., ibid.*, p. 100; also S. Padmo, 'The Development of non-farm Employment Opportunities in the Residency of Chirebon,' in Lindblad (ed.), *New Challenges..., ibid.*, pp. 117-118; for a broader discussion of the off-farm sector, P. Alexander, P. Boomgaard and B. White (eds), *In the Shadow of Agriculture* (Amsterdam: Royal Tropical Institute, 1991).

11) A.J. Hartveld, *Raising Cane: Linkages, Organizations and Negotiations in Malang's Sugar Industry, East Java* (Delft: Eburon, 1996), p. 276; F. Hüsken, 'Kesinambungan dan Perubahan Politik Lokal,' in H. Kano, F. Hüsken and D. Surjo (eds.), *Di Bawah Asap Pabrik Gula: Masyarakat Desa di Pesisir Jawa Sepanjang Abad ke-20* (Yogyakarta: Akatiga and Gadjah Mada University Press, 1996), pp. 259-261.

12) On trends in the historiography of economic change in Indonesia, see for example, J.Th. Lindblad, 'Key Themes in the Modern Economic History of Indonesia,' in Lindblad (ed.), *New Challenges... op.cit.*, pp. 1-36; P. van der Eng, 'Challenging Changes: Current Themes in the Economic History of Indonesia', *NEHA Bulletin*, 10, 2 (1996), pp. 89-113.

13) R. Broersma, *Besoeki: Een Gewest in Opkomst* (Amsterdam: Scheltema, 1912).

Java's total land area.[14] More importantly, Besuki also produced rice for export to other parts of Indonesia.[15] Besuki is perhaps best known for its production of tobacco, both by foreign-owned plantations and by smallholders.

The research emphasis on tobacco production by plantations has led to a neglect of the fact that the main part of agricultural economy of Besuki actually consisted of smallholder agriculture.[16] Hence, although we know quite a bit about plantation agriculture from several studies,[17] not much is known about farm agriculture. The present study aims to fill this gap in our knowledge, by focusing on the development of farm agriculture in Besuki. By so doing, this study seeks to capture broad changes in the agricultural economy of Besuki in order to further our understanding of economic development in the region. The first question this thesis seeks to address is: What factors help to understand the rapid development of farm agriculture in Besuki in the 19th and 20th centuries?

This question leads to an examination of related issues, such as population growth and the development of the transport

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[14] A. Clemens, J. Th. Lindblad and J. Touwen, *Changing Economy in Indonesia, Vol. 12b: Regional Patterns in Foreign Trade 1911-1940* (Amsterdam: Royal Tropical Institute, 1992), p. 63; P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), p. 217.

[15] The ability of Besuki to export rice was often reported in colonial sources, for example, ANRI, Arsip Residensi, Besuki, 9.11, 9.14, 9.18, 9.21, 'Algemeen Verslag van Residentie Besoeki over het Jaar 1880, 1883, 1887, 1890'; see also S. Kartodirdjo, et al. (eds.) *Memori Serah Jabatan 1921-1930 (Jawa Timur dan Tanah Kerajaan)* (Jakarta: ANRI, 1978), p. CXVII.

[16] In 1922, for example, plantation agriculture occupied about 25 percent of arable land, whereas smallholder agriculture occupied 75 percent of arable land, *Landbouwatlas van Java en Madoera* (Weltevreden: Department van Landbouw, Nijverheid en Handel, 1926), pp. 44-45.

[17] For example, S. Padmo, *The Cultivation of Vorstenlands Tobacco in Surakarta Residency and Besuki Tobacco in Besuki Residency and Its Impact on the Peasant Economy and Society, 1860-1960* (Yogyakarta: Aditya Media, 1994); E.B. Arifin, 'Emas Hijau di Jember: Asal-usul, Pertumbuhan dan Pengaruhnya dalam Kehidupan Sosial Ekonomi Masyarakat, 1860-1930.' *Unpublished M.A. Thesis*, Gadjah Mada University, Yogyakarta, 1989.

network in the region. Low initial population density and improvements in transport networks encouraged inward migration, which contributed significantly to the high population growth in Besuki. Between 1890 and 1930 the population density of Besuki increased by 125 percent, whereas the population density of Java only increased by 70 percent.[18] This increase not only transformed Besuki from a sparsely populated region to a more densely populated one, but increased the relative scarcity of farmland in the region as well. When land started to become a scarce resource, it can be expected that its value began to increase. It is, therefore, possible that the need for clear definitions of land titles became more urgent. Clear property rights to land may have been a prerequisite for agricultural development, as will be explained later.

A remarkable lacuna in Indonesian historiography concerns the development of land titles, even though inquiries into the issue of land rights can be traced back to the 19th century.[19] The second question this study will seek to address is: How did agricultural development impact on the way people in the region defined the rights to the most important input in agricultural production, land?

1.2 Scope of Study

The Besuki residency is no longer in existence today, but during the Dutch colonial period it was situated in the far corner of East Java. At the end of the colonial period, Besuki consisted of four regencies, namely Banyuwangi, Jember, Panarukan, and

[18] Boomgaard and Gooszen, *Changing Economy... op.cit.*, pp. 217-218.

[19] W.B. Bergsma (ed.), *Eindresumè van het bij Gouvernementsbesluit dd. 10 Juni 1867 no. 2 Bevolen Onderzoek naar de Rechten van den Inlander op den Grond op Java en Madoera* (Batavia: Ernst, 1876) Vol. I, (Batavia: Ernst, 1980), Vol. II, (Batavia: Landsdrukkerij, 1896) Vol. III.

Bondowoso.[20] This region, often referred to as the *Oosthoek*, long constituted a frontier region in Java.[21] For a long time the region was relatively unstable due to the warfare between the Javanese kingdoms of Majapahit, Demak, and later also Mataram and the Blambangan supported by Balinese kingdoms. The aim of this strife was to establish sovereignty over the region.[22] Dutch colonial rule ended this period of uncertainty for the people in the region and led to the establishment of the Besuki residency. After independence, the residency of Besuki ceased to exist. In this study, we will continue to refer to the area consisting of the four regencies (*kabupaten)* (Jember, Bondowoso, Panarukan, and Banyuwangi) as Besuki.

The time scope of this study is broadly the period between 1870 and the early 1990s. During this period the residency of Besuki became more closely integrated into a wider market for agricultural commodities. This was mainly a result of the implementation of the Agrarian Law of 1870, which allowed the establishment of privately owned plantations on hitherto unused agricultural land. The operation of such plantations depended on an influx of migrant labour into the region. For that reason, population growth in Besuki was higher than elsewhere.

The study covers a relatively long period of time. This offers a better opportunity to observe the broad changes that have taken place.[23] A better appreciation of the economic

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[20] J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki,' *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*, 80 (1963), p. 358.

[21] A. Kumar, 'Historiografi Jawa mengenai Periode Kolonial: Studi Kasus,' in A.J.S. Reid and D.G. Marr (eds.), *Dari Raja Ali Haji Hingga Hamka* (Jakarta: Grafiti Pers, 1983), p. 77; C. Lekkerkerker, 'Blambangan,' *Indische Gids*, 45, 2 (1923) pp. 1036-1040.

[22] H.J. de Graaf and Th. G. Th. Pigeaud, *Kerajaan-kerajaan Islam Pertama di Jawa* (Jakarta: Grafiti Pers, 1985), p. 207, 234-236; H.J. de Graaf, *Puncak Kekuasaan Mataram: Politik Ekpansi Sultan Agung* (Jakarta: Grafiti Pers, 1990), p. 262-271; Kumar, 'Historiografi... op.cit., p. 77-83.

[23] For example, Elson, *Javanese Peasants... loc.cit.*; Kuntowijoyo, 'Social Change in Agrarian Society: Madura 1850-1940.' *Unpublished Ph.D. Thesis*, Columbia University, New York, 1980; Suhartono, *Apanage dan Bekel: Perubahan Sosial di Pedesaan Surakarta, 1830-1920* (Yogyakarta: Tiara Wacana, 1991).

changes can only be obtained by placing the subject matter in a long-term historical perspective, as changes take place only gradually. A long-term historical approach is, therefore, the best way to elaborate the processes of evolutionary economic changes that involve a complex of economic and non-economic elements.[24]

1.3. Theoretical Framework

Some observers have attempted to elaborate the process of agricultural development. An influential view on agricultural development by Boserup is based on an examination of the relationships between agricultural development and population growth. According to Boserup, population growth is an exogenous factor in the process of agricultural development. She maintained that population growth is the main force driving economic change and traditional communities with sustained population growth have better opportunities to experience genuine economic development than those with a declining population. Unlike the pessimistic Malthusian view, which considers population growth as a serious threat to the food supply, Boserup argued that population growth leads to agricultural development through the adoption of new production techniques in order to increase land productivity and support the increasing population. At the initial stages this takes the form of reducing the fallow period for arable land. In later stages the use of land is further intensified by applying fertiliser and by shifting from single to multiple cropping.[25]

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[24] Van der Eng, *Agricultural... op.cit.*, pp. 2-3; J.L. Anderson, *Explaining Long-term Economic Change* (Cambridge: Cambridge University Press, 1995), pp. 1, 64; G.D. Snooks, *The Dynamic Society: Exploring the Sources of Global Change* (London: Routledge, 1996), pp. 391-392.

[25] E. Boserup, *The conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure* (Chicago: Aldine, 1975), pp. 15-16, 117-118.

In his 'vent for surplus' model, Myint underlined the importance of external demand to induce the expansion of farm production for export. Myint's model was constructed on the basis of his observations on the active involvement of farm producers in export production in sparsely populated underdeveloped countries. Myint argued that the inducement of external demand would mobilise the underused surplus of productive capacity (both labour and land) available in sparsely populated areas to increase production for export. According to Myint, this process was inseparable from the establishment of foreign export-import firms acting as intermediaries between farm producers and distant markets. Such firms functioned not only as a collector of farm products for export, but also as a stimulator of the farmers' need for new imported goods.[26]

The commercialisation of farm agricultural products is inseparable from the development of a transport system. Long distances and the poor condition of a transport network cause high transport costs. According to Mellor, the high cost of transportation can lead to reduced production in distant areas and the under-use of resources.[27] Therefore, the improvement of transport networks can facilitate the conveyance of products from production areas to places of consumption at a lower cost. Davis and North have argued that the development of a relatively low cost transport system is one of the key explanations for economic growth.[28]

Scott advanced the view that the development of commercial agriculture had a detrimental impact on farmers. Key

[26] H. Myint, *The Economics of the Developing Countries* (London: Hutchinson, 1973), pp. 31-32; also, H. Myint, *Economic Theory and the Underdeveloped Countries* (New York: Oxford University Press, 1971), pp. 132-133.

[27] J.W. Mellor, *The Economics of Agricultural Development* (Ithaca: Cornell University Press, 1970), p. 340.

[28] L.E. Davis and D.C. North, *Institutional Change and American Economic Growth* (Cambridge: Cambridge University Press, 1971), p. 135.

elements attributed by Scott to the farm household in his moral economy model are 'safety first' and a 'subsistence ethic'. These elements formed the foundation of farmers' behaviour and traditional institutions. Scott maintained that the commercialisation of farm agriculture and bureaucratic centralisation taking place during the colonial period caused an erosion of the traditional relations and created uncertainties in the subsistence life of farm households.[29] In this connection, Scott claimed that peasant uprisings were a defensive response to the threat of subsistence and an attempt to resurrect the traditional, pre-capitalist order.[30] This view assumed that farmers were basically anti-market and tended to idealise traditional society depicted as a harmonious world without conflict.

Popkin provided a systematic criticism of Scott's moral economy model. On the basis of his observations of Vietnamese farmers, Popkin pointed out that farmers rationally pursued their own interests.[31] Even though farmers were risk-averse, they did make investments and responded positively to the new opportunities available, in order to improve their material standard of living. Popkin argued that the development of commercial agriculture offered benefits to farmers and liberated them from unfair traditional relations. In this connection, farmer uprisings were not necessarily to restore traditional order, but frequently to tame markets and bureaucracies.[32]

Schultz also stressed that traditional farmers acted rationally. Schultz maintained that, even though traditional farmers were poor, they used the available factors of production

[29] J.C. Scott, *The Moral Economy of the Peasant* (New Haven: Yale University Press, 1976), pp. 195-201.

[30] Scott, *The Moral...ibid.*, pp. 10-11.

[31] S.L. Popkin, *The Rational Peasant: The Political Economy of Rural Society in Vietnam* (Berkeley: University of California Press, 1979), pp. 30-31.

[32] Popkin, *The Rational... ibid.*, pp. 34-35.

efficiently.[33] Low levels of productivity caused by technological constraints were the main reason why traditional farmers remained poor. According to Schultz, the keys to transforming traditional agriculture are to improve agricultural technology, make it available at suitable price, and to improve the farmers' capability to use it.[34] In his view, the farmers' reluctance to accept new agricultural technologies was a myth.[35]

In analysing the link between the development of farm agriculture and changes in the definition of land titles, it is useful to employ an institutional approach. North has defined an institution as the rules of the game regulating individual or collective human interaction in a society.[36] As codes of conduct, which are formulated both formally and informally, these rules form an institutional framework designed to regulate human behaviour by determining what activities are prohibited or permitted.[37] The main role of institutions is to reduce uncertainty in human interactions in order to provide incentives for investment and economic growth.[38]

According to North, the performance of an economy is significantly affected by institutions. He argued that the ways in which institutions have evolved has affected differences in economic performance between countries and overtime.[39] Feeny,

33) T.W. Schultz, *Transforming Traditional Agriculture* (New Haven: Yale University Press, 1964), pp. 36-52.

34) Schultz, *Transforming... ibid.*, pp. 145-206; see also T.W. Schultz, *Economic Crises in World Agriculture* (Ann Arbor: The University of Michigan Press, 1965), p. 47.

35) Schultz, *Transforming... ibid.*, p. 162.

36) D.C. North, *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press, 1990), p. 3.

37) North, Institutions... ibid., p. 4; see also D.C. North, *Structure and Change in Economic History* (New York: Norton, 1981), pp. 201-202; The regulatory function of institutions is also stressed by Common, see J.R. Common, *Institutional Economics: Its Place in Political Economy* (New York: Macmillan, 1934), pp. 69-70.

38) North, *Institutions... ibid.*, p. 6; see also D.C. North, *The Process of Economic Change*(Helsinki: United Nations University and WIDER, 1997), p. 2.

39) North, *Institutions... ibid.*, p. 3.

who recognised institutions as one of the pillars of economic theory, expressed a similar view.[40] He argued that the influence of institutions on the performance of the economy is found in their effects on the costs of exchange and production.[41] Davis and North argued that institutions are not static, but dynamic in nature, which means that institutions are subject to change. Basically, institutional changes provide entrepreneurs with better opportunities to maximise their material advantages, opportunities which are not provided under existing institutional arrangements.[42] The potential sources of benefit are generated by the ability to create economies of scale, to reduce risks and transaction costs and to cope with externalities.[43]

According to the induced innovation model, the main sources of institutional change are changes in relative factor and product prices.[44] The model assumes that changes in relative factor and product prices will cause a disequilibrium in the institutional structure. Population growth changes the relative scarcity of labour and land. In line with this, it can be expected that the price of labour decreases, while the price of land increases with population growth. An increase in the relative price of agricultural products will persuade people to expand agricultural production, which stimulates further the rising trend in the price of land relative to labour. As a consequence, a new equilibrium of

40) D. Feeny, 'The Demand for and Supply of Institutional Arrangements,' in V. Ostrom, *et al.*, (eds.), *Rethinking Institutional Analysis and Development: Issues, Alternatives, and Choices* (San Francisco: ICS Press, 1993), pp.159-161.

41) North, *Institutions... op.cit.*, p. 5.

42) D.C. North and R.P. Thomas, 'An Economic Theory of the Growth of the Western World', *Economic History Review*, 23, 1 (1970), p. 5; Davis and North, *Institutional...op.cit.*, p. 10; D. Feeny, 'The Development of Property Rights in Land,' in R.H. Bates (ed.), *Toward a Political Economy of Development: A Rational Choice Perspective* (Berkeley: University of California Press, 1988), p. 273.

43) Davis and North, *Institutional Change... ibid.*, p. 12.

44) North, *Institutions... op.cit.*, p.84; Y. Hayami and V.W. Ruttan, *Agricultural Development: An International Perspective* (Baltimore: John Hopkins University Press, 1985), p. 96; D. Feeny, *The Political Economy of Productivity: Thai Agricultural Development 1880-1975* (Vancouver: University of British Columbia Press, 1982), pp. 10-11.

institutional structures is required in order to achieve further development. Whether institutional changes will take place or not depends also on the cost of promoting change.[45]

North and Davis have argued that the development of well-defined rules of land ownership is an important factor in encouraging farmers to improve agricultural productivity.[46] Well-defined rules that regulate access to land and land ownership create security, which is an incentive for farmers to make investments in their land and improve the productivity of the land. Clearer definitions of land titles indicated, for instance, by legal proof of ownership give farmers security and certainty in cultivating the land and also protect them from encroachment by other claimants to their land. Moreover, the existence of legal proof facilitates transactions involving land such as leasing, selling, and the transfer of land titles. Such transactions enhance the farmers' access to credit markets, as legal proof of land ownership may be required as collateral in credit transactions.[47] The absence of security in land ownership would cause lower agricultural productivity due to the lack of investment incentives and access to the credit market.[48]

Feeny has argued that the need for certainty in property rights in land increases when the process of commercialisation takes place.[49] The initial stages of agricultural development are often characterised by labour shortages and land abundance. Under such conditions, property rights in labour are much more significant. As a consequence of the process of commer-

45) Feeny, *The political... ibid.*, p. 11; Hayami and Ruttan, *Agricultural... ibid.*, p. 96.
46) A. Szirmai, *Economic and Social Development* (London: Prentice Hall, 1997), p. 68.
47) G. Feder, T. Onchan, Y. Chalamwong, and C. Hongladarom, *Land Policies and Farm Productivity in Thailand* (Baltimore: World Bank, 1988), p. 3.
48) Feder and Onchan, et al., *Land Policies... ibid.*, pp. 6-7.
49) D. Feeny, 'The Demise of Corvee and Slavery in Thailand, 1782-1913,' in M. Klein (ed.), *Breaking the Chains: Slavery, Bondage, and Emancipation in Modern Africa and Asia* (Madison: University of Wisconsin Press, 1993), p. 83.

cialisation, the value of land tends to increase because there is increasing competition for use of the land. In this context, the existence of legal certainty in land ownership is required to reduce the incidence of conflict over land ownership as associated with increased transactions of land and its utilisation.[50] One of the consequences is that institutions supporting property rights in people tend to deteriorate and, by contrast, institutions supporting property rights in land are bolstered.[51]

1.4. Organisation

This study consists of six chapters. Chapter II discusses population growth in the residency of Besuki. It will address both proximate and possible ultimate factors explaining the population growth in the region. The chapter will compare population growth in Besuki with that of Java in general. Chapter III elaborates the development of the transport network. It deals with the stages of development of transport in Besuki, both in terms of infrastructure facilities and means of transport. It describes the problems of transport and the measures taken to overcome them. The consequences for the spatial patterns of population settlement and agricultural production are also discussed. Chapter IV discusses the development of farm agriculture. It examines the main farm crops and livestock raising in Besuki and the reasons for change overtime. Chapter V examines the development of land titles in Besuki. It addresses several issues such as the emergence of property rights to land, changes in the pattern of land tenure, the emergence of conflict over land, and the relationship between land and the capital market. To end the discussion, Chapter VI draws out the main conclusions.

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[50] Feder and Onchan, et al., *Land Policies... op.cit.*, p. 5.

[51] A. Booth, *Agricultural Development in Indonesia* (Sydney: Allen and Unwin, 1988), p. 23.

1.5 Sources

This study is based on two categories of source material. The first category is primary sources, including archival materials. These were collected largely from the *Arsip Nasional Republik Indonesia* (National Archives of the Republic of Indonesia) in Jakarta and from the collections of microfiched documents, from the the Algemeen Rijksarchief in The Hague, available at the Menzies Library at the Australian National University. Governmental documents originating from the colonial period were obtained from the *Perpustakaan Arsip Nasional* and the *Perpustakaan Nasional Republik Indonesia* (the National Library of the Republic of Indonesia) in Jakarta, the National Library of Australia, the Official Document Section of the Menzies Library and the Bliss Hope collection in the Australian National University in Canberra. Of importance here are statistical data for the Dutch colonial period contained in the series *Changing Economy in Indonesia* obtained from the Chiefly Library.

The second category is secondary sources, which includes various published and unpublished works. These were collected from various libraries in Canberra, Jakarta, Yogyakarta, and Jember. The present study could not be based on extensive archival research because many of the archival sources are not available in Canberra. There was no opportunity for the author to use sources available in the Netherlands. Moreover, time for research was too short to conduct extensive research of the archival sources in Jakarta.

CHAPTER II

BESUKI'S POPULATION GROWTH

2.1 Introduction

This chapter examines population growth in the region of Besuki by comparing it with Java. The main reason for this is the fact that demographic change has a crucial role in the development of property rights to land. It is argued that the acceleration of population growth in Besuki during 1870-1940 was due to the inflow of migrants to the region, rather than an increase in the natural rate of population growth. Before examining the factors explaining population growth, a geographical description of the region under consideration is presented to clarify the historical context.

2.2 Geography of Besuki

The former residency of Besuki was situated in the extreme corner of East Java, shown in Figure 2.1.[1] The Straits of Madura formed its northern border, while the Bali Straits constituted its eastern border. Its southern border was formed by the Indonesian Ocean and the residency of Pasuruan formed its western border.[2] Together with the residency of Pasuruan, the region of Besuki constituted a frontier region of Java, where the Javanese and

[1] Residencies no longer exist in Indonesia.

[2] J. Paulus (ed.), *Encyclopaedie van Nederlandsch-Indië* (The Hague: Nijhoff, 1917), Vol. I, pp. 278-279.

Balinese centres of political power competed to establish control over it. The region was also often referred to as the *Oosthoek* (Easthook) during the Dutch colonial period.[3]

The region of Besuki is mountainous. In the northwestern part of the region the Ijang mountain range, with the Gunung Argopuro volcano (3,088 M) soaring at its apex, stretches from Probolinggo to the northern part of Jember. To the northeast, the Ijang mountain range is connected with the Ringgit mountain in Panarukan. In the north-eastern region, the Ijen mountain range contains two soaring volcanoes, Gunung Raung (3,332 M) and Gunung Merapi (2,800 M), which stretch from Baluran to the eastern part of Jember. The slopes of the three mountain ranges form the highland of Bondowoso. Meanwhile, the southern part of the region is divided by a range of limestone mountains, Watangan, Mandiku, Meru, and Betiri, which separate the lowland of Jember from Banyuwangi.[4]

There are two main rivers that cut across the region of Besuki. The first river is Kali Sampean, which originates in the Ijang mountains. Kali Sampean flows north to the Madura Straits at the Tanjung Pacinan through the Bondowoso and Panarukan regencies. The second main river is Kali Bedadung. This river emerges from several streams such as Kali Putih and Kali Katakan that flow south from the Ijang mountains, and also Kali Ajung and Kali Panggang flowing from the Ijen mountains, and passes through the Jember regency.[5] After converging with other smaller

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3) In the Mataram's territorial division the region was called Bang Wetan, which referred to the area east of Surabaya, G.F.E. Gonggrijp, *Geïllustreerde Encyclopaedie van Nederlandsch-Indie* (Leiden: Leidsche Uitgeversmaatschappij, 1934), p. 1047; E. Nijland, *Schetsen uit Insulinde* (Utrecht: Breijer, 1893), p. 131.

4) ANRI, Arsip Residensi, Besuki 2a.5, 'Verslag van Bezoeki en Banjoewangie 1832';P. Bleeker, 'Fragmenten Eener Reis Over Java: Reis door Oostelijk Java,' *Tijdschrift van Nederlandsch Indi*,. 2 (1849), p. 117; P.A. van der Lith (ed.), *Encyclopaedie van Nederlandsch Indië* (The Hague: Nijhoff, 1895), Vol. I, p. 183; P.J.Veth, *Java: Geographisch, Etnologisch, Historisch* (Haarlem: Bohn, 1903), Vol. III, pp. 572-577.

5) Van der Lith (ed.),*Encyclopaedie... ibid.*

streams, Kali Bedadung flows into the Indian Ocean at Puger district. In addition, a number of smaller streams flow to the surrounding seas in different directions. Kali Bajulmati and Kali Bajulputih flow from the Ijen mountains to the northeastern part of Panarukan. Kali Mayang originates in the Ijen mountains and flows to the Indonesian Ocean after merging with Kali Ambulu and Kali Sanen. Obtaining their springs from the Ijen mountains, Kali Baru cuts across the area of Banyuwangi and flows to the Indian Ocean, whereas Kali Setail flows to the Bali Straits.[6]

The soil is generally described as fertile, except in the limestone mountain ranges such as in Blambangan and the southeastern part of Jember. Two main factors explain the high fertility. Firstly, fertility was a result of a series of volcanic eruptions in the past.[7] These eruptions not only caused disaster to humans, but also renewed the soil through a natural process. The lands of Bondowoso and Jember are fertile as a consequence of volcanic eruptions.[8] The second factor affecting soil fertility in the region is the sedimentation process as a result of river flows. Over a long period of time, this process formed alluvial areas in river valleys and coastal plains, which were very fertile.[9] The fertility of the northern plain of Panarukan resulted from the sedimentation of Kali Sampean and Kali Deluwang. The fertile soil of the southwestern plains of Jember was mainly affected by Kali Bedadung. Furthermore, the fertility of Banyuwangi plain was formed by Kali Baru and Kali Setail.[10]

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6) L.F.M. Schulze, *Fuhrer auf Java: Ein Handbuch fur Reisende* (Leipzig: Grieben's Verlag, 1890), pp. 286-287.

7) On volcano eruptions in Besuki, see Junghuhn, *Reizen door Java: Door het Oostelijk Gedeelte van dit Eiland* (Amsterdam: Kampen, 1852), pp. 439-458, 514-522, 620-627; L.F. van Gent, 'De Afdeeling Banjoewangi,' *Jaarverslag van den Topographischen Dienst in Nederlandsch-Indie over 1911*, 7 (1912), pp. 204-205.

8) H.C. Darby (ed.), *Netherlands Indies: Geographical Handbook* (Cambridge: Naval Intelligence Division, 1944), Vol. I, pp. 160-161.

9) J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki,' *Tijdschrift van het Koninklijke Nederlandsch Aardrijkskundig Genootschap*,80 (1963), pp. 319-320

10) Bleeker, 'Fragmenten... *op.cit.*, p. 118; Darby (ed.), *Netherlands... op.cit.*,pp. 159, 161.

During the entire late-colonial period the residency of Besuki consisted of four administrative regencies, shown in Table 2.1 and Figure 2.2. The only exception was the period between 1928 and 1931 when Besuki was briefly divided into two residencies, namely Bondowoso and Jember.[11] The four regencies were further divided into 19 districts.

Table 2.1: Regencies and Districts in the Residency of Besuki, after 1931

Regency	District
Panarukan	Besuki Panarukan Situbondo Sumberwaru
Bandowoso	Bandowoso Tamanan Wonosari Prajengan
Jember	Jember Kalisat Rambipuji Tanggul Mayang Wuluhan Puger
Banyuwangi	Banyuwangi Rogojampi Cluring (Blambangan) Genteng

Sources: C. Lekkerkerker, *Land en Volk van Java* (Groningen: Wolters, 1938), Table IVp; G.F.E. Gonggrijp, *Geïllustreerde Encyclopaedie van Nederlandsch-Indië* (Leiden: Leidsche Uitgevers-maatschappij, 1934), pp. 587-590.

The administrative boundaries underwent several changes over time. The district of Cluring formed in 1932 was previously part of the Genteng district. Meanwhile, the district of Wuluhan

11) A.J. Gooszen, 'Administrative Division and Redivision on Java and Madura, 1880-1942,' *Indonesia Circle*, 36 (1985), p. 31

was formed by separating a number of sub-districts from the district of Puger. Another change was the formation of Kalisat district by abolishing the district of Sumberwaru and ceding several villages to the district of Jember. Furthermore, Besuki district was formed by merging the districts of Besuki and Mlandingan and ceding a number of villages to the district of Bondowoso.[12] The main reason for the redefining administrative boundaries was to make the colonial administration more effective.[13]

2.3 Population of Besuki in the 19th and 20th Centuries

Until the end of the 19th century, the residency of Besuki was more sparsely populated than the other parts of Java. In 1890, for example, the population density of Besuki was about 65 inhabitants per square kilometre, whereas in the most densely populated region of Java, Bagelen, population density reached 390 inhabitants per square kilometre. In other thinly populated regions of Java, such as Banten, Krawang, and Priangan, population density was generally more than 75 inhabitants per square kilometre. The population density of Java and Madura overall reached 180 inhabitants per square kilometre.[14] Table 2.2 clearly indicates that in 1890 Besuki was the most sparsely populated region among all the residencies of Java.

The low population density of the Besuki region was primarily the result of past political instability. Over many centuries, the region experienced a series of military conflicts. Several centres of political power were involved in fighting for suzerainty over the region. The main reason behind the political conflicts was

12) Tennekes, 'De Bevolkingspreiding ... *op.cit.*, p. 358.
13) Gooszen, 'Administrative Division ... *op.cit.*, p. 26.
14) P.Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), p. 217.

economic. Since the 14th century, the region had been famous for its richness in food products such as rice, meat and vegetables.[15] Various competing centres of political power wanted to achieve control over the economic benefits that the region could generate. With the spread of Islam, religious reasons also came into play. From a different angle, the conflicts can be viewed as religious conflicts between the Islam versus Hindu political powers.

Table 2.2: Population Density in Besuki and Java in 1890 and 1930 (people per km²)

Residency	1890	1930
Bondowoso Regency	172	238
Panarukan Regency	97	184
Jember Regency	55	278
Banyuwangi Regency	22	133
Besuki Regency total	66	206
Banten Residency	78	128
Krawang Residency	76	-
Priangan Residency	97	248
Java total	180	262

Note: Krawang Residency was abolished and included in Batavia Residency.
Sources: Data for regencies in 1890 from *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madura, IXc, Deel III* (Batavia: Kolff, 1911), pp. 6-7; for 1930 from *Volkstelling 1930, Deel III: Inheemsche Bevolking van Oost Java* (Batavia: Landsdrukkerij, 1934), Table 8, p. 141, see also C. Lekkerkerker, *Land en Volk van Java* (Groningen: Wolters, 1938), Table 1, pp. K-l; the rest of the data is from P.

15) M.A.P. Meilink-Roelofsz, *Asian Trade and European Influence in the Indonesian Archipelago between 1500 and about 1630* (The Hague: Nijhoff, 1962), p. 152; W.P. Arifin, *Babad Blambangan* (Yogyakarta: Bentang and École Française d'Extrême-Orient, 1995), p. 309.

Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 217-218.

The military conflict in the region during the Majapahit kingdom (1293-1486) is represented in the story of Damarwulan and Menakjingga, which tells of the war between Majapahit and Blambangan.[16] With the decline of Majapahit, the subsequent centres of political power, the Islam kingdom of Demak along the north coastal of Central Java and the Mataram kingdom in the inland of Central Java also tried to conquer the eastern corner of Java. These two Central Java kingdoms intended to expand their political territory and place the region under their suzerainty.[17] This expansionist policy was not aimed at controlling more area *per se* to achieve political ambitions. More importantly, the most efficient way to accumulate material welfare was by controlling the labour forces.

In the 17th and 18th centuries, the eastern corner of Java was under the rule of the Blambangan kingdom, which was supported by the Hindu kingdoms of Bali.[18] Military expeditions from Central Java were sent by the Demak kingdom in 1546 and the Mataram kingdom during 1636-1640. The latter expeditions were sent to establish control over the region and led to a series of succession wars against, for example, the Gelgel and Buleleng kingdoms. Both tried to turn the Blambangan kingdom into their vassal.[19] The wars did not produce a clear winner, but did create considerable disruption to people's lives. During these relatively unstable periods, there were frequent efforts to reduce the strength

16) C. Lekkerkerker, 'Balambangan,' *Indische Gids*, 45, 2 (1923), p. 1081; H.J. de Graaf and Th.G.Th. Pigeaud, *Kerajaan-kerajaan Islam Pertama di Jawa* (Jakarta: Grafiti, 1985), p. 207.

17) Graaf and Pigeaud, *Kerajaan... ibid.*, pp. 234-236.

18) Lekkerkerker, 'Balambangan... *op.cit.*, pp. 1036-1051.

19) H.J. de Graaf, *Puncak Kekuasaan Mataram: Politik Ekspansi Sultan Agung* (Jakarta: Grafiti Pers, 1990), pp. 262-271.

of the kingdom in control of Besuki. Therefore, the region could be described as a frontier region contested by the Islamic kingdoms of Central Java kingdom and Hindu kingdoms of Bali.[20]

Due to the continued political instability, the population of Besuki increased little until the end of the 18th century.[21] The lengthy wars of succession obstructed population growth in the region. Reid even estimated that during the 17th and 18th centuries the population growth in Central and East Java was -0.85 percent per annum.[22] Besuki was one of the regions of East Java experiencing low population growth, possibly depopulation. Kumar estimates that during this period the population of Besuki decreased steeply from around 80-100,000 to only about 5-8,000.[23] That is a decline of -1.25 to -1.38 percent per year, or faster than East and Central Java as a whole.

Several factors help to understand the process of depopulation. The first factor is mortality caused by warfare. A traditional source, *Babad Blambangan*, clearly indicates that many people became victims during the period of warfare.[24] A massacre taking 300 lives was reported to have happened in Besuki in 1709.[25] The high rate of mortality should not be associated merely with the people killed in the battlefields as a direct consequence of

20) A. Kumar, 'Historiografi Jawa mengenai Periode Kolonial: Studi Kasus,' in A.J.S. Reid and D.G. Marr (eds.), *Dari Raja Ali Haji hingga Hamka* (Jakarta: Grafiti, 1983), p. 77; see also Lekkerkerker, 'Balambangan... *op.cit.*, pp. 1036-1040.

21) P. Atmosudirdjo, *Sejarah Ekonomi Indonesia: Dari Segi Sosiologi* (Jakarta:Pradnya Paramita, 1984), p. 130; Kumar, 'Historiografi... *ibid.*, pp. 80-81.

22) A. Reid, 'Low Population Growth and Its Causes in Pre-Colonial Southeast Asia,' in N.G. Owen (ed.), *Death and Disease in Southeast Asia: Explorations in Social, Medical and Demographic History* (Singapore: Oxford University Press, 1987), p. 34; A.J.S. Reid, *Southeast Asia in the Age of Commerce, 1450-1680* (Chiangmai: Silkworm Books, 1988), Vol. I, pp. 12-13.

23) A. Kumar, *Java and Modern Europe: Ambiguous Encounters* (Surrey: Curzon, 1997), p. 207.

24) Arifin, *Babad... op.cit.*, pp. 238, 285-286, 319.

25) M.C. Ricklefs, *War, Culture and Economy in Java 1677-1726* (Sydney: Allen and Unwin, 1993), pp. 160-161.

warfare, but also with deaths due to the indirect impact of warfare. The destruction of food crops was used as a war tactic on all sides. Labour shortages or the passage of troops caused occasional famines and misery throughout Southeast Asia.[26] Such hardships also befell Besuki. For instance, in 1767 a mass suicide was staged in Blambangan to avoid deportation. Some of the inhabitants were forced to build a fortress without payment. By 1768 and 1771 food shortages emerged in Blambangan, Puger, Panarukan, and Besuki due to the military tactics used by the United Dutch East Indies Company (*VOC*) troops to defeat the local kingdom.[27]

Secondly, the political instability forced inhabitants to flee to more secure places such as forests and mountains, and to other surrounding areas which could give sanctuary during the political turmoil. During warfare, for example, some of the inhabitants of Besuki fled to the tiny island of Nusa Barong and to Bali to avoid being captured and deported.[28] Thirdly, some of the inhabitants were caught and deported to the Mataram palace city after the defeat of Blambangan.[29] In short, the depopulation of the Besuki region was primarily caused by political factors.

It is true that over the centuries health conditions in the region were relatively poor. In the traditional source, *Babad Blambangan*, high death rates were regarded as a consequence of 'evil spirits' dwelling in the region and spreading various

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26) Reid, 'Low Population... op.cit., pp. 42-43; C. Hirschman, 'Population and Society in Twentieth Century Southeast Asia,' *Journal of Southeast Asian Studies*, 25, 2 (1994), p. 401.

27) Kumar, 'Historiografi... op.cit., p. 79; Kumar, *Java... op.cit.*, p. 208; Arifin, *Babad... op.cit.*, p. 261; Soeroso, 'Penelitian tentang Pengangkatan Bupati yang Pertama dan Pembentukan Kabupaten Bondowoso.' *Unpublished research paper*, Bondowoso, 1976, p. 4.

28) Arifin, *Babad... op.cit.*, p. 225, 227, 243; Kumar, 'Historiografi... *ibid.*, pp. 77-83; Kumar, *Java... op.cit.*, p. 208;De Graaf, *Puncak...op.cit.*, p. 265.

29) P.J. Veth, *Java: Geographisch, Ethnologisch, en Historisch* (Harleem: Bohn, 1912),Vol. I, p. 390. De Graaf, *Puncak... op.cit.*, pp.270-271; Arifin, *Babad... ibid.*, p . 315; The deported people from Blambangan were placed in Kampung Minggiran and popularly called Wong Pinggir, see S. Soehari, 'Pinggir,' *Djawa*, 9 (1929), pp. 160-162.

diseases.[30] The residency of Besuki was depicted as an unhealthy region.[31] The health problems were mainly caused by widespread Malaria due to the existence of large swampy areas. A similar assertion was frequently expressed in colonial reports both in the second half of the 19th and in the first half of the 20th century and became the reason for making various improvements in health facilities in the subsequent period.[32] Still, this was well after colonial rule brought political stability. By that time the population in Besuki had already started to grow, even though improvements in health facilities had not yet been made.

The *VOC* officially took over the region of Besuki from the Mataram kingdom in 1743, according to a contract between Governor General *Van Imhoff* and *Susuhunan Pakubuwana II,* the ruler of Surakarta.[33] It took the *VOC* several decades to suppress local rebellions in this territory, which were frequently supported by the Hindu kingdoms of Bali. By 1767 a military expedition under *Blanke* was sent, but it was only able to establish temporary control over Blambangan. Only after sending other military expeditions in 1771-1772, was the *VOC* able to gain full control over the region.[34] Due to a lack of officials, the *VOC* preferred to lease the management of Besuki and Panarukan to a Chinese, *Han Tjan Pit*. This meant that *Han Tjan Pit* was given the rights to

30) Arifin, *Babad... op.cit.*, p. 262, 286.

31) Kumar, *Java... op.cit.*, p. 208.

32) For example, ANRI, Arsip Residensi, Besuki 9.13, 'Algemeen Verslag van Residentie Besoeki 1882'; C.J.Hasselman, 'General Survey of the Results of the Investigation into Economic Prosperity in Java and Madura,' in C.L.M. Penders (ed.), *Indonesia: Selected Documents on Colonialism and Nationalism, 1830-1942* (St. Lucia: University of Queensland, 1977), p. 80.

33) Kumar, 'Historiografi... op.cit., p. 78; D. Lombard, *Nusa Jawa Silang Budaya, III: Warisan Kerajaan-kerajaan Konsentris* (Jakarta: Gramedia, 1996), p. 46; M.C. Ricklefs, *The Seen and Unseen Worlds in Java, 1726-1749* (St. Leonards: Allen and Unwin, 1998), p. 306.

34) E.S. De Klerck, *History of the Netherlands East Indies* (Rotterdam: Brusse, 1938), Vol. I, pp. 401-407; H. Sukardi, *et al., Sejarah Perlawanan Terhadap Kolonialisme dan Imperialisme di Daerah Jawa Timur* (Jakarta: Direktorat Sejarah dan Nilai Tradisional, Departemen Pendidikan dan Kebudayaan, 1982-1983), p. 12.

withdraw taxes from the rented villages. Governor General *Raffles* repurchased the areas in 1814, after they were sold to *Han Tjan Pit* during the *Daendels*' administration.[35]

There was an intention to manage the region directly under the colonial administrative system. This was marked by the formation of the colonial bureaucracy and territorial administrative division during the administration of Governor General *Herman Willem Daendels* (1808-1811). Governor General *Thomas Stamford Raffles* (1811-1816) continued this development by establishing a lower administrative level of residency and subdivided it into assistant residencies. Both *Daendels* and *Raffles* integrated native officials below the rank of regents such as *patih* (administrative chief deputy), *wedana* (district heads), as agents of the colonial bureaucracy controlled by the central government. *Raffles* in particular ordered all residents to make periodic tours of duty and to submit written reports.[36] This bureaucratic structure made it possible for the colonial government to react quickly to social unrest and to establish a more stable political order.

35) J. Bastin, *Raffles' Ideas on the Land Rent System in Java and the Mackenzie Land Tenure Commision* (The Hague: Nijhoff, 1954), p. 142; C.J. Bosch, 'Aanteekeningen over de Afdeeling Bondowoso (Residentie Besoeki),' *Tijdschrift voor Indische Taal-, Land, -en Volkenkunde*, 6 (1857), p. 478; D. Lombard, *Nusa Jawa Silang Budaya, II: Jaringan Asia* (Jakarta: Gramedia, 1996), p. 81; Sukardi, *et al., Sejarah Perlawanan..., ibid.*, pp. 14-15.

36) H. Sutherland, *The Making of a Bureaucratic Elite* (Singapore: Asian Studies Association of Australia, 1979), pp. 7-9.

Table 2.3: Population in Besuki Residency and Java, 1820-1990

A. Population (x1000)		
Year	Besuki Residency	Java
1820	133	5,741
1870	425	16,453
1900	838	29,297
1930	2,083	41,718
1961	3,501	63,058
1990	4,749	108,530
B. Annual Population Grouth (percentages)		
Period	Besuki Residency	Java
1820-1870	2.35	2.13
1870-1900	2.29	1.94
1900-1930	3.08	1.19
1930-1961	1.69	1.34
1961-1990	1.05	1.89

Note: Besuki residency ceased to exist after independence, but that the residency has been defined as the four regencies (*kabupaten).*

Sources: P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 105,110,117,121,127,130,133, 135,137; For the 1961 population data from P. van der Eng, 'Bridging a Gap: A Reconstruction of Population Patterns in Indonesia: 1930-1961', *Discussion Paper*, No D98-13, Institute of Economic Research Hitotsubashi University, November, 1998, p. 24; for 1990, *Penduduk Indonesia Hasil Sensus Penduduk 1990: Propinsi Jawa Timur* (Jakarta: Biro Pusat Statistik, 1991), p. 281, 1990 Java total from P. van der Eng, *Agricultural Growth in Indonesia:Productivity Change and Policy Impact since 1880* (Basingstoke: Macmillan, 1996), p. 279.

The establishment of political stability, frequently called *Pax Neerlandica or Pax Imperica*,[37] during the 19th and 20th centuries was the main factor that caused population growth in Besuki to

[37] Reid (1987), 'Low Population... op.cit., p. 43.

exceed that of Java in general. This can be clearly seen in Table 2.3. The table reveals that the average annual population growth in Besuki was consistently higher than that of Java in general during 1820-1961. From 1820 to 1930, the annual average rate of population growth in Besuki tended to increase substantially, whereas the population growth rate in Java experienced a continual decline. During the period 1900-1930, Besuki had the highest annual population growth rate of all residencies in Java, more than 3 percent. In the regency of Banyuwangi the annual growth rate between 1920 and 1930 reached 7.5 percent.[38] Meanwhile, between 1900 and 1930 the population of Java grew at the rate of only about 1.20 percent. After 1930 Besuki experienced a dramatic decrease in annual population growth rate. But it remained higher than that of Java as a whole, even though the annual population growth in Java increased.

With its high population growth, the Besuki region became more densely populated. As can be seen in Table 2.2, by 1930 the population density of Besuki was about 200 inhabitants per square kilometre, and had started to exceed the population density of Banten, which was less than 130 inhabitants per square kilometre. The population density of Besuki also increased faster in comparison with the sparsely populated region of Priangan in West Java. Between 1890 and 1930 the population density of Besuki increased by more than 300 percent, whereas in Priangan it increased by about 250 percent. It also exceeded the population density of Java, which increased by only 150 percent overall. As a result, by the last decade of effective Dutch colonial rule, the Besuki Residency was no longer the most sparsely populated region of all the residencies of Java. Its 1890 status as the most

38) K. Hortsmann and W. Rutz, *The Population Distribution on Java 1971: A Map of Population Density by Sub-Districts and Its Analysis* (Tokyo: Institute of Developing Economies, 1980), p. 99.

thinly populated region was transferred to the Banten Residency in West Java.

2.4 Explaining Natural Population Growth.

The previous section showed that there is a significant difference in the population growth rate between Besuki and Java. In numerical terms, population growth is the consequence of deaths, births, and net migration. An acceleration of population growth can be the result of increasing birth rates, decreasing death rates, and/or an increase in net inward migration. It is difficult to establish the relative importance of each factor for Besuki and Java in the absence of conclusive statistical data.

Prior to 1880, for example, not all residencies of Java provided statistical data

on death and birth rates, so the total population of Java was unknown. In addition, the reliability of statistical data available from the 19th century is in doubt.[39] Although after 1880 the quality of population data improved, partly due to the adoption of a better system of population enumeration conducted five-yearly in the whole of Java,[40] data on the number of births and deaths remained incomplete. For example, the net natural population growth rates (births less deaths over population) are much lower than the annual average growth rates that can be calculated from the benchmark data of population numbers. The scant data available have been used to compile Table 2.4.

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39) B. Pepper, *Pertumbuhan Penduduk Jawa* (Jakarta: Bhratara, 1975), pp. 82-87. This study contains his criticisms on earlier studies on thepopulation growth in Java particularly by J. Breman, *Djawa: Pertumbuhan Penduduk dan Struktur Demografis* (Jakarta: Bhratara, 1971); see also P. Boomgaard, 'Morbidity and Mortality in Java, 1820-1880: Changing Patterns of Disease and Death,' in N.G. Owen (ed.), *Death... op.cit.*, p. 48.

40) P. Boomgaard, *Children of the Colonial State: Population Growth and Economic Development in Java, 1795-1880* (Amsterdam: Free University Press, 1989), p.167.

Table 2.4: Crude Birth and Mortality Rates in Besuki and Java, 1880-1939 (per1000)

	Besuki Residency			*Java Total*		
Period	Birth rate	Death rate	Net	Birth Rate	Death rate	Net
1880-1884	27.0	15.4	11.6	33.0	29.2	3.8
1885-1889	25.0	13.8	11.2	27.5	15.9	11.6
1890-1894	23.0	13.5	9.5	24.5	n.a	n.a
1915-1919	n.a	21.2	n.a	n.a	24.3	n.a
1920-1924	n.a	13.4	n.a	n.a	19.8	n.a
1925-1929	n.a	10.4	n.a	n.a	18.0	n.a
1930-1934	n.a	11.4	n.a	n.a	17.1	n.a
1935-1939	17.3	13.5	3.8	26.9	14.3	12.6

Source: Computed on the basis of statistical data from P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 161-162, 164, 174-175, 178-179.

The table shows that between 1880 and 1940 Java enjoyed a declining mortality rate overall. A calculation for the period 1820-1880 by Boomgaard suggested a similar result.[41] A declining mortality rate was also reflected in the case of Besuki. The exception for both Besuki and Java were periods of major epidemics, 1880-1884 and 1915-1919. The first abnormal period of high death rates was caused by the fever epidemic which hit West Java particularly, whereas the second period of high death rates was due to the influenza pandemic which hit Central and East Java in 1918.[42] This confirms the general observation that in a low income society fluctuations in death rate are largely caused by epidemics.[43]

41) Boomgaard, 'Morbidity ... *op.cit.*, pp. 49-50.

42) P. Gardiner and M. Oey, 'Morbidity and Mortality in Java 1880-1940: The Evidence of the Colonial Reports,' in N.G. Owen (ed.), *Death... op.cit.*, p. 72.

43) J.W. Mellor, *The Economics of Agricultural Development* (Ithaca: Cornell University Press, 1966), p. 53.

It can also be clearly seen that Besuki had a lower death rate compared to Java. It is unlikely that the lower death rate in Besuki was mainly due to the much better conditions of health in the region than that of Java. It is true that efforts were made to promote better health conditions, by improving drainage systems and available health services.[44] However, no strong evidence indicates that the measures taken to improve health standards in Besuki were much more successful than in other parts of Java. On the contrary, it was frequently reported that the conditions of health in the region were still unsatisfactory, even during the early decades of independent Indonesia.[45]

The main factor affecting the lower death rate in Besuki is likely due to the better material standards of living. Besuki is an often-quoted example of a region enjoying improvements in welfare due to the development of the agricultural sector under the period of the Cultivation System.[46] The improvements in welfare made it possible for the people to consume a better quality of food. Welfare improvements were also enjoyed during following periods, according to by two reliable indicators.

Firstly, meat consumption in Besuki was much higher that that of Java as a whole. Based on the official figures, in 1915 there were more than 58,000 cattle and buffalos slaughtered in Besuki, constituting 17 percent of the total livestock. This was

44) R. Broersma, *Besoeki: Een Gewest in Opkomst* (Amsterdam: Scheltema and Holkema, 1912), p. 92; 'Memori Residen Bondowoso (A.H. Neys), 25 April 1929,' in S. Kartodirdjo, et al (eds.), *Memori Serah Jabatan 1921-1930 (Jawa Timur dan Tanah) Kerajaan* (Jakarta: Arsip Nasional Republik Indonesia, 1978), pp. CXXI-CXXII.

45) Hasselman, 'General Survey... op.cit., p. 80; 'Memori Residen Besuki (J.P.H. Fessevier), 1 Agustus 1922', in Kartodirdjo, *et al* (eds.), *Memori Serah...ibid.*, p. CXVII; Kementerian Penerangan, *Republik Indonesia: Propinsi Jawa Timur* (Surabaya: Djawatan Penerangan Republik Indonesia Propinsi Jawa Timur, 1953), p. 52.

46) R.E. Elson, 'Kemiskinan dan Kemakmuran Kaum Petani pada Masa Tanam Paksa di Pulau Jawa,' in A. Booth, W.J. O'Malley and A. Weidemann (eds.), *Sejarah Ekonomi Indonesia* (Jakarta: LP3ES, 1988), p. 57.

the highest among the residencies of Java.[47] By 1948 the number of slaughtered cattle and buffalos in Besuki was 66,600 and 33,100 heads respectively, constituting 13 percent and 8.4 percent of the total livestock. Meanwhile, in Madura where meat consumption was considered among the highest, the slaughtered cattle and buffaloes were respectively 36,700 and 250, or 8.9 percent and 2.0 percent of the total livestock.[48]

Secondly, the better material standard of living is also evident in that the per capita rice production of Besuki was always much higher than that of Java overall. In 1900, for example, the per capita rice production of Besuki was 250 kilograms, exceeding that of Java of 165 kilograms. By 1930 the figures for Besuki and Java were 244 kilograms and 175 kilograms respectively.[49] During 1950-1954 the average per capita rice production in Besuki was ranked the highest among all residencies in Java. It was 215 kilograms, far exceeding the figure for Java of 143 kilograms.[50] This not only made food supply in the region more secure but also provided a sufficient surplus of rice surplus for trade to earn the cash required for other purchases.

In terms of birth rates, as can be seen in Table 2.4 above, Besuki had a lower birth rate than Java in general, especially in the late 1930s. A plausible explanation of the lower birth rate in Besuki might be related to the status of Besuki as the main destination place for seasonal and permanent migration by males. One of

47) *Jaarboek van het Departement van Landbouw, Nijverheid, en Handel in Nederlandsch Indië 1915* (Weltevreden: Landsdrukkerij, 1924), pp. pp. 273-274.

48) H. Huitema, *Animal Husbandry in the Tropics: Its Economic Importance and Potentialities* (Amsterdam: Department of Agricultural Research, 1982), pp. 154-155.

49) Computed from P. Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol. 10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 118, 121.

50) I. Reksohadiprodo and S. Hadisapoetro, 'Perubahan Kepadatan Penduduk dan Penghasilan Bahan Makanan (Padi) di Jawa dan Madura,' in Sajogyo and W.L. Collier (eds.), *Budidaya Padi di Jawa* (Jakarta: Gramedia and Yayasan Obor Indonesia, 1986), pp. 320-324.

the consequences was that Besuki might have had a lower number of women compared to the number for Java in general. This is clearly indicated by the sex ratio of the population shown in Table 2.5. The data reveal that between 1900 and 1930 the proportion of males in the Besuki population experienced a remarkable increase. In contrast, there was no considerable increase in the proportion of males in the Java population.

Table 2.5: Sex Ratio of the Besuki and Java Population, 1880-1930

Year	Besuki	Java
1880	95.0	95.4
1890	97.1	95.6
1900	98.9	96.1
1905	100.0	96.4
1920	100.7	96.0
1930	101.1	95.5

Note: Sex ratio is defined as number of males per 100 females
Source: P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), p. 192.

The explanation for the larger proportion of males in Besuki compared with Java is the male-dominated inflow of migration. The 1930 census data, shown in Table 2.6, clearly indicate that the number of male migrants was higher than that of female migrants. This was most likely related to the fact that some of the migrants were unmarried. More importantly, it was also common that migrants coming to the region of Besuki, especially from Sumenep and Pamekasan in Madura, were married people who migrated temporarily during the off-season when there were no activities on their farms. During this time they looked for temporary employment as plantation workers in Besuki to

generate additional income for the household by leaving their families at home.[51]

Table 2.6: Sex Distribution of the Migrants in Besuki, 1930 (x1000 people)

Regency	Male	Female
Banyuwangi	113.3	98.9
Jember	168.1	154.6
Panarukan	4.2	4.0
Bondowoso	4.6	4.2
Besuki Residency total	290.2	261.7

Source: *Volkstelling 1930, Deel III: Inheemsche Bevolking van Oost Java* (Batavia: Landsdrukkerij, 1934), Subsidiary Table 3, p. 34.

With its lower birth rate, it is unlikely that Besuki would have reached a much higher rate of population growth than Java. Even though Besuki had a lower death rate, there may not have been a big difference in the net natural rate of growth between Besuki and Java. In fact, during normal years when there were no major epidemics, the net natural growth of Java exceeded that of Besuki. Given this consideration, it is obvious that the rate of natural growth cannot explain the higher rate of population growth in Besuki. The main explanation must therefore be the inflow of migrants coming into the region from other places.

51) *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Ixc: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar de Economie van de Desa en daaruit gemaakte gevolgtrekkingen* (Batavia: Kolff, 1911), Bijlage 2, p. 21; 'Memori Residen Bondowoso (A.H. Neys), 25 April 1929,' in Kartodirdjo, et al (eds.), *Memori... op.cit.*, p. CXXI.

2.5 Migration

The region of Besuki was one of the residencies in Java with a high migration populace.[52] In the traditional source, *Babad Blambangan*, the inflow of migrants is mentioned.[53] Unfortunately, this source does not give any statistical data on migration.

During the second half of the 18th century several efforts were made by the regents of Besuki to repopulate Besuki, but they were still unsuccessful mainly as a result of continuing political turmoil.[54] With the establishment of political stability in the subsequent centuries, great waves of migration to the region occurred, particularly after 1870, in accordance with the rapid development of private plantation agriculture.

Table 2.7: Migrants in Besuki, Java and Indonesia, 1930

Area	Migrants (x1000)	Migrants as % of Total Population
Bondowoso Regency	9	2.4
Panarukan Regency	8	2.7
Jember Regency	323	34.6
Banyuwangi Regency	212	44.8
Besuki Residency total	552	26.5
Java and Madura total	2,094	5.0
Indonesia total	3,333	5.6

Note: Migrants refers to interregional migrants, defined as residents living in a regency during the time of the census, but born outside the regency.

Sources: Regency data from *Volkstelling 1930, Deel III: Inheemsche Bevolking van Oost Java* (Batavia: Landsdrukkerij, 1934), Subsidiary Table 3, p. 34; Data for Java

52) Boomgaard, *Children... op.cit.*, p. 177.

53) Arifin, *Babad... op.cit.*, pp. 262, 288.

54) Kumar, 'Historiografi... op.cit., p. 80; Lekkerkerker, 'Balambangan... op.cit., pp. 1063-1067, also 'Banjoewangi 1800-1810,' *Indische Gids*, 48 (1926), pp. 402-403; J.G.L.Palte, *Upland Farming on Java, Indonesia: A Socio-Economic Study of Upland Agriculture and Subsistence under Population Pressure* (Amsterdam: Koninklijk Nederlands Aardrijkskundig Genootschap, 1989), p. 41.

and Indonesia from P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 181-182.

Table 2.7 indicates that the role of migration was much more substantial in the process of populating Besuki than in Java and Indonesia in general. Migration was especially dominant in Banyuwangi and Jember where agricultural production on farms and plantations expanded rapidly as a consequence of the expansion of production for local consumption and for distant markets both in Indonesia and overseas. Compared with the other residencies of Java, the percentage of migrants in Besuki was the highest. In Batavia, for example, the percentage of migrants was only about 12 percent of the population, whereas in Priangan, which also experienced high rates of population growth, the percentage was only 3.5 percent.[55] Not surprisingly, in relative terms, Besuki was the most important destination place for migrants within the island of Java.[56]

Until the end of the 19th century, most migrants originated from Madura. This development can be elaborated on the basis of both push and pull factors. In terms of push factors, there were two important reasons encouraging migration from Madura. The first reason was the poor natural resources to support people in Madura. This was inseparable from the fact that the soil was

55) *Volkstelling 1930, Vol 8: Overzicht voor Nederlandsch-Indie* (Batavia: Landsdrukkerij, 1938), Table 7, pp. 94-95;see also K.J. Pelzer, *Pioneer Settlement in the Asiatic Tropics: Studies in land Utilization and Agricultural Colonization in Southeastern Asia* (New York: American Geographical Society, 1948), p. 259.

56) S. Kartodirdjo, M.D. Poesponegoro and N. Notosusanto, *Sejarah Nasional Indonesia V: Jaman Kebangkitan Nasional dan Masa Akhir Hindia Belanda* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1975), p. 117; G.J. Hugo, 'Population Movements in Indonesia during the Colonial Period,' in J.J. Fox (ed.), *Indonesia: The Making of A Culture* (Canberra: Research School of Pacific Studies, The Australian National Univesity, 1980), p. 106.

infertile, with a relatively high population density.[57] The island of Madura contains many limestone deposits, which means that a very limited area of land is suitable for agriculture.[58] The second reason was related to excessive military conscription and labour services demanded by the Madurese rulers in the 19th and 20th centuries.[59] Migration was one of the ways open to Madurese people to avoid the heavy burden imposed on them. In other words, migration served as an alternative for improving material living standards and as an escape from oppressive rulers.[60]

In terms of pull factors, the region of Besuki was a pleasurable place to settle. This was due to the existing traditional ties, particularly between Bondowoso and Sumenep, a city in the island of Madura. The close relation was established in the 18th century after Surahadiwikromo, the regent of Bondowoso, took a Madurese prince of the Sumenep royal family as his son in law who brought with him a number of Madurese followers to the region in 1768.[61] In addition, there had been also a number of Madurese who had pioneered migration to the region since the early period of Majapahit.[62] This created an historical tie between the island of Madura and the extreme corner of East Java. Over the centuries, the pioneering migrants were followed by their relatives and neighbours.[63]

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57) H. de Jonge, *Madura Dalam Empat Zaman* (Jakarta: KITLV and Gramedia, 1988), p. 18.

58) H. Colijn, *Neerlands Indië* (Amsterdam: Elsevier, 1911), Vol. I, pp. 43-44.

59) Kuntowijoyo, 'Social Change in an Agrarian Society: Madura, 1850-1940.' *Unpublished Ph.D. Thesis*, Columbia University, New York, 1980, pp. 117-118; see also De Jonge, *Madura... op.cit.*, pp. 74-75.

60) J.F. Holleman (ed.), *Van Vollenhoven on Indonesian Adat Law* (The Hague: Martinus Nijhoff, 1981), p.153.

61) Arifin, *Babad... op.cit.*, p. 262; Tennekes, 'De Bevolking... loc.cit.

62) The first king of Majapahit, Raden Wijaya (Kertarajasa Jayawardhana) granted the area from Lumajang to Blambangan to Arya Wiraraja of Sumenep as a reward for his help to defeat Jayakatwang of Kediri, see Slametmuljana, *A Story of Majapahit* (Singapore: Singapore University Press, 1976), p. 51; S. Kartodirdjo, M.D. Poesponegoro, and N.Notosusanto, *Sejarah Nasional Indonesia, II: Jaman Kuno* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1975), p. 260.

63) R.E. Elson, *Village Java under the Cultivation System 1830-1870* (Sydney: Allen and Unwin, 1994), p. 12.

Another pull factor was the development of export agriculture, both plantation and smallholder agriculture, which created new employment opportunities (see chapter IV).[64] Furthermore, the region of Besuki also offered prospective immigrants wider opportunities for opening up new agricultural land for settlement. Even during the 1930s Besuki was reported to have large areas of forest reserve and wasteland.[65] In addition, from the end of the 18th century residents administering the region always promoted migration to the region by promising better conditions and facilities such as lighter taxes, corvee services and agricultural equipment.[66]

Another important factor was the development of a transport network in Besuki (Chapter III). Although the improvement in transport facilities was not the only factor, it is doubtful that migration would have accelerated without it. The development of transport network not only made geographical mobility easier, it also reduced the cost of transport significantly. The lower cost of transport encouraged more especially poor people to explore the economic opportunities of other regions. Migration from the more densely populated neighbouring regions in Central and East Java such as Kediri, Madiun, Malang, Yogyakarta, and Kedu (see Figure 2.2) to the regency of Banyuwangi was substantially facilitated by the completion of a

64) 'De Oeconomiche Toestand van de Gewesten die door den Geprojecteerden Spoorweg Probolinggo Pasirian worden Doorsneden,' *Indische Gids*, 15, 1 (1893), p. 1078; P. McDonald, 'An Historical Perspective to Population Growth in Indonesia', in J.J. Fox (ed.), *Indonesia... op.cit.*, pp. 86-87; De Jonge, *Madura... op.cit.*, pp. 23-24; M.H. Sundoro, 'Seni Macapat Jawa di Kabupaten Jember.' *Unpublished research report*, Proyek Penelitian dan Pengkajian Kebudayaan Nusantara (Javanologi),1985/1986, p. 26.

65) J. van Gelderen, 'The Economics of the Tropical Colony,' in W.F Wertheim *et al.*, (eds.), *Indonesian Economics: The Concept of Dualism in Theory and Policy* (Amsterdam: Royal Tropical Institute, 1961), p. 127; Boomgaard and Goozen, *Changing... op.cit.*, p. 53.

66) ANRI, Arsip Residensi, Besuki 2a.5, 'Algemeen Verslag van Residentie Besoeki over de Jare 1832', p. 12; Tennekes, 'De Bevolking... op.cit., p. 339; Boomgaard, *Children... op.cit.*, p. 53.

railway line connecting Jember and Banyuwangi opened in the early 19th century.[67]

In addition, the recruitment of Javanese labourers was also in line with the expansion of tobacco cultivation on irrigated fields (*sawah*) in Besuki since the 1880s. Javanese workers had more experience with the wet field ecotype than workers from Madura where the dry field (*tegalan*) ecotype dominated.[68] More importantly, the managers of tobacco estates regarded Javanese labourers as more diligent, docile, and obedient than the Madurese labourers.[69]

Migrants to the region of Besuki can be divided into two categories; seasonal and permanent migrants. The first category embraced people migrating to seek temporary work in other places without intending to settle. A large number of seasonal migrants from Madura sought employment for a few months by working as rice harvesters and agricultural labourers. After harvesting, and at the end of the Islamic fasting month, they went back to their homes to celebrate *Lebaran*.[70] The second category includes people migrating from their homes to other areas for the purpose of settling in the new place. Temporary migration often paved the way for permanent migrantion. Elson estimated that in the 19th century there were 800-900 Madurese migrants per year who never returned to Madura.[71] The migrants entering the region of Besuki originated mostly from Sumenep and Pamekasan.[72]

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67) 'De Emigratie naar Banjoewangi,' *Indische Gids*, 25, 2 (1903), p. 1549; Boomgaard and Goozen, Changing... op.cit., p. 52; Kartodirdjo, Poesponegoro and Notosusanto, *Sejarah Nasional...V, op.cit.*, p. 117; S. Kutoyo (ed.), *Sejarah Kebangkitan Nasional Daerah Jawa Timur* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1977/1978), p. 29.

68) The dry field (tegalan) ecotype of Madurese is formulated by Kuntowijoyo, 'Social Change... op.cit., pp. 302-304; On Javanese wet field (sawah) ecotype, see C. Geertz, *Agricultural Involution: The Process of Ecological Change in Indonesia* (Berkeley: University of California Press, 1963), pp. 28-37.

69) Tennekes, 'De Bevolking... op.cit., p. 342.

70) Kuntowijoyo, 'Social Change... op.cit., p. 85; Elson, *Village.... op.cit.*, p. 12.

71) Elson, *Village..., ibid.*

72) De Jonge, *Madura...op.cit.*, p. 24.

As a result of the migration process, the region of Besuki resembled a multi-ethnic society in the 20th century comprising three main ethnical groups: Using, Javanese, and Madurese. Table 2.8 shows that the Madurese population predominated in the regencies of Panarukan, Bondowoso, and the northern part of Jember. The southern part of Jember was inhabited mainly by Javanese who were also dominant in the Genteng District of Banyuwangi regency. Meanwhile, the Using people, the indigenous people of the region, dominated the regency of Banyuwangi. In addition to the three main ethnic groups, there were smaller numbers of Europeans, Chinese, Arabs, Makasarese, Sundanese, and Balinese in Besuki. The Makasarese people living in the region were mainly the descendants of Kraeng Galesong and his followers who fled from Makasar after it had been defeated by the *VOC* in 1669.[73]

Table 2.8: Ethnic Distribution of Population in Besuki by District, 1930 (percentages)

Regency	District	Javanese	Madurese	Using	Other*
Jember	Tanggul	34.5	63.1	-	2.4
	Puger	75.1	24.3	-	0.6
	Wuluhan	73.5	22.8	2.8	0.9
	Rambipuji	36.6	61.1	1.6	0.7
	Jember	11.4	80.3	8.1	0.2
	Mayang	4.7	93.2	1.7	0.4
	Kalisat	2.4	95.7	1.6	0.3
Banyuwangi	Genteng	70.0	18.2	11.3	0.5
	Rogojampi	11.7	10.3	76.8	1.2
	Banyuwangi	14.0	25.1	48.5	12.4
Bondowoso	Tamanan	0.5	99.3	-	0.2
	Bondowoso	0.4	99.3	-	0.3
	Wonosari	0.6	99.2	-	0.2
	Prajekan	0.7	99.1	-	0.2
Panarukan	Besuki	1.0	97.6	-	1.4
	Panarukan	1.3	98.3	-	0.4
	Situbondo	0.7	99.2	-	0.1
	Sumberwaru	2.1	97.4	-	0.5

73) M.C. Ricklefs, *A History of Modern Indonesia since 1300, 2nd edition* (Basingstoke: Macmillan, 1993), p. 73.

Note: Other refers to the Europeans, Chinese, and other Asians, and Indonesian people, not included the first three main groups, such as Sundanese, Balinese, and Makasarese.
Source: Volkstelling 1930, Vol. III: Inheemse Bevolking van Oost Java (Batavia; Landsdrukkerij, 1934), Table 1, p. 22.

The three main groups of Besuki's population each formed a different cultural area in the region. The Madurese people had cultural traits, which were deeply affected by the Islamic tradition. They were well known for their strong obedience to Islamic rules. The mosque was the centre of their social life and their religious leaders (*ulama*) had the highest position in society.[74] Unlike the Madurese, the Using people were regarded as sub-ethnic Javanese. In terms of language, there were basically no fundamental differences between Javanese and Using people, except for the fact that each spoke a dialect.[75] However, both Javanese and Using people also had different cultural traits.[76] The Using people did not appreciate the Javanese art performances such as *wayang kulit, wayang wong,* and *kethoprak* fully. Their favourite art performance was *Gandrung Bali,* which indicates the influences of Balinese culture in the region.[77]

74) ANRI, Arsip Residensi, Besuki 9.18, 'Algemeen Verslag van de Residentie Besoeki 1887'; R.S.P. Atmosoedirdjo, *Vergelijkende Adatrechtelijke Studie van Oostjavase Madoerezen en Osingers* (Amsterdam: Studentendrukkerij Poortpers, 1952), p. 14.

75) Tim Kajian Budaya Osing, 'Penggunaan Bahasa Osing Dalam Masyarakat di Kabupaten Banyuwangi.' *Unpublished research report,* Pusat Penelitian Budaya Lembaga Penelitian Universitas Jember, 1999, p. 4.

76) B. Arps, 'Yusup, Sri Tanjung, and Fragrant Water: The Adoption of a Popular Islamic Poem in Banyuwangi.' in V.J.H. Houben, H.M.J. Maier and W. van der Molen (eds.), *Looking in Odd Mirrors: The Java Sea* (Leiden: Vakgroep Talen en Culturen van Zuidoost-Azie en Oceanie, 1992), pp. 116-117.

77) Arifin, *Babad... op.cit.*, p. 288; Tim Kajian Budaya Osing, 'Penggunaan... op.cit., p. 6; E.B. Arifin, 'Peran Seni Tradisional Sebagai Sarana Untuk Meningkatkan Pariwisata di Kabupaten Jember.' *Unpublished research report,* Pusat Penelitian Universitas Jember, 1989, p. 17; Sudiro, 'Peta Budaya di Kabupaten Jember.' *Unpublished reserah report,* Pusat Penelitian Universitas Jember, 1994/1995, pp. 22-23.

As a multi-ethnic society, social relations between the ethnic groups in Besuki were not completely without conflict. Ethnic issues, however, did not appear to have been the root of major social discord. Conflict was more often associated with extortion, maltreatment, and land ownership issues, and was sometimes mixed with religious issues. The minority groups, particularly the Europeans and Chinese, were often the target of killings. The Chinese were often accused of extortion, while the relative material affluence of the minority groups often created social jealousy which at times led to conflict. For instance, in 1922 a European was killed by a group of the villagers in the Banyuwangi district due to charging excessive interest in his money lending business.[78] In the district of Rogojampi a similar case involving murder occurred in 1923. In this case the victim was a Chinese moneylender. He was believed to extort money from villagers through credit given at a very high rates of interest.[79] After Indonesia declared independence in August 1945, a large-scale explosion of ethnic conflict emerged in the region, which resulted in the 'tragedy of Situbondo' on October 10, 1996 where Chinese and Christian communities became victims of violence.[80]

In addition, there were conflicts among those of the same ethnic group. The most interesting example is called *carok*, typically found among the Madurese communities. Like the duelling tradition in western countries of old, *carok* constitutes a physical conflict in which two Madurese people fight each other to the death with a traditional weapon (*clurit*) in order to settle a

78) W.J. de Stoppelaar, *Balambangansch Adatrecht* (Wageningen: Veenman and Zonen, 1927), pp. 110-111.

79) De Stoppelaar, *Balambangansch... ibid.*

80) I. Haryanto, *Melangkah dari Reruntuhan Tragedi Situbondo* (Jakarta: Grasindo, 1998), pp. 46-56; Herlianto, *Gereja di Tengah Gejolak Kota-kota* (Bandung: Yabina, 1997), p. 91. For a chronological

quarrel.[81] This was the main reason why killings and other crimes in Besuki seem to have been more frequent in the Madurese community compared to the Javanese and Using communities.[82] Another example of internal conflict was found in the Arab community where in 1929 two groups were involved in a drawn out conflict that had deep roots in different views on religious leadership.[83] These are all incidents, but they illustrate the ethnic diversity existing in Besuki and the latent violence harboured among different groups in Besuki society towards each other.

2.6 Conclusion

This chapter has shown that for many centuries the region of Besuki was thinly populated. Prior to the 19th century, population growth in the region was very low. There is no doubt that to a certain extent the status of Besuki as an unhealthy region also affected population growth. However, the main explanation for the low rate of population growth in Besuki was its political instability. A long series of wars taking place in the region inhibited population growth. The region apparently even experienced depopulation as a direct and indirect consequence of warfare.

The population of Besuki started to grow rapidly during the second half of the 19th century. The rate of population growth in Besuki far exceeded that of Java in general. As a result, by the

81) S.A. Handayani, 'Carok Budaya Jatidiri Masyarakat Madura: Suatu Tinjauan Historis.' *Unpublished research report*, Pusat Penelitian Universitas Jember, 1991, p. 12; B.S. Badriyanto, Tanah, Rumah, dan Leluhur di Madura Timur.' *Unpublished M.A. Thesis*, Padjajaran University, Bandung, 1997, pp. 94-96.

82) In 1883 there were 4 killings reported in Besuki afdeeling, 4 in Panarukan afdeeling, 3 in Bondowosoafdeeling, and 1 in Jember afdeeling, ANRI, Arsip Residensi, Besuki 9.14, 'Algemeen Verslag van Residentie Besoeki 1883'.

83) Memori Residen Bondowoso (A.H. Neys), 25 April 1929,' in Kartodirdjo, et al (eds.), *Memori Serah... op.cit.*, p. CXXI.

1930s Besuki had been transformed from a sparsely populated region to a more densely populated region. Unlike population growth in Java, which was mainly affected by the net natural growth rate, the population growth in Besuki to a large extent was caused by the net inflow of migrants originating mainly from the island of Madura and several parts of Central and East Java. The next chapter will show that the development of transport facilities was important in this process.

CHAPTER III

TRANSPORT DEVELOPMENT IN BESUKI

3.1 Introduction

Dick and Rimmer (1992) have noted that few efforts have been made to explicitly integrate the importance of transport in the writing of economic history in Southeast Asia.[1] This is the case, even though a positive correlation between the development of a transport network and economic development is widely acknowledged.[2] Ville has examined this correlation, for instance, in his work based on the experience in Europe between the second half of the 18th century and the early decades of the 20th century.[3] Studies of agricultural development also yield support for this link. Regions experiencing agricultural development usually also have an efficient transport network, which can lead to a specialisation in agricultural production.[4]

The main role of a transport network is to link areas producing commodities with other areas that are outlets for the agricultural products or suppliers of agricultural inputs. Such a

1) H.W. Dick and P. Rimmer, 'The Diffusion of Modern Transport and Communications Technologies in Southeast Asia.' *Unpublished paper*, 1992, p. 1.
2) D. Simon, *Transport and Development in the Third World* (London: Routledge, 1996), p. 8.
3) S.P. Ville, *Transport and the Development of the European Economy 1750-1918* (Basingstoke: Macmillan, 1990).
4) E.J. Taaffe and H.L. Gauthier, *Geography of Transportation* (Englewood Cliffs: Prentice Hall, 1973), pp. 34-36.

role makes the transport network an important stimulating factor in the process of agricultural development. One significant consequence of poorly developed transport facilities will be higher costs of transport, which according to Mellor can lead to 'reduced production and under-use of resources'.[5] To maximise the utilisation of agricultural resources, a better transport network is required. Improvements in the transport network facilitate economic development through its market-widening effects with increased production for markets outside regional boundaries.[6]

This chapter discusses the development of the transport network in the region of Besuki, which will promote understanding of the process of agricultural development to be discussed in Chapter IV. The first section deals with the early state of the transport network in the region. This is followed by a discussion of transport problem facing the region and measures taken to overcome these after the 1930s both in terms of infrastructure facilities and means of transport. Special attention is also paid to the impact of transport development on patterns of population settlement and centres of agricultural production in the region of Besuki.

3.2 Early Transport Network

Prior to 1830 almost the only lines of communication between Besuki and the rest of Java and Southeast Asia were by water. Transport long relied on coastal shipping. River transport was less significant due to the lack of navigable rivers in the Besuki region, except for the Bedadung and Sampean rivers, which could be navigated downstream over a very limited distance.[7] There

5) J.W. Mellor, *The Economics of Agricultural Development* (Ithaca: Cornell University Press, 1966), p. 340.

6) D. Hilling, *Transport and Developing Countries* (London: Routledge, 1996), pp. 9-10; G. Kraff and J.R. Meyer, *The Role of Transportation in Regional Economic Development* (Massachussets: Lexington, 1971), pp. 8-9.

7) P.A. van der Lith et al., (eds.), *Encyclopaedie van Nederlandsch Indië* (The Hague: Nijhoff, 1895), Vol. I, p. 183; C.M.Vissering, *Een Reis door Oost-Java* (Haarlem: Bohn, 1912), pp. 59-60; T.S. Raffles, *The History of Java* (Kuala Lumpur: Oxford University Press, 1978) , Vol. I, p. 197.

were several seaports in the region such as Besuki, Panarukan, Jangkar, Kalbut, Blambangan, and Banyuwangi. For people and products to reach ports, they had to be transported overland.

Prior to the establishment of Dutch administrative control over the region, Panarukan and Blambangan were the most important seaports. The importance of Panarukan dated back to the 14th century.[8] From Panarukan port, the region's food products, and particularly rice, were exported to Pasuruan, Surabaya, Sumenep, Pamekasan, Bangkalan, Maluku, and even to Malaka. It was reported that in 1526 about 20 junks from Malaka called at the Panarukan seaport to collect foodstuffs.[9] This corresponds to the fact that rice was East Java's main export, and contributed significantly to the early trade network in Southeast Asia.[10] Another indication of the importance of the port is the fact that it was a strategic vantagepoint during the wars that gripped Besuki during the 17th and 18th centuries. For instance, Panarukan was occupied in 1767 by the *VOC*, who were supported by Madurese troops led by Troponegoro.[11]

The Pampang (later called Blambangan) seaport played an important role in the period before the establishment of Dutch colonial rule. It was reported in 1631 that rice was exported to Ambon, Batavia, and Banda from this port.[12] Unlike the port of Panarukan, which continued to play an important role,

8) B. Schrieke, *Indonesian Sociological Studies* (The Hague: Van Hoeve, 1955) ,Vol. I, p. 103.

9) M.A.P. Meilink-Roelofsz, *Asian Trade and European Influence in the Indonesian Archipelago between 1500 and about 1630* (The Hague: Nijhoff, 1962), p. 151.

10) J.C. van Leur, *Indonesian Trade and Society: Essays in Asian Social and Economic History* (Bandung: van Hoeve, 1955), pp. 209-210; V.J.H. Houben, 'Trade and State Formation in Central Java 17th-19th Century,' in G.J. Schutte (ed.), *State and Trade in the Indonesian Archipelago* (Leiden: KITLV, 1994), p. 61; D. Lombard, *Nusa Jawa Silang Budaya, II: Jaringan Asia* (Jakarta: Gramedia, 1996), p. 35.

11) L.F. van Gent, 'De Afdeeling Banjoewangi,' *Jaarverslag van de Topographischen Dienst in Nederlandsch Indië*, 7 (1912), p. 202; W.P. Arifin, *Babad Blambangan* (Yogyakarta: École Française d'Extrême-Orient and Bentang, 1995), pp. 284, 310.

12) Arifin, *Babad... ibid.*, p. 278.

Blambangan lost its importance after the *VOC* removed the location of regent from Blambangan to Banyuwangi in 1773 and appointed Mas Alit as the regent of Banyuwangi, following the defeat of the Blambangan ruler Prince Wilis in 1772.[13] This policy led to the emergence of Banyuwangi as an important seaport. During 1774-1777 coastal shipping from Banyuwangi was largely directed to the seaports of Surabaya, Sumenep, and Pasuruan and to a lesser extent also to Juwana and Gresik.[14]

By the end of the 18th century, the inland parts of the region were still relatively isolated. The roads leading to the interior were narrow footpaths, which were formed over time with use. One of the old routes was along the northern coastal areas passing through the Baluran forest from Panarukan to Banyuwangi.[15] There was also a pathway connecting Puger with Banyuwangi across the Mrawan Pass. However, these pathways were difficult to pass because this route was via a high mountain range. From Puger, another pathway along the southern coastal areas connected the eastern part of Java to the west via Lumajang, Malang, Lodaya (Blitar), Ngrawa (Tulungagung), Trenggalek, Ponorogo, Pacitan, and Wonogiri (Figure 3.1).[16]

A pathway of about 30 *paal*,[17] connected Jember in the inland of Besuki with Puger in the south. And, from Puger this path continued for about 27 *paal* to the region of Lumajang. From this place the route continued to Probolinggo and Pasuruan. A 32-

13) E.S. de Klerck, *History of the Netherlands East Indies* (Rotterdam: Brusse, 1938), Vol. I, pp. 406-407; Arifin, Babad..., ibid., p. 323.

14) G.J. Knaap, *Shallow Waters, Rising Tide: Shipping and Trade in Java around 1775* (Leiden: KITLV, 1996), p. 202-203.

15) Th.G.Th. Pigeaud, 'Aanteekeningen betreffende den Javaanschen Oosthoek,' *Tijdschrift voor Indische Taal-, Land- en Volkenkunde*, 72 (1932), p. 226.

16) F.A. Sutjipto Tjiptoatmodjo, 'Kota-kota Pantai di Sekitar Selat Madura (Abad XVII sampai Medio Abad XIX).' *Unpublished Ph.D. thesis*, Yogyakarta, Gadjah Mada University, 1983, p. 104;. B. Schrieke, *Indonesian Sociological Studies* (Amsterdam: Royal Tropical Institute, 1956), Vol. II, pp. 102-103.

17) 1 paal = 1,506 metres

paal pathway via Maesan and Sukowono connected Jember with Bondowoso.[18] From Bondowoso to the north, there was a continuation of the pathway via Waringin to the high post road in Jeruk, near Besuki. In Dawuan a branch of this pathway continued to Panarukan through Wanasari and Prajegan.[19] From Prajegan there was a continuation of the pathway via Panji and Besuki to Probolinggo.[20]

The condition of these roads was poor. In 1813 it was reported that roads in Banyuwangi were still poorly developed.[21] Most roads in Besuki were not suitable for wheeled traffic and became impassable during the rainy season. In 1824 the Resident of Besoeki reported that the roads in the region could only be passed on foot.[22] The condition of the various bridges to cross valleys, streams and rivers was not much different. The bridges were generally made of wood or bamboo. Periodical repairs of damage caused by floods in the rainy season were required. Due to the number of small rivers and streams that cut across the region, the regular repair of bridges was crucial to communications. The bridges and roads were maintained by surrounding villagers supervised by indigenous heads.[23]

Given that the road infrastructure was poor, carts and wagons were rarely used for transport in the early nineteenth century. To carry goods to the local markets, horses were used, but people generally carried goods on their shoulders.[24] This method of transporting goods had only a very limited capacity

18) ANRI, Arsip Residensi, Besuki 2a.4, 'Algemeen Verslag van Residentie Besoeki, 1824,' p. 13.
19) Tjiptoatmodjo, 'Kota-kota Pantai... op.cit., p. 99.
20) ANRI, Arsip Residensi, Besuki 2a.4, 'Algemeen Verslag van Residentie Besoeki, 1824,' p. 15.
21) ANRI, Arsip Residensi, Banyuwangi 1, 'Monthly Report of the District Baniowangie, 1813.'
22) ANRI, Arsip Residensi, Besuki 2a.4, 'Algemeen Verslag van Residentie Besoeki, 1824,' p. 13.
23) D.G. Stibbe (ed.), *Encyclopaedie van Nederlandsch-indië* (The Hague: Nijhoff, 1921), p. 745; also R.E. Elson, *Village Java under the Cultivation System 1830-1870* (Sydney: Allen and Unwin, 1994), p. 16.
24) Elson, *Village... ibid.*, p. 16; Raffles, *The History... op.cit.*, p.197.

and made the costs of transport high. The condition in Besuki underlined Furnivall's assertion that, instead of fertility, the poor condition of transportation was the main obstacle to increasing production in Java.[25] In view of this problem, there was an urgent need for better transport networks when cash crop production was developed in the region after 1830.

3.3 Transport Network after 1830

3.3.1 Roads

The need for a better road network in Java as a whole was increasingly felt when the Dutch colonial government implemented the Cultivation System (1830-1870). Under this arrangement, designed by Governor General *Johannes van den Bosch*, the colonial government required small farmers to cultivate certain crops and deliver the produce to the colonial government.[26] Measures were taken by the colonial authority to improve the condition of roads in order to facilitate the transport of cash crops from the interior to the seaports. In 1836 the Resident of Besuki reported that main roads in the interior connecting Puger, Jember, and Bondowoso, were widened in order to be passable by wheeled traffic.[27] Another improvement was also made to the roads, which connected the Besuki region with Probolinggo and Pasuruan in the west.[28] Road improvement was carried out by forced labour called *heerendiensten*. The use of this labour was organised by the village heads (*petinggi*) as instructed by the resident via higher

25) J.S. Furnivall, *Netherlands India: A Study of Plural Economy* (Cambridge: Cambridge University Press, 1939), p. 109.

26) C. Day, *The Dutch in Java* (Kuala Lumpur: Oxford University Press, 1966), p. 249; R. van Niel, *Java under the Cultivation System* (Leiden: KITLV, 1992), pp. 48-49; C. Fasseur, *The Politics of Colonial Exploitation: Java, the Dutch and the Cultivation System* (New York: Southeast Asia Program Cornell University, 1992), p. 27.

27) ANRI, Arsip Residensi, Besuki 3.2, 'Algemeen Verslag van Residentie Besoeki 1836.'

28) I.N. Suaryana, 'Perubahan Sosial dan Ekonomi di Besuki 1830-1850.' *Unpublished M.A. Thesis*, Gadjah Mada University, Yogyakarta, 1989, pp. 87-89.

indigenous heads such as *wedana* (district head) and *bupati* (regent).[29] Under this arrangement, the villagers living close to the roads were required to work on road construction.[30] These measures, however, were not enough in the face of a rapid expansion in the production of cash crops in Besuki and the continuously rising demand for transportation.

The Cultivation System started its decline in 1870,[31] when the colonial government adopted a new agrarian law, which allowed the establishment of privately owned plantations. To facilitate that development, the colonial government continued to improve the road infrastructure in Java. In Besuki the Anyer-Panarukan 'Great Post Road', which had been built during the administration of Governor General *Herman Willem Daendels* (1808-1811), was extended from Panarukan to Banyuwangi via Situbondo. The extension was finished in 1875.[32] The construction of roads began to rely on the use of paid labour, even though in several cases corvée labour continued to be used, due to the lack of public funds.[33]

Responsibility for the design and construction of roads was initially held by the Department of Civil Public Works (*Burgerlijke Openbare Werken, BOW*) established in 1854, which was later known as the Department of Transport and Irrigation. Around 1890, the *BOW* only handled major through roads, while

29) ANRI, Arsip Perkebunan, 1633, 'Banjoewangi 1854'; Stibbe (ed.), *Encyclopaedie... loc.cit.*

30) ANRI, Arsip Residensi 'Pasar Ikan', 954, 'Kaarten en Stuken inzake de Heerendienstenweg in Banjowangi 1918'; Suaryana, 'Perubahan... op.cit., p. 87.

31) In practice, the Cultivation System was gradually abolished, R.E. Elson, 'From "State" to State: The Changing Regime of Peasant Export Production in Mid Nineteenth Java,' in J.Th. Lindblad (ed.), *Historical Foundations of a National Economy in Indonesia, 1890s-1990s* (Amsterdam: KNAW, 1996), p. 124.

32) K.O. Moe, 'Laying the Corner Stones in Java,' *Inter-Ocean*, 7 (1925), pp. 393-394; Arifin, *Babad..., op.cit.*, p. 262.

33) ANRI, Arsip Residensi 'Pasar Ikan', 954, 'Kaarten en Stukken inzake de Heerendienstenweg in Banjowangi 1918'; also Furnivall, *Netherlands... op.cit.*, p. 185; Stibbe (ed.), *Encyclopaedie... op.cit.*, p. 746.

regional roads were given to indigenous administration. After 1905 greater flexibility was given to residencies and municipalities to take initiatives in road construction and maintenance.[34] By 1914, 1,104 kilometres of roads were kept by the State in Besuki, which meant that the maintenance of these roads was in the hands of the *BOW*. The state was responsible for three categories of roads: 157 kilometres of first class roads (over 4.5 metres wide), 509 kilometres of second class roads (3.5 metres wide), and 438 kilometres of third class roads (2.5 metres wide).[35]

Private enterprises also participated in the construction and maintenance of roads to support the operation of estates. For example, from 1880 to 1890 the *Landbouwmaatschappij Oud-Djember (LMOD)*, a leading plantation enterprise in Besuki, improved roads connecting its central office in Jember with its estates in Mayang, Wuluhan, Tanggul, and Puger districts.[36] Hence, there were three categories of roads: those maintained by the colonial government; private plantation roads where the responsibility for maintenance rested with private estate companies; and a number of roads categorised as village roads. Villages were responsible for the maintenance of their village roads.

Further improvements were made to roads connecting neighbouring districts in Besuki. This is confirmed in the traditional source, *Babad Blambangan,* although it does not provide any

34) G.J. Knaap, *Changing Economy in Indonesia, Vol. 9: Transport, 1819-1940* (Amsterdam: Royal Tropical Institute, 1989), p. 27.

35) Geographical Section, *A Manual of Netherlands India* (London: His Majesty's Stationery Office, 1920), pp. 404-405.

36) E.B. Arifin, 'Emas Hijau di Jember: Asal-usul, Pertumbuhan dan Pengaruhnya dalam Kehidupan Sosial EkonomiMasyarakat, 1860-1930.' *Unpublished M.A.* Thesis, Gadjah Mada University, Yogyakarta, 1989, p. 51.

detailed information.[37] The various Memoranda of Succession (*Memories van Overgave)* of Besuki residency, written by residents for their successors, also refer to the gradual improvement and expansion of the road network in Besuki. For instance, new roads were constructed in Bedadung and Tanggul areas, and a road connecting Bedadung and Mayang was improved.[38] Several road projects, such as from Tanggul to Bondoyudo and from Jenggawah to Tempurejo, were also constructed.[39] The main roads leading to the interior connecting Panarukan with Jember and Bondowoso were improved and many were widened and asphalted.[40] Around 1924 a road forming the main southern inland route to the east linking Jember and Banyuwangi areas through the southern base of the Ijen plateau was also opened.[41] With these improvements, the road infrastructure connecting the main towns of Besuki became more suitable for motor vehicles and bus services as a means of popular transport in the region.

During the late 1940s and 1950s, the condition of roads is likely to have deteriorated.[42] East Java's roads deteriorated badly until Governor Noer took over ca. 1968. This deterioration was due to the lack of maintenance during the periods of both Japanese occupation and the war for independence. In order to

37) Arifin, *Babad... op.cit.*, p. 263.

38) ANRI, 'Memorie van Overgave Resident van Besoeki 1922,' p. 20.

39) ANRI, 'Memorie van Overgave Resident van Besoeki, H.A. Voet, 1925,' pp. 46-47.

40) 'Memori Residen Bondowoso (A.H. Neys), 25 Juli 1929,' in S. Kartodirdjo et al., (eds.), *Memori Serah Jabatan, 1921-1930 (Jawa Timur dan Tanah Kerajaan* (Jakarta: ANRI, 1978), p. 188.

41) J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki in 1930,' *Tijdschrift van het Koninklijke Nederlandsch Aardrijkskundig Genootschap*, 80 (1963), p. 396; B. Arps, 'Yusup, Sri Tanjung, and fragrant Water: The Adoption of a Popular Islamic Poem in Banyuwangi, East Java,' in V.J.H. Houben, H.M.J. Maier and W. van der Molen (eds.), *Looking in Odd Mirrors: The Java Sea* (Leiden: Vakgroep Talen en Culturen van Zuidoost-Azie en Oceanie, 1992), p. 114

42) S. Djojohadikusumo, *Persoalan Ekonomi di Indonesia* (Jakarta: Indira, 1953), p. 30.

accommodate the growing volume of road traffic, various improvements were required. However, there were two serious obstacles impeding the restoration of road facilities. Firstly, the Indonesian government experienced financial shortages that prevented it from implementing a sufficient rehabilitation program. Secondly, during the 1950s the growing likelihood of nationalisation discouraged plantation enterprises from investing in the rehabilitation and maintenance of road facilities.

Since the late 1960s road infrastructure has improved significantly. This has been inseparable from the great emphasis of the New Order government on economic development. In 1974 the former residency of Besuki had the longest asphalted road network in the Province of East Java. The total length of asphalted roads in Besuki was 635 kilometres, followed by Malang (630 km) and Madura (452 km). Meanwhile, in the other residencies, the figures were less than 400 km.[43] Sources are not readily available to trace the development of the entire road network in the former residency of Besuki, but by 1989 the length of asphalted road in Banyuwangi regency had reached 760 kilometres.[44] This is much longer than the total of asphalted road for the Besuki residency in 1974, which indicates that the pace of road development has accelerated considerably during the past 25 years.

3.3.2 Means of transport

The improvement of road conditions paved the way for changes and growth in the available means of transport. This

43) *Monografi Daerah Jawa Timur* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1977), Vol. I, pp. 162-163.

44) *Kabupaten Banyuwangi dalam Angka 1989* (Banyuwangi: Kantor Statistik, 1990), p. 184. There is no explicit explanation for asphalted roads in Situbondo and data given is only based on road classification: state road (110 km), province road (22 km), and regency road (1,164 km); *Kabupaten Bondowoso dalam Angka 1989* (Bondowoso: Kantor Statistik, 1990), p. 199; Statistical publications from the regency of Jember for the same year contains no data on roads.

started with a rise in the use of animal drawn-carts. This type of transport could only be adopted widely after roads had been made accessible for them. The main reasons behind this adoption were the continued development of cash crop production and population growth. These made the adoption of animal drawn carts, both *gerobak* or *pedati* (oxen-drawn cart) and *cikar* (horse-drawn cart) increasingly attractive. At the turn of century, the former was generally used for the transport of goods, whereas the latter was mainly used for transport of people.[45]

During the period of the Cultivation System, the use of animal-drawn carts as a means of transport must have increased significantly. Qualitative evidence indicates that the transport of cash crop production depended mainly on animal-drawn carts. Elson stated that in the 1850s many animal-drawn carts and their drivers went to Besuki every year from Probolinggo and Pasuruan to transport sugarcane for the sugar industry.[46] In Banyuwangi, the horse-drawn cart was also used to convey cash crop products. However, where it was impossible to use animal-drawn carts, goods were still transported by *pikulan* (carrying poles).[47]

Post-stations were established in particular places where horses were changed and people could take a rest for a while. In 1862 it was reported that from Puger to Bondowoso, there were ten post-stations established in Puger, Kasian, Balung, Rawa Tantu, Rambipuji, Sempusari, Jember, Arjasa, Jelbuk, and Suger.[48] Junghuhn reported in 1844 that there were four poststations

45) *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, IVa: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar het vervoerwezen en Daaruit Gemaakte Gevolktrekkingen* (Batavia: Kolff, 1907), p. 133.

46) Elson, *Village... op.cit.*, pp. 224-225.

47) Elson, *Village... ibid.*, p. 66, 253-254.

48) J. Hageman, 'Over de Nijverheid in Zuid Oostelijk Java,' *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch indië*, 8, nieuwe serie 3 (1862), pp. 56-57.

between Lumajang and Puger.[49] Colonial officials usually used horse drawn cart during their field trips.[50] They reported that it took them about three hours from Puger to Jember, three and a half hours from Jember to Bondowoso, and two and a half hours from Puger to Rambipuji.

The increase in the use of animal-drawn carts during the nineteenth century was reflected in a rise in the number of livestock, particularly horses and oxen, as shown in Table 3.1. The fall in the number of horses during the 20th century was most likely caused by an improvement in other means of transport, especially the railway for passenger transport. The number of oxen continued to increase, as oxen served a multitude of purposes, including drawing carts, working land, bull fighting, and the production of meat and milk.

Table 3.1: Numbers of Horses and Oxen in the Residency of Besuki, 1827-1992 (x 1,000)

Year	Horses	Oxen
1827	31.1	65.2
1856	43.3	95.7
1890	58.7	216.1
1935	20.2	503.0
1992	13.8	541.4

Sources: 1827, ANRI, Arsip Residensi, Banyuwangi 26, 'Jaarlyksch Verslag Residentie Besoeki en Banjoewangi 1828'; 1856, *Verslag van het beheer en den staat der Kolonin over 1856, Bijlage W: Aantooning van den Veestaplel op Java bij het eind van het jaar 1856*; 1890, *Koloniaal Verslag van 1892, Bijlage A: Statistiek Betreffende De*

[49] F.R. Junghuhn, *Reizen Door Java, door het Oostelijk Gedeelte van dit Eiland* (Amsterdam: van Kampen, 1852), Vol. 2, p. 371.

[50] Hageman, 'Over de Nijverheid... *op.cit.*, p. 56; Junghuhn, *Reizen... ibid.*, p. 376; Vissering, *Een Reis..., op.cit.*, pp. 56-57.

Bevolking van Nederlandsch-Indie over 1890, pp. 36-37; 1935, C. Lekkerkerker, *Land en Volk van Java* (Groningen: Wolters UitgeversMaatschappij, 1938), 671; 1992, *Jawa Timur Dalam Angka 1992* (Surabaya: Kantor Statistik,1993), p. 122.

The reliance on traditional means of transport made the transportation of cash crops relatively expensive. The high cost of transport was related to the limited capacity of animal-drawn carts and the longer time period required for products to reach ports for further transport. Moreover, in the process of product delivery, the quality of products could also deteriorate as a result of low speed, bad weather, and improper treatment by coolie workers. These factors had a negative impact on transport costs and continued efforts were therefore made to provide more efficient means of transport, such as the railroads (see next section).

With the development of railroad transport at the turn of the century, the role of animal drawn carts in long-distance transport declined significantly. Animal drawn cart owners were forced to concentrate on short distance transport.[51] By a process of specialisation, the animal drawn carts were able to survive until today. The relationship between the railroads and the traditional means of transport became complementary rather than competitive. The animal drawn carts served routes to and from railroad stations as indicated by historical pictures showing animal drawn carts parked in front of the railroad stations in the Besuki residency.[52]

In the 1920s, motor buses were increasingly used in Besuki. The main purpose of this form of transport was to transport

51) A.C. Jaeggi, 'De Tabakscultuur van de Residentie Besoeki,' in C.J.J. van Hall and C. van de Koppel (eds.) *De Landbouw in de Indische Archipel* (The Hague: Van Hoeve, 1949), Vol. IIb, p. 513.

52) M.B. de Jong, *Spoorwegstations op Java* (Amsterdam: De Bataafsche Leeuw, 1993), pp. 211-213.

migrants throughout the region. From the Panarukan seaport, buses brought the disembarking passengers of ships to destinations such as Banyuwangi, Bondowoso and Jember. Conversely, people who travelled from these areas to Madura were brought to the seaport of Panarukan, where they caught the ferry to Madura.[53] During the 1930s bus transportation began to compete with the railroads for the long distance transportation of passengers. In 1947, there was a daily round trip bus service from Jember to Bondowoso, while from Bondowoso to Besuki and from Banyuwangi to Situbondo there were three weekly round trip bus services.[54]

The use of animal-drawn carts was not disturbed by the development of bus transportation due to their role in servicing short distances. During the Japanese occupation, the role of animal-drawn carts became increasingly important due to the deterioration of other means of transport as a consequence of poor railroad maintenance. However, with the development of *becak* (pedicab), the animal-drawn carts experienced intense competition.[55] Only in remote areas were their services able to survive, whereas in urban areas, the *becak* played an increasingly dominant role in the short distance transport both of people and goods. There is ample evidence that *becak* came to play an important role in the urban areas of Jember, Banyuwangi and Situbondo, as indicated by the significant number of *becak* and people working as *becak* drivers.[56]

53) 'Memori Residen Bondowoso (A.H. Neys) 1925,' in Kartodirdjo, et al., (eds.), *Memori Serah... op.cit.*, p. 190; H. De Jonge, *Madura dalam Empat Zaman* (Jakarta: KITLV, 1989), p. 33.

54) 'Bagaimanakah Perjalanan Bis di Besoeki ?,' *Minggoean Pelita*, 26 (5 May 1947), p. 1.

55) Knaap, *Changing... op.cit.* p. 27.

56) In 1986 there were 6,100 people working as becak drivers in Kota Administrasi Jember, B. Nurhardjo, 'Tinjauan tentang Tingkat Kesejahteraan Ekonomi Tukang Becak di Kota Administrasi Jember.' *Unpublished research report*, Pusat Penelitian Universitas Jember, Jember, 1987, p. 13; in 1989 in Bondowoso there were 1800 becak, *Kabupaten Bondowoso dalam Angka 1989* (Bondowoso: Kantor Statistik, 1990), p. 167.

With the improvement of road facilities, motorised vehicles started to dominate the transportation of goods and people both over long and short distances. This endangered the position of traditional means of transport and forced them into a marginal position. The owners of animal-drawn carts frequently expressed their dissatisfaction. For example, in 1952 a group of *kusir* (horse-drawn cart drivers) from the sub-district of Sempolan protested to the local authorities in Jember against the operation of trucks in their area which caused a loss of income for their households.[57] Similarly, in Bondowoso in 1989 the owners of horse-drawn carts complained of losing income to the *tukang ojek* (motorcycle riders transporting people to earn a living).[58]

In line with the improved road infrastructure, the number of motor vehicles in Besuki must have increased substantially. Data for Besuki are not available, but figures for Java indicate this general trend. In 1931 the number of motor vehicles in Java and Madura as a whole was 52,700.[59] By 1971 the total in East Java only reached 171,600 and increased to 188,700 in 1992.[60] This is much bigger than the total number of motor vehicles for Java and Madura as a whole in 1931.

3.4 Railroad Transport and Its Development

The idea of constructing a railroad network in colonial Indonesia was raised around 1840, by Governor General *Rochussen*. However, it took until the late 1860s before the first railroad was constructed, connecting Semarang and the

57) 'Tuntutan Kusir2 Dokar kepada yang Berwajib,' *Trompet Masjarakat* (1 September 1952), p. 3.

58) Soeyono, 'Studi tentang Tingkat Pendapatan Keluarga Pemilik Dokar di Kecamatan Curahdami Kabupaten Bondowoso.' *Unpublished research report*, Pusat Penelitian Universitas Jember, Jember, 1990, p. 32; in 1989 in Bondowoso there were 1,159 dokar (horse-drawn carts) and 68 gerobak (oxen-drawn carts), *Kabupaten Bondowoso... op.cit.*, p. 167.

59) Knaap, *Changing... op.cit.*, p. 85.

60) *Statistik Kendaraan Bermotor dan Panjang Jalan 1975* (Jakarta: Biro Pusat Statistik, 1976), p. 2; *Jawa Timur Dalam Angka 1992* (Surabaya: Kantor Statistik, 1993), p. 172.

Pricipalities of Yogyakarta and Surakarta. The reasons for the slow development were related to Dutch officials being unfamiliar with railroad transport technology and, more importantly, the capital-intensive nature of railroad construction, meaning that railroad establishment required a large capital investment.[61]

The deficiencies of available transport infrastructure in Besuki were increasingly felt when private plantation agriculture expanded in the region at the end of the 1880s. The rise in agricultural products required better transport facilities both in terms of capacity and speed. Previous improvements in the road network were insufficient to meet the demand for better transport facilities by private entrepreneurs. The answer was railroads. The government first offered railroad construction for tender to private enterprises. However, this was unsuccessful. Hence, the colonial government managed the construction of the railroads.[62]

In 1893 the colonial government allocated *f* 1,650,000 to build a railroad connecting Jember with Probolinggo and Panarukan and to construct a railroad line from Randuagung to Pasirian.[63] It took four years to finish. By 1897 the railroad lines connecting Jember with Panarukan in the North and Klakah in the West (see Figure 3.2) were officially opened. This line was a continuation of the railroad from Surabaya to Klakah through Pasuruan and Probolinggo. The Pasuruan-Probolinggo line was officially opened in 1884 and the Probolinggo-Klakah line in 1895.[64]

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61) Knaap, *Changing... op.cit.*, p. 28.

62) Djembatan, 'The State Railways of the Netherlands East Indies,' *Inter-Ocean*, 9 (September 1925), p. 571; G.C. Allen and A. Donnithorne, *Western Enterprise in Indonesia and Malaysia* (New York: Macmillan, 1957), p. 226; *Kereta Api Indonesia* (Jakarta: Departemen Penerangan Republik Indonesia, 1978), p. 32.

63) 'Wet van 23 Juni 1893,' *Staatsblad van Nederlandsch-indië over het Jaar 1893, No. 214* (Batavia: Landsdrukkerij, 1894); 'Een Wetsonwerp ten Behoeve van een Spoorweg van Probolinggo naar Panaroekan,' *Indische Gids*, 15, 1 (1893), p. 58.

64) R. Broersma, *Besoeki: Een Gewest in Opkomst* (Amsterdam: Scheltema and Holkema, 1912), p. 169; De Jong, *Spoorwegstations... op.cit.*, pp. 208-209.

During the 20th century the construction of railroads continued. From Kalisat the railroad line connecting Jember and Panarukan was extended to the east towards Banyuwangi via Sempolan, Garahan, Kalibaru, Singojuruh, Rogojampi, and Dadapan, with tunnels through Gunung Botoh and Gunung Raung.[65] In 1902 the railway line from Kalisat to Mrawan was opened. One year later its extension connecting Mrawan with Banyuwangi was also opened.[66] From Rogojampi this line was extended to the south, to Benculuk in 1916.[67]

After the completion of main lines, attention was concentrated on building secondary lines. These lines served shorter routes connecting several districts, for example the railroads connecting Rambipuji with Puger, and Balung Lor with Ambulu.[68] The Rambipuji-Puger route was run by a private company, the Babat-Jombang Steam Tram Co.[69] In addition, private sugar companies in the region were also interested in building narrow-gauge railroads for the transport of cane from fields to the sugar mills. To support the operation of railway transportation in the region, the colonial government established a workshop in Jember.[70]

As seen in Figure 3.2, the railroad lines generally run parallel to the land roads. The main reason for this is that the construction of railroads was primarily aimed at replacing the

65) 'De Voltooiing van Spoorweg Kalisat-Banjoewangi,' *Indische Gids*, 25, 1(1903), pp. 653-655; *Kereta Api... op.cit.*, p. 39.

66) Broersma, *Besoeki... op.cit.*, p. 170; J. Stroomberg, *Handbook of the Netherlands East-Indies* (Buitenzorg: Division of Commerce, Department of Agriculture, Industry and Commerce, 1930), p. 369; *Kereta Api... ibid.*, p. 40.

67) S.A. Reitsma, *Gedenkboek der Staatsspoor- en Tramwegen in Nederlandsch-indië 1875-1925* (Weltevreden: Topografische Inrichting, 1925), pp. 59-60.

68) Broersma, *Besoeki... op.cit.*, p. 170; C. Lekkerkerker, *Land en Volk van Java* (Groningen: Wolters, 1938), p. 717.

69) Geographical Section, *A Manual of Netherlands India* (London: His Majesty's Stationery Office, 1920), pp. 410-411.

70) Djembatan, 'The State Railway... *op.cit.*, p. 577.

inefficient function of existing roads in facilitating transport of goods and people. At the turn of the century the railroad network was regarded as the most appropriate alternative for efficient transportation over long distances. This mode of transport was much better than road transport, which still depended heavily on animal-drawn carts. The topographical conditions also forced roads and railroads to take the same route.

The railroads were used not only to serve the transport of agricultural commodities such as sugar, tobacco, and rubber produced by the private western plantations, but also for the transport of cash crops such as tobacco and rice produced by farmers. From Jember and Bondowoso, tobacco was transported by railroad to the Panarukan seaport, from where the product was directly shipped to Rotterdam and other international markets.[71] Since the late 1920s sugar produced in Jember has been transported by rail to the Panarukan seaport.[72]

The railroad was widely used by traders to transport rice and paddy (unhusked rice) from Besuki.[73] Quantities of rice were also transported by rail to the Panarukan and Banyuwangi seaports for shipment to Madura, Bali and the outer islands of Indonesia.[74] The attraction of railroads for rice traders was related to the better service offered by railroads, in terms of speed and capacity. Rice and paddy were transported by rail from the Besuki residency

71) C. Vermeer, *Landbouwmaatschappij Oud-Djember 1859-1909* (Deventer: LMOD, 1909), no pages; Tobacco remained a dominant commodity transported by rail from the region, K. Indraningrat, 'Analisis Angkutan Barang pada Perumka Daerah Operasi IX Jember.' *Unpublished research report*, Lembaga Penelitian Universitas Jember, 1996, pp. 26-29.

72) 'Memorie Residen Bondowoso (A.H. Neys), 25 Juli 1929,' in Kartodirdjo et al., (eds.), *Memori... op.cit.*, p. 190.

73) Memorie Residen Bondowoso (A.H. Neys), 25 Juli 1929,' in Kartodirdjo *et al.*, (eds.), *Memori... ibid.*, p. cxxii.

74) ANRI, 'Memorie van Overgave van Resident van Besoeki 1922'; ANRI, 'Memorie van Overgave van Resident van Besoeki, H.A. Voet, 1925,' pp. 18-19, 38; from the Banyuwangi port, an amount of 931 tons of rice was exported in 1908 and it increased to 1,571 tons by 1909 and 1,171 tons by 1910, see Broersma, *Besoeki... op.cit.*, p. 103.

to a number of destinations such as Pasuruan, Surabaya, and the other parts of Java.[75]

The economic impact of railroad construction was in the form of reduced transportation costs. This is what Fogel called the 'primary effect of railroads', as distinct from the 'derived effects of railroads', which include changes in spatial distribution, backward linkages, and socio-political relations.[76] With its larger capacity and faster services, the railroads offered more efficient transportation over long distances. For example, by animal-drawn carts the cost of tobacco transport from Jember to Panarukan was *f* 1.60 per pack and each cart could load 7 or 8 packs, by railroad transport it cost only *f* 29 per wagon loading of 72 packs or only about *f* 0.40 per pack.[77] The construction of railroads reduced the costs of transportation significantly.

In terms of speed, railroad transport also had another advantage. By animal drawn carts, it took three days to transport agricultural products from the interior of Besuki to the seaports, whereas by rail it took only 4-5 hours. With the dependence on traditional means of transport, a large number of agricultural products often could not be transported on time, especially during the rainy season.[78] Consequently, not only did it take longer for products to reach their destinations, the quality of transported products often deteriorated due to the slow transportation. The availability of railroad services allowed traders to overcome this problem. Until the end of effective Dutch colonial rule, the railroad was the most efficient means of transport by land. This was also partly due to the fact that other means of transport by road, such as trucks, had not yet been well developed.

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75) ANRI, 'Memorie van Overgave van Resident van Besoeki, 1931-1934,' p. 30.

76) R.W. Fogel, 'Railroads and American Economic Growth,' in R. W. Fogel and S.L. Engerman (eds.), *The Reinterpretation of American Economic History* (New York: Harper, 1971), p. 188.

77) 'De Oeconomische Toestand van de Gewesten die door den Geprojecteerden Spoorweg Probolinggo-Pasirian worden doorsneden,' *Indische Gids*, 15, 1 (1893), pp. 1086-1088.

78) Arifin, 'Emas Hijau... *op.cit.*, pp. 54-55.

During the 1940s railroad transport deteriorated.[79] This was due to a number of factors. Firstly, during the Japanese occupation, few efforts were made to maintain the existing railway routes and equipment. The Japanese military dismantled several railroad tracks and shipped tracks, carriages, and locomotives to mainland Southeast Asia, particularly Thailand and Burma, to build the new railroads required to support their campaign.[80] Secondly, during the war for independence the new Indonesian government found it difficult to rehabilitate the railroad in Java due to the political upheaval and lack of capital.[81] During this period (1945-1949) a number of stations and bridges were deliberately damaged as a result of war tactics.[82]

After the recognition of Indonesian independence by the Dutch in 1949, *Djawatan Kereta Api Republik Indonesia (DKRI)* and the former Dutch-owned railroad companies, *Staatspoor (SS)* and *Vereenigde Spoorwegbedrijven (VS)* were merged and given a new name, *Djawatan Kereta Api (DKA)*. The *DKA* was renamed in 1960 as *Perusahaan Negara Kereta Api (PNKA)* and in 1978 as *Perusahaan Jawatan Kereta Api (PJKA)*.[83] Apart from administrative difficulties, serious efforts to rehabilitate the damaged bridges, stations, and lines did not start until the 1970s. Consequently, railroad transport continued to deteriorate, as indicated by the decreased number of passengers and freight. Data for the Besuki residency is not available, but figures for East Java between 1961 and 1973, presented in Table 3.2 illustrate the trend.

79) Kementerian Penerangan, *Republik Indonesia... op.cit.*, p. 194; Allen and Donnithorne, *Western Enterprise... op.cit.*, p. 227.

80) *Sekilas Lintas 25 Tahun Perkereta-apian, 1945-1970* (Bandung: Balai Grafika PNKA, 1970), pp. 17-18; Kereta Api... op.cit., pp. 49, 52; A. Kurasawa, 'Transportation and Rice Distribution in South-East Asia during the Second World War,' in P.H. Kratoska (ed.), *Food Supplies and the Japanese Occupation in South-East Asia* (Basingstoke: Macmillan, 1998), p. 48.

81) *Sekilas Lintas... ibid.*, p. 20.

82) Kementerian Penerangan, *Republik Indonesia... op.cit.*, p. 193.

83) *Kereta Api... op.cit.*, pp. 36-38, 100.

Table 3.2: Loaded freight and passengers of railroads in East Java, 1961-1973

Year	Loaded freight (x 1000 tons)	Passengers (x million)
1961	123	79
1966	110	54
1971	22	21
1973	12	12

Source: Statistik Pengangkutan Kereta Api 1961-1973 (Jakarta: Biro Pusat Statistik, 1975), pp. 38-39.

There are several reasons for the deterioration of rail transport during the 1960s and 1970s. The first reason was the inadequate maintenance of railroad equipment and poorly developed service improvement due to the lack of capital and mismanagement of the railway operation.[84] Most locomotives and equipment were old and inherited from the Dutch colonial period and many were simply beyond repair. The second reason for the decline is related to competition from rapidly developing road transport.[85] During the New Order highway and transport vehicles such as trucks, buses, and cars increasingly came to be used. Improved road transport networks offered better services compared to railroad transport, particularly in terms of the flexibility to reach isolated places out of the reach of railroad networks.[86]

3.5 Development of Transport by Water

As with land transportation facilities, water transport facilities linking Besuki with surrounding areas were also

84) 'Beberapa Sebab jang Menimbulkan Kerugian bagi D.K.A.' *Trompet Masjarakat* (18 January 1954), p. 2.

85) C. Drake, *National Integration in Indonesia: Patterns and Policies* (Honolulu: Hawaii University Press, 1989), p. 105.

86) L.A. Mears, *The New Rice Economy of Indonesia* (Yogyakarta: Gadjah Mada University Press, 1981), p. 225; Drake, *National Integration... ibid.*

developed. The archipelagic nature of Indonesia makes sea transport significant, not only for inter-island economic exchange but also for international transport. Even though the seaports of Besuki, Panarukan, and Banyuwangi were relatively small, they had an important position as lighterage ports in terms of export trade.[87] Particularly in the seaports of Panarukan and Banyuwangi, the colonial authorities took measures to improve shipping services and seaport facilities.

In terms of shipping services, from 1908 the seaport of Banyuwangi was served fortnightly by the Royal Dutch Shipping Enterprise (*Koninklijke Paketvaart Maatschappij, KPM),* navigating a regional route from Surabaya via Sampang, Pamekasan, Sumenep, to Banyuwangi, Bali, Ampenan, Sapekan, Kangean, and Sapudi.[88] After 1928 the Bodemeijer shipping enterprise made a daily round trip between Panarukan and Kalianget, Madura. This service was mainly provided to transport the continuous flow of migrants from Madura to Besuki.[89]

More importantly, to facilitate the transport of cash crops, the *Stoomvaart Maatschappij Nederland* and the *Rotterdamsche Lloyd* shipping enterprises sailed regularly from the Panarukan port.[90] By 1890 there were 11 steamships coming to the Panarukan seaport to load agricultural products for export to Europe.[91] In the 20th century, the *KPM* also occasionally shipped from Panarukan and Banyuwangi ports.[92] Banyuwangi port was also

87) J.A. Kok, *De Scheepvaartbescherming in Nederland en Nederlandsch-Indie* (Leiden: Leidsche Uitgeversmaatschappij, 1931), pp. 97-98. The big seaports of Java were Jakarta, Semarang, and Surabaya.

88) M.G. de Boer and J.C. Westermann, *Een halve Eeuw Paketvaart, 1891-1941* (Amsterdam: De Bussy, 1941), p. 380.

89) 'Memori Residen Bondowoso,' in Kartodirdjo *et al.* (eds.), *Memori... op.cit.*, p. cxxxiii.

90) 'De Oeconomische...*op cit.*, pp. 1083-1084; Jaeggi, 'De Tabakscultuur... *op.cit.*, p. 514.

91) *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, IVa: Overzicht van de uitkomsten der gewestelijke Onderzoekingen naar het vervoerwezen en daaruit gemaakte gevolktrekkingen* (Batavia: Kolff, 1907), p. 133.

92) Geographical Section, *A Manual... op.cit.*, p. 376.

the last port of call for the West Australian Joint Service navigating the route between Java and Western Australia.[93] Through the Panarukan and Banyuwangi ports various agricultural commodities, particularly tobacco, sugar and coffee, were shipped directly to international markets.[94]

To keep up with the increased shipping activities, the seaports were improved. In the 1920s the Banyuwangi seaport was dredged and equipped with better piers and dykes, and served by a new road.[95] In Panarukan new storehouses were built.[96] These were required for the storage and preparation of produce before the arrival of freightships. They were also used to store imported goods before distribution. In 1931 the value of exports from Panarukan and Banyuwangi ports were respectively *f* 13 million and *f* 3 million, whereas the value of imports were *f* 13 million and *f* 150 thousand respectively.[97] Table 3.3 shows that Panarukan had a higher turnover than Banyuwangi, as indicated by their shares of Java's exports and imports. In terms of import value, the share of Panarukan in Java's total import trade in the 1920s tended to increase, whereas it remained constant in Banyuwangi. In terms of export value, Panarukan's share of Java's export trade suffered a continual decline, while Banyuwangi's share in export trade vacillated. The decline in Panarukan's share of Java's total export trade during the 1920s was likely due to increased export trade from other ports.[98]

93) Official Tourist Bureau, *Come to Java* (Batavia: Kolff, undate), p. 269.
94) 'De Oeconomische... *op.cit.*, pp. 1080, 1083; C.D. Ponto, *et al., Sejarah Pelayaran Niaga di Indonesia, Vol. I: Pra Sejarah hingga 17 Agustus 1945* (Jakarta: Puspindo, 1990), pp. 108-109.
95) ANRI, 'Memorie van Overgave van het gewest Besoeki, J.H. Fessevier, 1922,' p. 20.
96) ANRI, 'Memorie van Overgave van den Resident van Besoeki, Ch.A. van Romondt over de periode 30 Januari1935-26 Februari 1938,' p. 63.
97) Quanjer, *Land... op.cit.*, p. 124.
98) A. Clemens, J.Th. Lindblad and J. Touwen, *Changing Economy in Indonesia, 12b: Regional Patterns in Foreign Trade* (Amsterdam: Royal Tropical Institute, 1992), pp. 61-63.

Table 3.3: Share of the Panarukan and Banyuwangi ports in the imports and exports of Java and Madura, 1920-1928 (in % of the value)

	Panarukan		Banyuwangi	
Year	Import	Export	Import	Export
1920	0.2	4.2	0.1	0.5
1922	0.3	3.6	0.1	1.1
1924	0.3	3.4	0.1	0.7
1926	0.5	3.4	0.1	1.1
1928	0.4	3.1	-	0.8

Source: J. Stroomberg, *Handbook of the Netherlands East-Indies* (Buitenzorg: Division of Commerce, Department of Agriculture, Industry and Commerce, 1930), p. 409.

Both Panarukan and Banyuwangi ports experienced a decline in activity during the 1940s. During the war for independence, for example, the facilities of Banyuwangi port were damaged by Dutch military attacks to sabotage exports used to finance the Indonesian struggle for independence.[99] However, in the 1950s economic activities in the two ports revived. This recovery ran parallel with the revival in plantation enterprises in the 1950s and the rapid development of farm agriculture following the nationalisation of foreign plantations in 1957-1958.[100]

From around the 1970s, the two seaports experienced a very different development. Panarukan's role declined dramatically. In 1970 the total amount of loaded and discharged goods was 40,000 tons and by 1976 it was only 10,000 tons.[101] By 1988 it decreased to about 1,100 tons.[102] Prime reason for

[99] Sudarno, *et al., Sejarah Pemerintahan Militer dan Peran Pamong Praja di Jawa Timur Selama Perjuangan Fisik 1945-1950* (Jakarta: Balai Pustaka, 1993), p. 751.

[100] 'Banjuwangi Interinsular, Panarukan Export,' *Trompet Masjarakat* (30 May 1952), p. 3; 'Keluar/masuknja Barang2 dipelabuhan Panarukan,' *Trompet Masjarakat* (5 January 1952), p 2.

[101] *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1969-1972* (Jakarta: Biro Pusat Statistik, 1974), p. 9; *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1976* (Jakarta: Biro Pusat Statistik, 1978), p. 3.

[102] *Kabupaten Situbondo... op.cit.*, p. 210.

shift in deep-sea cargo away from Panarukan in the 1980s was containerization of tobacco cargoes for handling through Surabaya. The deterioration was partly also due to mismanagement. Corrupt practices had spread widely and caused a collapse of the port after the military took over management of the seaport.[103] Several activities were shifted to other ports such as Banyuwangi and Surabaya.[104] Another explanation is that the existing rivers, particularly *Kali Sampean,* brought increasing amounts of silt into the port due to upstream deforestation.[105] This natural process was exacerbated by the poor maintenance of infrastructure in Panarukan port.[106] At present Panarukan only serves local fishermen.

On the other hand, the role of Banyuwangi increased dramatically. Quantitatively, this was indicated by a significant increase in the amount of loaded and discharged goods from 70,000 tons in 1969 to 1.7 million tons in 1990.[107] The main explanation for this increase was government policy specifically designed to develop Banyuwangi as an international port.[108] As a result, Banyuwangi replaced Panarukan as an international port and Besuki's export gate.

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103) Thanks to Edy Burhan Arifin who shared this information.

104) I. Hariyanto, *Melangkah dari Reruntuhan Tragedi Situbondo* (Jakarta: Grasindo, 1998), p. 36.

105) Over centuries, Panarukan land has expanded considerably to the sea and consequently, several coastal villages, which in the past centuries were located close to the sea, are situated now at a far distance from the sea (personal observation). In the mid 19th century, the expansion of Panarukan and Besuki lands to the sea was also reported, see for instanceC.J. Bosch, 'Aanteekeningen over de Afdeeling Bondowoso(Residentie Besoeki),' *Tijdschrift voor Indische Taal-, Land, -en Volkenkunde*, 6 (1857), pp. 470-471.

106) 'Pelabuhan Panarukan minta Perhatian Pemerintah,' *Trompet Masjarakat*, (3 July 1953), p. 2.

107) *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1969-1972* (Jakarta: Biro Pusat Statistik, 1974), p. 9; *Laporan Tahunan Direktorat Jenderal Perhubungan Laut 1975/1976* (Jakarta: Dirjen Perhubungan Laut, 1976), Vol. II, p. D-4/30; *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1990* (Jakarta: Biro Pusat Statistik, 1992), p. 5.

108) *The Chamber of Commerce and Industry of East Java, Economic Prospects in East Java 1972-1982* (Sydney: Scott, 1972), p. 3-7.

3.6 Spatial Effects of the Transport Development

There are several ways in which the effects of transport development on the economy and society can be traced. The following sections investigate the contribution of transport development to increased settlement in the previously underpopulated region of Besuki, and the development of new centres of agricultural production.

3.6.1 Change in the Pattern of Settlements

The pattern of settlement is closely related to the transport network. As ease of communication and transportation is expected to be a main consideration for people to settle in an area, it is logical that centres of settlement are usually found along main lines of communication. It can be expected that changes in the pattern of settlement are also a reflection of the development of the transport network.[109]

The early centres of settlement in the Besuki region were primarily located along the coast. Centres of settlement, such as Besuki, Panarukan, Blambangan, and Puger were mainly situated in the coastal areas and built along river banks. For example, villages from Situbondo to Panarukan developed along the Sampean river,[110] and population settlements were established along the Suger river.[111] In addition, the multicultural nature of the population in coastal areas, as indicated by the existence of Makasarese, Madurese, and Balinese, and Chinese communities is evidence of the importance of transport by water.[112]

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109) Surjo's work focusing on rural area of the residency of Semarang also gives evidence for this pattern. See, D. Surjo, *Sejarah Sosial Pedesaan Karesidenan Semarang 1830-1900* (Yogyakarta: PAU- Studi Sosial Gadjah Mada University, 1989), pp. 106-107.

110) P.J. Veth, *Java: Geographisch, Ethnologisch, Historisch* (Haarlem: De Erven F. Bohn, 1903), Vol. 3, pp. 574-575.

111) Bosch, 'Aanteekeningen... *op.cit.*, p. 482.

112) By 1845 Chinese inhabitants were hardly found in the inland districts of Besuki, except Bondowoso District, see P. Bleeker, 'Bijdragen tot de Statistiek der Bevolking van Java,' *Tijdschrift voor Nederlands-indië*, 9, 1 (1847), pp. 143-148.

More importantly, it is likely that in the early period population density in the coastal areas was much higher than in the interior. This is based on an estimate for 1825, which shows that Besuki's coastal population was much larger than its inland population.[113] Implicit support for this suggestion is given by the fact that much is known about the involvement of coastal towns in broader socio-economic networks, while little is known about life in the inland parts. Besuki's inland towns were rarely mentioned in studies focusing on earlier periods.[114]

With the improvement of the transport network leading into the interior and the establishment of plantation agriculture, the centres of settlement in the inland regions grew significantly. There is strong evidence that the main centre of settlement began to move southwards from the coastal areas in the north to the interior. This trend is clearly demonstrated by the substantial growth in population density in the inland parts of the region as time passed.

Unlike in the earlier period, which was predominantly characterised by coastal settlement, by 1890 the population density of the Bondowoso regency exceeded those of the Besuki and Panarukan regencies. Meanwhile, the population density of Jember also grew significantly although it was still ranked the lowest.[115] During the 20th century, further development toward an inland centre of settlement continued to take place. As a result, in 1930 Jember had the highest population density in the residency of Besuki.[116] The Jember regency overtook Bondowoso to become the regency with the highest population density.

The establishment of new settlements in the interior of Besuki was inseparable from improvements in the transport

113) Tennekes, 'De Bevolkingspreiding... *op.cit.*, p. 335.

114) For example, M.C. Ricklefs, *War, Culture, and Economy in Java, 1677-1726* (Sydney: Allen and Unwin, 1993).

115) *Koloniaal Verslag* van 1892, Bijl. B, pp. 22-23.

116) *Volkstelling 1930, Deel III: Inheemsche Bevolking van Oost Java* (Batavia: Landsdrukkerij, 1934), Table 8, p. 141.

network. The opening of a railroad connecting Jember with Banyuwangi along with road improvements contributed to the establishment of new settlements in Cluring, Brasan and Kalibaru (Genteng District) and in Balak Rogojampi district.[117] In Jember, railroad transport contributed significantly to the development of settlements in Wirolegi (Jember district), Mumbulsari (Mayang district), Puger, and Tanggul districts.[118] Unlike the earlier pattern showing a concentration of settlements along the rivers, it became increasingly common for settlements to be developed along the line of roads and railroads.

Since independence inland settlement has continued to be important. Jember has emerged as one of the three big cities of East Java, after Surabaya, the capital of the East Java Province.[119] In 1988 six subdistricts of Jember, namely Pakusari, Sukowono, Kalisat, Rambipuji, Jenggawah; and Balung had population densities of more than 1,000 inhabitants per square kilometre. Two subdistricts, Sumbersari and Patrang, had population densities of more than 2,000 inhabitants per square kilometre. In one subdistrict, Kaliwates, population density reached almost 3,600 inhabitants per square kilometre.[120] In contrast, in the regency of Bondowoso, there were only two subdistricts with a population density of more than 1,000 inhabitants per square kilometre: Tenggarang (1,400) and Bondowoso (2,900).[121] In the old coastal regency of Panarukan (now called, Situbondo), there were only two subdistricts with a population density of more than 1,000: Panji (1,100), and Situbondo (1,600).[122]

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117) Quanjer, Land... *op.cit.*, p. 124; P. Boomgaard and A.J. Goozen, *Changing Economiy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute,1991),p. 52.

118) Tennekes, 'De Bevolkingspreiding..., *op.cit.*, pp. 343-344,

119) The other two cities are Malang and Kediri, see J. Mackie, 'Ekonomi Jawa Timur dari Dualisme ke Pembangunan Berimbang,' in H. Dick, J.J. Fox, and J. Mackie (eds.), *Pembangunan yang Berimbang: Jawa Timur dalam Era Orde Baru* (Jakarta: Gramedia, 1997), p. 49.

120) *Kabupaten Jember dalam Angka 1988* (Jember: Kantor Statistik, 1990), p. 17.

121) *Kabupaten Bondowoso... op.cit.*, p. 37.

122) *Kabupaten Situbondo... op.cit.*, p. 46.

3.6.2 Change in the Centres of Agricultural Production

Over centuries the early centres of agricultural production in Besuki had developed along the north and east coastal areas. Rice, which long held an important position in the region's economy, was grown in the north coastal area of Panarukan.[123] It was also produced in large quantities in the east coastal area of Banyuwangi.[124] With the improvement in transport facilities, the centres of rice production expanded into the inland parts of the region, particularly Jember and Banyuwangi. These two areas became and continue to be the leading centres of rice production in Java.[125] Rice production was undertaken not only to fulfil domestic demand for foodstuffs, but also to produce a surplus for export.[126]

During the period of the Cultivation System, the centre of agricultural production in the Besuki region was still concentrated along northern coastal areas. Panarukan and Besuki districts were the places where the early cultivation of sugar and indigo were established.[127] The higher population density in these areas compared to inland regions suited the development of the sugar industry, which required an abundant supply of labour.

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123) J.G.L. Palte, *Upland Farming on Java, Indonesia: A Socio-Economic Study of Upland Agriculture and Subsistence under Population Pressure* (Amsterdam: Koninklijk Nederlands Aardrijkskundig Genootschap, 1989), p. 39.

124) ANRI, Arsip Residensi, Banyuwangi 1, 'Monthly Report of the District Baniowangie 1813.'

125) J.J. Fox, 'Lumbung Beras di Jawa Timur: Ekologi dan Konteks Sosial Produksi Sawah,' in H. Dick, J.J. Fox, and J. Mackie (eds.), *Pembangunan... op.cit., p. 193.*

126) C. Lekkerkerker, 'Banjoewangi 1800-1810,' *Indische Gids*, 48 (1926), 400-406; Nawiyanto, 'Perubahan Ekonomi di Jember Masa Kolonial,' *Prisma*, 9 (1996), pp. 80-81.

127) J. Hageman, 'Aanteekeningen over Nijverheid en Landbouw in Oostelijk-Java,' *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch indië*, 9, nieuwe serie, 3 (1863), p. 299; Bleeker, 'Fragmeenten... op.cit., p. 128; P. Boomgaard, 'Java's Agricultural Production, 1775-1875,' in A. Maddison and G. Prince (eds.), *Economic Growth in Indonesia 1820-1940* (Dordrecht: Foris, 1989), p. 101; R.Z. Leirissa, G.A Ohorella, and Y.B. Tangkilisan, *Sejarah Perekonomian Indonesia* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1996), p. 68.

Meanwhile, the cultivation of coffee was mostly developed in the districts of Bondowoso situated in the mountainous and sparsely populated inland parts of Besuki, as coffee cultivation required land in the first instance rather than an abundant labour force.[128] There were three leading coffee districts in Bondowoso: Bondowoso, Penanggungan, and Wringin.[129]

In the early 20th century, agricultural production in the Besuki residency expanded southward to the sparsely populated parts of the region, particularly in the *afdeling* of Jember. In several districts, such as Jember, Sukokerto and Tanggul, tobacco cultivation grew rapidly.[130] Both the smallholders and private tobacco plantation enterprises developed. In the 1920s a sugar industry was established in the western part of Jember. Furthermore, rubber plantations were initially developed in Zeelandia (Tanggul district) but rubber production spread further to several parts of Banyuwangi such as Glenmore, Kali Sepanjang, Kali Kempit, Kali Rejo, and Kali Telepah where it became very important.[131] A number of small agricultural plantations such as coffee, coconut and maize also emerged in Banyuwangi.[132]

128) F. van Baardewijk, 'Rural Response to Intensifying Colonial Exploitation: Coffee, State and Society in Central and East Java 1830-1880,' in G. Schutte (ed.), *State and Trade in the Indonesian Archipelago* (Leiden: KITLV, 1994), p. 153.

129) 'De Gouvernments koffiekultuur in de Residentie Besoeki,' *Tijdschrift voor Nederlandsch indië*,. 2, 2 (1864), pp. 126-127; ANRI, Archieven Cultures, 298, 'Probolinggo, Bezoeki, en Banjoewangi 1867.'

130) 'Iets over de Vrije Tabakkultuur in Oost-Java,' *Tijdschrift voor Nederlandsch indië*, 1, 1 (1863), p. 311; Broersma, *Besoeki... op.cit.*, pp. 26, 30.

131) Broersma, *Besoeki... ibid.*, pp. 65-69, 77-78; *Korte Berichten voor Landbouw, Nijverheid en Handel*, 29, (1929), Bijvoegsel XV, p. 10.

132) 'Een Klein landbouwkolonie,' *Onze Stem*, 30 (25 July 1930), pp. 837-838; 'Brasan Kolonie in Afdeeling Zuid Banjoewangi,' *Onze Stem*, 51 (19 December 1930), pp. 1321-1322; 'Verslag Indo Landbouw in Zuid Banjoewangi,' *Onze Stem*, 2 (15 January 1925), pp. 45-47; Van Gent, 'De Afdeeling Banjoewangi... *op.cit.*, p. 211.

3.7 Conclusion

The discussion in this chapter allows two main conclusions to be drawn. Firstly, the transport network in Besuki began to develop gradually during the Dutch colonial period, particularly with the implementation of the Cultivation System. Prior to 1830 the transport infrastructure of the region was almost non-existent in the interior. The relatively intensive political and economic contacts with the outside world were limited to coastal communities. The inland parts of the region remained relatively isolated. The need for better transport facilities was addressed by the colonial government and by private entrepreneurs. The establishment of railroads in Besuki was the first significant response to the growing need for better transportation. The introduction of railroads at the turn of century seriously affected the traditional means of transport, which relied largely on animals and was forced to redefine its role in order to survive. The region was further opened up with gradual improvements in road infrastructure and the expansion of means of transport especially motor vehicles.

Secondly, the improvement in transport facilities throughout the region of Besuki had various consequences. It contributed to a reduction in transport costs and created a more efficient transport system for both people and produce. The development of a transport network also affected the spatial structure of Besuki. Two examples have been given. In terms of settlement, better transport facilities leading to the interior facilitated the inflow of migration and caused the population in inland settlements to grow faster than in coastal settlements. Improved transport infrastructure also turned the inland parts of Besuki into leading centres of agricultural production. Even though transport was not the only factor that made this shift possible, without it the transformation of Besuki would be difficult to understand. The next chapter will elaborate the changes that took place in agricultural production, which was the mainstay of Besuki's regional economy.

CHAPTER IV

THE DEVELOPMENT OF FARM AGRICULTURE IN BESUKI

4.1 Introduction

The region of Besuki has been an important area for agricultural production throughout Indonesia's history. For centuries, it has been a significant rice exporting region, as indicated in the previous chapter. During the late colonial era Besuki became known for its tobacco production. Even though Besuki tobacco was then quite prominent, farm production of both cash and food crops continued to play an important role in agricultural development. Table 4.1 shows the relative importance of Besuki's production of agricultural products in Java as a whole. As can be seen, the production of tobacco, rice, maize, soybean, and livestock in Besuki was relatively more intensive than in Java overall, as indicated by the smaller ratio of Besuki's population to Java as a whole compared to the ratio of Beskui's production of agricultural and pastoral products.

Table 4.1: The Relative Importance of Farm Agriculture in Besuki to Java, 1930

	Production Besuki	Production Java	Ratio*
Rice	501	7,290	0.07
Maize	207	2,003	0.10
Cassava	192	5,216	0.04
Soybean	11	128	0.09
Sweet Potatoes	58	1,100	0.05
Peanut	6	166	0.04
Tobacco	81	179	0.45
Sugar cane	3	289	0.01
Livestock	508	6,017	0.08
Population	2,083	41,718	0.05

Notes: Rice, maize, cassava, soybean, sweet potatoes, peanut in 1000 tons; tobacco in 1000 packs, figures relative to 1934; livestock and population (in 1000 heads); for sugar cane, the data refer to harvested area in 1960. *Ratio refers to ratio of Besuki's production to Java's total production and ratio of Besuki's population to Java's population as a whole.

Sources: P. Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol. 10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 121, 126-130; P.J. van den Broek, 'Bevolkingstabak', in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: van Hoeve, 1949), Vol. IIb, p. 551; *Luas Panen dan Produksi Tanam2an Rakjat Berumur Pendek di Java dan Madura* (Jakarta: Biro Pusat Statistik, 1961), p. 4; *Indisch Verslag, 1931*, Vol. II, p. 270; P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends, 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 121, 133, 135, 137.

This chapter will discuss the development of farm agriculture in Besuki. Given the fact that land is vital to agricultural production, the first section discusses the development of arable land in the region. The next section deals with the performance of farm tobacco. This is followed by a discussion of rice, maize, cassava and soybean respectively.

Cassava is discussed, even though it was relatively less important in Besuki than in Java as a whole in 1930 (as shown in Table 4.1). However, in terms of acreage, cassava was historically much more important than soybean in the period up to the 1930s. Special attention will also be given to livestock due to the fact that livestock have been an integral part of farm production. The aim of this chapter is to investigate broad trends in the growth of agricultural production, both over time and across the region and to establish reasons for the changes and development in agricultural production.

4.2 Development of Arable Lands

Land is the main foundation for agricultural production. Table 4.2 shows that arable land in Besuki continued to increase both in quantitative and qualitative terms. Quantitatively, between 1860 and 1961 total arable lands in Besuki increased six-fold. The most significant increase in arable land took place between 1910 and 1920, when arable land in Besuki increased steeply by 180,000 hectares. Two factors contributed to this. Firstly, the increase was caused by a revision of the system used to estimate arable farmlands for the purpose of levying the land tax, which resulted in more upland area being included in the statistics.[1] Secondly, the increase was associated with the clearing of new lands from forest by indigenous people, in addition to the clearance of lands done by foreign-owned plantation companies.[2] During the Japanese occupation (1942-1945), the

1) W.R. Hugenholtz, 'The land rent question and its solution 1850-1920,' in R. Cribb (ed.), *The Late Colonial State in Indonesia* (Leiden: KITLV Press, 1994), p. 147; P. van der Eng, *Agricultural Growth in Indonesia: Productivity Change and Policy Impact since 1880* (Basingstoke: Macmillan, 1996), p. 53.

2) J.G.L. Palte, *Upland Farming on Java, Indonesia: A Socio-Economic Study of Upland Agriculture and Subsistence under Population Pressure* (Amsterdam: Koninklijk Nederlands Aardrijkskundig Genootschap, 1989), p. 44.

reclaiming of arable land from forest still took place in Besuki, particularly in Banyuwangi.[3] By the early 1950s there was virtually no increase in arable lands, which indicates that the possiblities for arable land expansion had been exhausted. The difference in total arable land between 1961 and 1980 was mainly due to the inclusion of plantation areas for the latter figure.[4]

Table 4.2: Expansion of Arable Land in Besuki (x1000 hectares)

Year	Total	*Sawah* (irrigated land)	% share of *sawah* in total arable
1860	58.8	40.1	68.2
1870	73.1	46.5	63.6
1880	86.1	53.7	62.4
1890	103.3	63.2	61.2
1900	128.9	69.7	54.4
1910	152.6	79.1	51.8
1920	333.6	122.4	36.7
1930	386.7	153.0	39.6
1940	405.0	183.2	45.2
1961	423.4	198.1	46.8
1980	475.6	222.7	46.8
1991	479.2	210.2	43.9

Note: Total arable land 1860-1961 excludes foreign-owned plantation companies.
Sources: For 1860-1940, P. Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 67,71,75-76,91-92; For 1960, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1961* (Jakarta: Biro Pusat Statistik, 1961), p. 1; For 1980, *Penggunaan Tanah Kecamatan Kabupaten/Kodya: Propinsi Jawa Timur (9) Tahun 1978-1980* (Jakarta: Direktorat Tata Guna Tanah, Direktorat Jendral Agraria, Departemen Dalam Negeri, 1983), pp. 5-6; For 1991, *Luas Lahan Menurut Penggunaanya di Jawa 1991* (Jakarta: Biro Pusat Statistik, 1992), pp. 26-27, 46-47.

3) Examples of the expansion of arable land during the Japanese occupation were in Sugihwaras, Wonoasih, and Purwojoyo, *Trompet Masjarakat*, (24 May 1953), p. 2; (23 February 1954), p. 2.
4) Unfortunately it is not possible to exclude the category 'plantations' (perkebunan) from total arable land in 1980 and 1991, because it includes land used both large estates and smallholders.

The expansion of *sawah* (irrigated land) indicates an improvement in the quality of arable land. The sufficient supply of irrigation makes irrigated land more fertile than dry land. The increase in *sawah* area was inseparable from the construction of several irrigation projects in Besuki during the 1920s and 1930s. Irrigation projects were established in Tanggul-Bondoyudo (24,000 hectares), Bedadung (16,300 hectares) and Mayang in Jember and Pekalen-Sampean in Panarukan and Kali Setail, Kali Baru and Kali Blambangan in South Banyuwangi (total capacity, 35,000 hectares), and constructed with the help of prison labour.[5] The improvement in irrigation facilities resulted in a significant increase in the conversion of dry fields (*tegal)* to irrigated fields (*sawah).* Table 4.2 shows that the irrigated area increased by 60,000 hectares during the 1920s and 1930s. The proportion of irrigated area under colonial irrigation schemes increased steeply in Besuki from 16 percent in 1910 to 52 percent in 1925, which was relatively high compared to the rest of Java.[6]

After independence, improvements in irrigation facilities continued and several irrigation projects were carried out. In the 1950s new dams in Jember, Gudang, Wonosari were constructed, as were drainage canals in Rawa Tanggul in Kencong and Rawa Bedodoh in Gumukmas.[7] Moreover, efforts were also made to

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5) The prisoners were recruited from the afdeeling prisons in Kasihan and Jember and the district prisons in Karuk, Kapuran, Glundengan, Pondokwaluh, Talang, Wuluhan. In 1922 2,750 prisoners were employed in the construction of irrigation projects, ANRI, 'Memorie van Overgave van den aftredenden Resident van Besoeki H.A. Voet 1925,' pp. 28, 38-40; 'Memori Residen Bondowoso (A.H. Neys), 25 April 1929, in S. Kartodirdjo *et al.* (eds.), *Memori Serah Jabatan 1921-1930: Jawa Timur dan Tanah Kerajaan* (Jakarta: ANRI, 1978), pp. CXXXV-CXXXVI; A. Angoedi, *Sejarah Irigasi di Indonesia* (Jakarta: International Commission on Irrigation and Drainage, 1984), p. 144.

6) Van der Eng, *Agricultural... op.cit.*, p. 53.

7) 'Pembangunan dam di Besuki,' *Trompet Masjarakat* (6 October 1950), p. 4; 'Saluran Sampejan Baru dikerjakan secara geruisloos,' *Trompet Masjarakat* (18 September 1952), p. 3; 'Usaha-usaha menjuburkan tanah diperhebat,' *Trompet Masjarakat* (27 November 1953), p. 2; 'Dam Desa Lombok dengan Rp. 75,000,' *Trompet Masjarakat* (29 January 1954), p. 2; 'Kanal Djambearum habis Rp. 1,5 juta,' *Trompet Masjarakat* (2 October 1957), p. 1; 'Dam Gudang menelan biaja Rp. 280,000,' *Trompet Masjarakat* (20 January 1958), p. 2.

rehabilitate old irrigation structures. An important example was the rehabilitation of Pekalen-Sampean Irrigation project in the 1970s.[8] Between 1979 and 1983, the Sampean dam in Situbondo was constructed.[9] The improvement in irrigation structures reduced non-irrigated fields from 221,800 hectares in 1940 to 142,000 hectares in 1991.[10] Meanwhile, the decrease in *sawah* area between 1980 and 1991 was primarily associated with the conversion of *sawah* for other purposes, such as housing, public and industrial sites.[11]

Most arable land was used for farm agriculture. In 1922 plantation agriculture occupied only around 25 percent of total arable land, whereas farm agriculture occupied 75 percent of arable land.[12] By 1930 land under plantation agriculture constituted 36 per cent of total arable lands, which indicated a significant increase compared to the figure for 1922. But this was still smaller than the percentage of arable lands devoted to farm agriculture at 64 percent.[13] After independence, arable land used by plantation estates remained a smaller proportion than that used for farm agriculture. For instance, plantation estates (*perkebunan besar)* occupied only 20 percent of arable lands in 1980 and increased

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8) On this project, see Suparmoko, 'The Impact of Irrigation Rehabilitation on Cropping Patterns, Labour Use, and Income Distribution in the Pekalen-Sampean System of East Java.' *Unpublished Ph. D. Thesis*, University of Hawaii, 1980.

9) Angoedi, *Sejarah Irigasi*... op.cit., pp. 227-228.

10) Calculated from Boomgaard and Van Zanden, *Changing... op.cit.*, p. 91 and *Luas Lahan Menurut Pengunaannya di Jawa 1991* (Jakarta: Biro Pusat Statistik, 1992), pp. 46-47.

11) For example, L. Istiqomah, 'Pembebasan Tanah untuk Pemukiman Purnawirawan ABRI di Lengkong, Jember.' *Unpublished research report*, Direktorat Pembinaan Penelitian dan Pengabdian pada Masyarakat Direktorat Jendral Pendidikan Tinggi, 1985; I.K. Suandra, 'Beberapa Catatan tentang Pemberian Ganti Rugi Pelaksanaan Pembebasan Tanah di Masyarakat Desa Grujugan Kidul Kabupaten Dati II Bondowoso.' *Unpublished research report*, Pusat Penelitian Univesitas Jember, 1992/1993. In 1980s a new campus of the University of Jember was built in Tegal Boto on a large area of sawah.

12) *Landbouwatlas van Java en Madoera* (Weltevreden: Department van Landbouw, Nijverheid en Handel, 1926), pp. 44-45.

13) Boomgaard and Van Zanden, *Changing... op.cit.*, p. 92; *Indisch Verslag 1931* (Batavia: Landsdrukkerij, 1931), Vol. II, pp. 258-259.

to 24 percent in 1991.[14] The rest of arable land ranging between 76-80 percent remained under farm agriculture, including private estates (*perkebunan rakyat*), which demontrates the importance of farm agriculture in the region's economy.

4.3 Farm Tobacco

The indigenous people of Besuki have long grown tobacco. The product, generally referred to *krosok tabak* or *kampong krosok* (village tobacco), was initially grown by individual farmers for their own consumption and partly for local trade.[15] Tobacco growing first developed in Bondowoso, where the cultivation of farm tobacco spread southward after the 1860s into the area of Jember, where it became very dominant in the following decades.[16] This development was inseparable from the activities of western entrepreneurs who established ventures in the region. In the 1860s to 1870s, tobacco was produced through a contract system. Under this arrangement, entrepreneurs provided farmers with seeds and other inputs. Farmers cultivated the seeds on their lands, and sold the produce to the entrepreneurs after the harvest.[17] Farmers

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14) *Penggunaan Tanah Kecamatan Kabupaten/ Kodya: Propinsi Jawa Timur (9) Tahun 1978-1980* (Jakarta: Direktorat Tata Guna Tanah, Direktorat Jendral Agraria, Departemen Dalam Negeri, 1983), pp. 5-6; *Luas Lahan... 1991, op.cit.*, pp. 26-27, 46-47.

15) ANRI, Arsip Residensi, Banyuwangi 2.7, 'Algemeen Verslag van de Residentie Besoeki and Banjoewangie 1828,' tobacco had been reported as one of the trade products; P.J. van den Broek, 'Bevolkingstabak,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: van Hoeve, 1949), Vol. IIb, p. 541; A.C. Jaeggi, 'De Tabakscultuur van de Residentie Besoeki,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: van Hoeve, 1949), Vol. IIb, p. 487; S. Djojosoediro, *Pertembakauan di Indonesia* (Surabaya: Resmi, 1967), pp. 187.

16) 'Iets over de vrije tabakkultuur in Oost-Java,' *Tijdschrift voor Nederlandsch-Indië*, nieuwe serie 1(1), 1863, p. 311; R.E. Elson, *Village Java under the Cultivation System 1830-1870* (Sydney: Allen and Unwin, 1994), p. 150.

17) C. Th. van Deventer, *Overzicht van den Economischen toestand der Inlandsche Bevolking van Java en Madoera* (The Hague: Nijhoff, 1904), p. 66; R. Broersma, *Besoeki: Een Gewest in Opkomst* (Amsterdam: Scheltema and Holkema, 1912), p. 18; J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki,' *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*, 80 (1963), p. 369.

thus obtained further experience with tobacco growing for commercial purposes. This paved the way for the rapid development of tobacco grown by farmers on their own initiative *(vrijman tabak).*

Table 4.3: Area under Plantation and Farm Tobacco in Besuki, 1925-1939 (x1000 hectares)

Year	Plantation	Farm
1925	19.5	23.1
1928	23.7	38.9
1931	26.1	32.0
1933	19.6	19.7
1935	16.9	26.0
1937	22.3	15.2
1939	15.9	12.3

Notes: Figures for farm tobacco 1925-1928 are the harvested area, the rest is the planted areas. Plantation area includes land leased from farmers.

Sources: T.T. Hiang and G.L. Wanrooy, 'Tabakscultuur op Java.' Unpublished paper, undated, pp. 5-6; for data on farm in 1927, *Verslag van Bestuur en Staat van Nederlandsch-Indi, , Suriname, en Curaçao*, Bijlage T, p. 4; for farm tobacco 1925, *Statistisch Jaaroverzicht van Nederlandsch-Indi*, (Wetreveden: Landsdrukkerij, 1926), p. 188; for farm tobacco 1928, *Statistisch Jaaroverzicht van Nederlandsch-Indi*, (Weltevreden: Landsdrukkerij, 1929), p. 220.

The position of farm tobacco in Besuki was very significant. In 1898 farm tobacco constituted more than 60 per cent of Besuki's total tobacco exports.[18] In terms of acreage, the cultivation of farm tobacco often exceeded that of plantation tobacco, as Table 4.3 shows for the 1920s and 1930s. Its decline during the 1930s was due to the economic depression.[19] Besuki's tobacco

[18] J.H. Lieftinck, *Productie-Staten Omvattende het in Nederland ter Markt Gebrachte van Sumatra, Java en Borneo Tabak* (Amsterdam: Oblong Book, 1899), p. 44, listed under the name of krosok tabak.

[19] Dutch Tobacco Growers, *Report on Tobacco-cultivation in Indonesia* (Amsterdam: World Tobacco Congress, 1951), p. 60.

price fell from 37 cents per ½ kg to only 22.5 cents per ½ kg in 1931 and to 17 cents per in 1937.[20] In response to the low tobacco prices, farmers shifted the use of farmlands from tobacco to food crop production, particularly rice.

The production of farm tobacco in Besuki largely developed in Jember and Bondowoso, whereas in Panarukan and Banyuwangi it was less significant. In 1903, for example, the cultivation acreage of farm tobacco in Besuki regencies was: Bondowoso (5,700 hectares), Jember (20,000 hectares), Panarukan (510 hectares), and Banyuwangi (1,100 hectares).[21] By 1930, the cultivation of farm tobacco reached to 16,500 hectares in Jember and 4,000 hectares in Bondowoso.[22] After independence, Jember remained the main centre of farm tobacco. In 1969, for example, the distribution of farm tobacco cultivation in Besuki regencies was: Bondowoso (2,300 hectares), Panarukan (594 hectares), Jember (16,500 hectares), and Banyuwangi (3,065 hectares).[23] In recent years, farm tobacco could only be found in Jember and Bondowoso, having almost disappeared in the Banyuwangi and Panarukan regencies.

20) *Sumatera en Java Tabak: Statistisch Overzicht op Handel en Financiel Gebied 1940* (Amsterdam: Dentz and Van der Breggen, 1940), pp. 51-52.

21) *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Vb: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar den Landbouw en Daaruit Gemaakte Gevolgtrekkingen* (Batavia: Van Dorp, 1908), Vol.2, Bijlage 14, p. 24.

22) C. Krapels, *Vergelijkend Onderzoek Betreffende den Achterstand en Verstrekking van Seizoencrediet bij de Volkscredietbanken sedert April 1934 Plaatselijke Kantoren der A.V.B. te Bondowoso en Jember* (Batavia: Algemeene Volkscredietbank, 1935), p. 482.

23) *Luas Panen dan Produksi Tanam-tanaman Rakjat Berumur Pendek di Jawa dan Madura, Angka Tetap* (Jakarta: Biro Pusat Statistik, 1969), pp. 3, 6.

Table 4.4: Production of Farm Tobacco in Several Leading Regions in Java, 1911-1938 (x1000 packs)

Region	1911		1914		1934		1938	
	Packs	%	Packs	%	Packs	%	Packs	%
Besuki	104.3	28.2	73.6	35.9	81.2	45.4	36.8	37.0
Lumajang	38.4	10.4	23.6	11.5	42.0	23.5	29.0	29.2
Kediri	95.0	25.6	42.8	20.9	42.0	23.5	27.5	27.7
Kedu	42.3	11.4	17.1	8.3	5.0	2.8	3.7	3.7
Banyumas	16.0	4.3	9.0	4.4	6.0	3.4	0.8	0.8
Others	74.4	20.1	39.2	19.0	2.5	1.4	1.6	1.6
Java Total	370.4	100.0	205.3	100.0	178.7	100.0	99.4	100.0

Notes: One pack is 80-85 kg. Data only refer to farm tobacco processed by foreign-owned companies. However, Mackie (1985:123) mentions that *bladtabak* was also farm tobacco.

Source: P.J. van den Broek, 'Bevolkingstabak,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: van Hoeve, 1949), Vol. IIb, p. 551.

Table 4.4 shows that across Java, Besuki residency was also the most important centre of farm tobacco. Several reasons help to explain the importance of farm tobacco in Besuki, particularly in the Jember and Bondowoso regencies. The first reason concerns ecological conditions. The young volcanic soils and good climate in the two regencies are very suitable for tobacco cultivation.[24] The second reason is the existence of *bandol* (broker) and trading firms, playing the role as intermediaries between farms and distant markets. The regular presence of tobacco brokers made it easier for farmers to sell their tobacco products. Brokers collected

[24] R. van der Veen, 'De Raoeng Gronden in het Gebied van de Besoeki Tabakscultuur', *Mededelingen van het Besoekisch Proefstation* No. 60 (1950); Broersma, *Besoeki...*, *op.cit.*, p. 18; S. Padmo, *The Cultivation of Vorstenlands Tobacco in Surakarta Residency and Besuki Tobacco in Besuki Residency and Its Impact on the Peasant Economy and Society: 1860-1960* (Yogyakarta: Aditya Media, 1994), p. 38.

tobacco from farmers and sold the tobacco to trading firms, which acted as large wholesalers (*opkooper*). Such companies did not operate their own tobacco plantations, but relied on the tobacco collected from farms. Newcomers (*tuan anyer*) interested in becoming involved in the lucrative tobacco industry started as brokers, because they had insufficient capital to establish their own plantations.[25] The third reason is the high financial returns which tobacco yields on upland areas such as in Bondowoso and Jember. It has been calculated that the cultivation of tobacco in upland areas in Java generated higher net returns than other crops.[26]

Table 4.5 presents an overview of the development of farm tobacco in Besuki, as indicated by planted area. Farm tobacco production expanded rapidly from the last decades of the 19th century up to the eve of World War I, when planted area increased six-fold. This expansion was encouraged by high tobacco prices, which increased from 34 cents per ½ kg in 1900 to 67 cents per ½ kg in 1915.[27] A decrease in the planted area immediately after World War I was followed by a recovery during the 1920s, even though the planted area remained below the record set in 1913 and 1915. A possible reason for the smaller area of farmland dedicated to tobacco cultivation was likely the higher rice prices, which encouraged farmers to use farmlands for food crop production rather than tobacco. Between 1923 and 1927 the prices of Besuki's tobacco were roughly more than 45 cents per ½ kg, higher than the 35 cents per ½ kg between 1920 and 1922.[28] However, the 1920s recovery did not last long

25) 'Memori Residen Bondowoso (A.H. Neys), 25 April 1929,' in Kartodirdjo, *et al.*, (eds), *Memori...op.cit.*, pp. CXXIII-CXXIV; J.A.C. Mackie, 'The Changing Political Economy of an Export Crop: The Case of Jember's Tobacco Industry,' *Bulletin of Indonesian Economic Studies*, 21 (1985), p. 120.

26) Van der Eng, *Agricultural... op.cit.*, p. 172.

27) *Sumatera en Java Tabak... loc.cit.*

28) *Sumatera en Java Tabak... ibid.*

due to the 1929 economic depression. The impact of depression reached colonial Indonesia in 1931. Decreased international demand, restrictive measures taken by the colonial government and the increasing opportunities to grow commercial rice reduced the acreage of farm tobacco. During the Japanese military occupation tobacco export opportunities disappeared. The cultivation of farm tobacco dwindled and the area was used for food production.[29] The situation did not change much during the war for independence.

Table 4.5: Planted Area of Farm Tobacco in Besuki, 1879-1989 (x1000 hectares)

Year	Area
1879	8.4
1889	20.0
1899	21.3
1913	42.1
1915	52.5
1922	15.6
1927	24.7
1931	32.0
1936	14.9
1940	12.4
1953	9.4
1961	23.1
1964	26.9
1971	18.3
1984	10.5
1989	6.8

Notes: Data for 1922-1971 refer mostly to harvested area. The planted areas cannot be counted due to the absence of bad harvested areas. Data exclude area leased by plantations.

[29] K. Soemowijoto, 'Peraturan Tembakau Besuki.' *Unpublished paper* presented to the Kursus Tembakau (Tobacco Course) Angkatan VIII, Jember, 1969, p. 6.

Sources: For 1879, *Koloniaal Verslag van 1880*, Bijlage RR, p. 6; for 1889, *Kolonial Verslag van 1890*, Bijlage RR, p. 6; for 1899, *Koloniaal Verslag van 1900*, Bijlage NN, p. 4; for 1913, *Koloniaal Verslag van 1914*, Bijlage GG, p. 4; for 1915, *Koloniaal Verslag van 1916*, Bijlage GG, p. 4; for 1922, *Statistisch Jaaroverzicht van Nederlandsch-Indië* (Weltreveden: Landsdrukkerij, 1926), p. 170; for 1927, *Verslag van Bestuur en Staat van Nederlandsch-Indië, Suriname, en Curaçao*, Bijlage T, p. 4; for 1931 and 1936, T.T. Hiang and G.L. Wanrooy, 'Tabakscultuur op Java.' Unpublished and undated paper, p. 5; for 1940, *Indisch Verslag 1941*, Vol. II, pp. 284-285; for 1953, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1953 (Angka Tetap)* (Jakarta: Biro Pusat Statistik, 1954), table 8; for 1961, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1961 (Angka Tetap)* (Jakarta: Biro Pusat Statistik, 1962), pp. 4,10; for 1964, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1964 (Angka Tetap)* (Jakarta: Biro Pusat Statistik, 1965), pp. 4,10; for 1971, *Luas Panen dan Produksi Tanam-2an Rakyat Berumur Pendek Jawa dan Madura 1971* (Jakarta: Biro Pusat Statistik, 1975), p. 70; for 1984, *Kabupaten Bondowoso Dalam Angka 1984* (Bondowoso: Kantor Statistik, 1985), pp. 95, 98; *Kabupaten Jember Dalam Angka 1985* (Jember: Kantor Statistik, 1986), p. 88; for 1989, *Kabupaten Bondowoso Dalam Angka 1989* (Bondowoso: Kantor Statistik, 1990), p. 136; *Kabupaten Banyuwangi Dalam Angka 1989* (Banyuwangi: Kantor Statistik, 1990), p. 114; Indraswari and J. Thamrin, *Potret Kerja Buruh Perempuan: Tinjauan pada Agroindustri Tembakau Ekspor di Jember* (Bandung: Akatiga, 1994), p. 31.

In the 1950s, farm tobacco began to revive. Each farmer in Besuki was permitted to cultivate tobacco at a maximum acreage of 10 hectares, considerably higher than the 3.5 hectares allowed during the colonial period.[30] However, this limitation had no significant impact due to the fact that average farm size was much smaller than the permitted maximum. With good tobacco prices in the late 1950s farmers expanded the cultivation of farm tobacco. Relatively low rice prices may have been a

30) Kementerian Penerangan, *Republik Indonesia: Propinsi Jawa Timur* (Surabaya: Djawatan Penerangan Republik Indonesia Propinsi Jawa Timur, 1953), p. 440.

more important reason for this expansion.[31] As can be seen in Table 4.5, between 1953 and 1961 the harvested area of farm tobacco increased by more than 130 per cent. During the 1960s and 1970s it reached 1920s levels.[32]

Tobacco produced by farmers was used for two purposes. Firstly, part of the product eventually reached international markets. The *bandol* (small brokers) collected tobacco directly from the farmers and sold it to big wholesale companies that organised export. Exported tobacco was usually shipped via Panarukan port. Together with plantation tobacco, the share of exported farm tobacco from Panarukan was one-fifth of the total tobacco exports from Java between 1911-1915, which was higher than that of Surabaya (18 per cent) and Probolinggo (8 per cent). In the period 1926-1930, the share reached 25 per cent, exceeding the shares of other ports of Java. In 1938, the export share of tobacco from Panarukan was more than 30 per cent, and was still ranked the highest.[33]

During the colonial period the major destination for tobacco export was the Netherlands. During 1905-1930 more than 86 per cent of total tobacco export went to the Netherlands; during 1931-1939 the share increased to 92 per cent.[34] A shift in the tobacco export market only occurred in 1959-1960 from the Netherlands to West Germany, with Bremen and Hamburg becoming the major markets for tobacco exported from Indonesia.[35] During 1971-

31) Van der Eng, *Agricultural... op.cit.*, p. 194; L. A. Mears, *Rice Marketing in the Republic of Indonesia* (Jakarta: Pembangunan, 1961), p. 119.

32) J.A.C. Mackie and Dj. Zain, 'East Java: Balanced Growth and Diversification,' in H. Hill. (ed.), *Unity and Diversity: Regional Economic Development in Indonesia since 1970* (Singapore: Oxford University Press, 1989), p. 314.

33) A. Clemens, J. Th. Lindblad, and J. Touwen, *Changing Economy in Indonesia, 12b: Regional Patterns in Foreign Trade, 1911-1940* (Amsterdam: Royal Tropical Institute, 1992), pp. 62-63.

34) P. van der Eng, 'Exploring Exploitation: The Netherlands and Colonial Indonesia 1870-1940,' *Revista de Historia Económica*, 16, 1 (1998), p. 297.

35) Mackie, 'The Changing... *op.cit.*, 127.

1976, 61 percent of tobacco exports went to West Germany, 18 percent to the Netherlands, and 9 percent to the United States.[36]

Secondly, a portion of farm tobacco was sold in the domestic market to meet the demand for tobacco by two categories of cigarette companies: those producing various cigarettes using maize leaves for wrapping (*rokok klobot*), and companies producing white cigarettes, such as British American Tobacco (*BAT)* and Belgian-owned *Faroka* (*Fabrik Rokok Kartas*) in Malang.[37] *BAT* was the dominant producer of white cigarettes. The Indonesian subsidiary located in Surabaya was established in 1928.[38] The domestic cigarette industries were located in Surabaya, Kediri and Malang and have always been the main buyers of farm tobacco.[39]

Farm tobacco started to decline in Besuki in the 1980s and is now described as 'a struggling sector'.[40] Ironically, the decline was not due to the collapse of the cigarette industry, which continued to expand. For instance, cigarette production increased from 55.7 billion in 1975 to 153.7 billion in 1992.[41] The main reason for the decline in demand for farm tobacco is its lower quality due to the lack of application of new technologies

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36) I. Hartana, *Budidaya Tembakau Cerutu, II: Masa Lepas Panen* (Jember: Balai Penelitian Perkebunan, 1980), p. 97.

37) ANRI, 'Memorie van Overgave van den Resident van Besoeki 1931-1934,' p. 16; J.O. Sutter, *Indonesianisasi: Politics in a Changing Economy, 1940-1955, Vol. I: The Indonesian Economy at the Close of the Dutch Period and under the Japanese* (Ithaca: Southeast Asia Program Cornell University, 1959), p. 50.

38) S. Padmo and E. Djatmiko, *Tembakau: Kajian Sosial Ekonomi* (Yogyakarta: Aditya Media, 1991), p. 133; Sutter, *Indonesianisasi... ibid.*

39) Mackie and Zain, 'East Java... *op. cit.*, pp. 325, 329; Liakip, 'Laporan Masalah Pemasaran Tembakau Rajang di Kecamatan Maesan Kabupaten Bondowoso.' *Unpublished research report*, Pusat Penelitian Universitas Jember, 1989, pp. 8-9; L.P. Tarmidi, 'Changing Structure and Competition in the Kretek Cigarette Industry,' *Bulletin of Indonesian Economic Studies*, 32, 3 (December 1996), pp. 90-94.

40) Mackie and Zain, 'East Java... *ibid.*, p. 311.

41) B. Saragih and K. Santoso, Aspek Sosial Ekonomi Industri Tembakau dan Rokok di Indonesia, in Soemartojo (ed.), *Perkebunan Indonesia Dimasa Depan* (Jakarta: Yayasan Agroekonomika, 1983), p. 370; Tarmidi, 'Changing... *op.cit.*, p. 89.

in terms of seedlings and production techniques, including planting method, harvesting, and fermentation process.[42] Consequently, cigarette companies now prefer to import tobacco rather than to purchase domestically from the farms.[43] As a result, the importation of tobacco experienced a steep increase from 8,400 tons in 1975 to 19,300 tons in 1980.[44]

4.4 Rice

For centuries rice has been an important crop in Besuki, as in the other parts of Java. Its importance is indicated not only by the position of rice as the main staple food, but also by a long history of rice exports from the region to rice deficit areas in the Malay Archipelago. Before colonisation, Panarukan and Blambangan were already well known as export areas of rice,[45] as mentioned in the previous chapter. The lack of statistical data impedes a full appreciation of the development and changes in rice production in Besuki until the mid-19th century.

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42) Widoyo, 'Masalah Input Perkebunan Tembakau,' in Soemartjo (ed.), *Perkebunan Indonesia di Masa Depan* (Jakarta: Yayasan Agroekonomika, 1983), pp. 333-334; Dinas Perkebunan Jatim, 'Evaluasi Pelaksanaan Program ITB-No dan Prospeknya di Masa Mendatang,' paper presented in the Diskusi Tembakau Cerutu Besuki II, Malang, 6 Oktober 1990, pp. 22-23.

43) Padmo and Djatmiko, *Tembakau...*, *op.cit.*, p. 146.

44) Widoyo, 'Masalah... *op.cit.*, p. 326; Saragih and Santoso, 'Aspek... *op.cit.*, p. 375.

45) W.P. Arifin, *Babad Blambangan* (Yogyakarta: Ecole Française d'Extrme-Orient and Bentang, 1995), pp. 278, 309; M.A.P. Meilink-Roelofsz, *Asian Trade and European Influence in the Indonesian Archipelago between 1500 and about 1630* (The Hague: Nijhoff, 1962), pp. 151-152; N.C. van Setten van der Meer, *Sawah Cultivation in Ancient Java: Aspects of Development during the Indo-Javanese Period, 5th to 15th centuries* (Canberra: Australian National Univerity Press, 1979), p. 8.

Table 4.6: Production of the Unhusked Rice and Planted Area in Besuki, 1860-1990

Year	Production (x1000 tons)	Planted Area (x1000 hectares)	Average Yields (Ton/hectare)
1860	78.1	n.a.	-
1870	110.2	47.1	2.34
1880	106.7	55.2	1.93
1890	119.1	61.2	1.95
1900	136.1	70.4	1.93
1910	159.8	81.9	1.95
1920	252.5	138.9	1.82
1930	325.5	158.4	2.05
1940	449.4	203.3	2.21
1945	435.6	219.1	1.91
1955	452.3	223.4	2.00
1961	511.1	231.8	2.17
1971	1,052.5	270.5	3.89
1980	1,421.4	299.5	4.44
1990	1,790.0	337.6	5.52

Notes: Figures include both *sawah* paddy and dry land paddy. For 1945-1990 planted area refers to harvested area. To achieve homogeneity, paddy production data 1860-1961 are converted into unhusked rice (*gabah*), with an assumption that the conversion to unhusked rice is 0.65.

Sources: For 1860-1940, P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 78-84, 96-97,113-121; for 1945, *Geoogste Uitgestrektheden en Productie van voornaamste Voedingsgewassen op Java en Madura 1937-1946* (Jakarta: Centraal Kantoor voor de Statistiek,1947), Table 3 and 11; for 1955, *Luas Panen dan Produksi Tanam2an Rakjat Berumur Pendek Djawa dan Madura 1955 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1956), pp. 16, 19; for 1961, *Luas Panen dan Produksi Tanam2an Rakjat Berumur Pendek Djawa dan Madura 1961 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1962), p. 16; for 1971, *Luas Panen dan Produksi Tanam-2an Rakyat Berumur Pendek Jawa dan Madura 1971* (Jakarta: Biro Pusat Statistik, 1975), p. 13, 70; for 1980, *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1980* (Jakarta: Biro Pusat Statistik, 1981), pp. 12-13; For 1990, *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), pp. 12-13.

Table 4.6 shows that there has been a continued increase in rice production in the region of Besuki since 1860. During the late colonial period, particularly between 1910 and 1940, the production of unhusked rice increased rapidly. Between 1860 and 1920 the main reason for the increase in rice production was the expansion of the harvested area under rice, even though average rice yields actually decreased. Declining rice yields were a result of possibly land expansion towards marginal lands with lower productivity.[46] The expansion of harvested area was made possible by an increase in land under cultivation with the opening of new fields and by measures taken to improve irrigation systems.

In 1930, Besuki was ranked the second largest rice surplus area in colonial Indonesia.[47] During the 1920s and 1930s two factors affected the increase in rice production. Firstly, arable land continued to expand due to considerable improvements in irrigation facilities that expanded the area suited for rice production and improved the supply of water to the existing irrigated area. The improved irrigation facilities also made it possible to double crop lands that could previously only have been planted with rice once in a year.[48] Even though the calculation of a *sawah* cropping ratio was not possible until 1928,

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46) P. Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), p. 42; P. Boomgaard, 'Peningkatan yang Sia-sia?, Dampak Langkah-langkah Kesejahteraan pada Masa Kolonial Lanjut di Indonesia,' in F. Husken, M. Rutten and J.P. Dirkse (eds.), *Indonesia di Bawah Orde Baru* (Jakarta: KITLV and Gramedia, 1997), p. 294.

47) E. de Vries, 'Het Rijstvervoer op Java in 1930 en 1931,' *Economisch Weekblad voor Nederlandsch-Indië*, 50 (16 June 1933), pp. 2118-2119.

48) K.J. Pelzer, *Pioneer Settlement in the Asiatic Tropics: Studies in Land Utilization and Agricultural Colonization in Southereastern Asia* (New York: American Geographical Society, 1948), pp. 54-55; P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 76, 84, 89; Elson, *Village... op.cit.*, p. 247.

a rough estimate for Besuki suggests a *sawah* cropping ratio of 1.33 in 1915. By 1940 this had increased to 2.20.[49]

Secondly, during the interwar years there was a significant rise in average rice yields.[50] During 1922-1927, Puger District in the Jember regency enjoyed the highest average rice production amongst all the districts of Java.[51] In the 1930s the high rice yields were partly caused by the fact that rice was cultivated on fertile lands previously used by the sugar industry.[52] But more importantly, this increase was made possible by improvements in the irrigation systems as previously mentioned and agricultural extension services.[53] The Agricultural Extension Service actively promoted better land preparation through demonstrations and encouraged the use of compost and other organic fertilisers. The use of *orok-orok* (*crotolaria)* to improve soil fertility was propagated, accompanied by improving rice plant spacing. Moreover, the extension service provided high quality rice seedlings and became an intermediary for the diffusion of better agricultural implements.[54]

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49) Calculated based on data given by Boomgaard and van Zanden, *Changing Economy...op.cit.*, pp. 76, 89, 92, 95. The ratio is calculated by subtracting the tegal area from the total harvested rice area and dividing the result by sawah area.

50) C. van der Giessen, *Rice Culture in Java and Madura* (Bogor: Chuo Noozi Siken Zyoo, 1943), p. 5; P. van der Elst, 'Krisis Budidaya Padi I Jawa,' Sajogyo and W.L. Collier (eds.), *Budidaya Padi di Jawa* (Jakarta: Yayasan Obor Indonesia and Gramedia, 1987), p. 152. In the period 1878-1887 and 1914-1923, average paddy yields in Besuki increased by 1.1 pikul / bau. Together with Banyumas residency, they constituted an exception of the declining trend in paddy yields taking place in Java.

51) Van der Gissen, *Rice Culture... ibid.*, p. 7; A.M.P.A. Scheltema, 'Produksi Beras di Jawa dan Madura,' in Sajogyo and W.L. Collier (eds.), *Budidaya Padi di Jawa* (Jakarta: Yayasan Obor Indonesia and Gramedia, 1987), p. 171.

52) Boomgaard, 'Peningkatan... *op.cit.*, p. 295; J.H. Boeke, *The Evolution of the Netherlands Indies Economy* (New York: Institute of Pacific Relations, 1946), pp. 83-84; ANRI, 'Memorie van Overgave van den Resident van Besoeki 1931-1934,' p. 30.

53) ANRI, 'Memorie van Overgave van den aftredenden Resident van Besoeki H.A. Voet 1925,' pp. 18-19; 'Memori Residen Besuki (J.P.H. Fessevier), 1 Agustus 1922,' in Kartodirdjo, *et al.*, (eds.), *Memori... op.cit.*, pp. CXVII-CXVIII.

54) 'Memori Residen Bondowoso (A.H. Neys), 25 April 1929,' in Kartodirdjo, *et al.*, (eds), *Memori..., ibid.*, pp. CXXVI-CXXVII.

Rice production continued to increase during the Japanese occupation when Besuki became the biggest rice exporting area of Java.[55] The increase was mainly attributed to the expansion of rice cultivation, as demonstrated by the rise in harvested area from 193,500 hectares in 1942 to 222,300 hectares in 1944.[56] More land in Besuki was cultivated with rice, partly by expanding arable land, but largely as the consequence of the conversion of plantation area for the production of food crops, and particularly rice.[57] This is also evident from the relatively small expansion of arable land during the decades 1940-1961 as shown in Table 4.2 compared to the early decades of the 20th century.

The increase in rice production in Besuki contrasted with the general trend in Java, where rice production declined greatly during the 1940s as a consequence of the deterioration of irrigation structures, insufficient agricultural extension services, the threat from pests and diseases, and a severe drought during 1944.[58] The reasons for the distinctive performance of Besuki include a better irrigation system just constructed in the 1920s and the 1930s and the less severe impact of the drought compared to the rest of Java, where the average rainfall decreased by 30 percent.[59]

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55) Kurasawa, *Mobilisasi... op.cit.*, pp. 96-97; also, A. Kurasawa, 'Transportation and Rice Distribution in South-East Asia during the Second World War,' P.H. Kratoska (ed.), *Food Supplies and the Japanese Occupation in South-East Asia* (Basingstoke: Macmillan, 1998), p. 44.

56) *Geoogste Uitgestrektheden en Productie van voornaamste Voedingsgewassen op Java en Madura 1937-1946* (Jakarta: Centraal Kantoor voor de Statistiek, 1947), table 1 and 11.

57) Soemowijoto, 'Peraturan... *op.cit.*, p. 6; Kementerian Penerangan, Republik Indonesia... *op.cit.*, p. 327; The Japanese military occupation had a mission to transform Java as the supply base for food and converting plantations into area of food production was one of the basic measures, see Joint Publications Research Service, *Japanese Military Administration in Indonesia* (Washington: US Department of Commerce, 1968), pp. 275-276.

58) P. van der Eng, 'Regulation and Control: Explaining the Decline of Food Production in Java, 1940-6,' in P.H. Kratoska (ed.), *Food... op.cit.*, p. 192.

59) S. Sato, 'Oppression and Romanticism: The Food Supply of Java during the Japanese Occupation', in P.H. Kratoska (ed.), Food... ibid., pp. 174-175; S. Sato, *War, Nationalism and Peasant: Java under the Japanese Occupation, 1942-1945* (Sydney: Allen and Unwin, 1994), p. 177.

In contrast to rising levels of production, average rice yields decreased. In 1944 when the production of rice in Besuki reached its peak, average rice yields were only 2.8 tons per hectare.[60] There are several possible explanations for this. One could be an under-reporting problem.[61] Village officials may have tried to understate production in order to avoid a higher compulsory delivery quota. Other possible explanation includes a lack of labour due to the excessive burden imposed on farmers to perform compulsory labour as *romushas* and a forced paddy delivery system to the government at a very low price, which made rice cultivation less profitable and reduced the incentive to care for the crop.[62]

Rice yields in Besuki started to increase in the 1950s. The main reason for this was the further development of new rice technologies. Attacks of the *mentek* disease encouraged the adoption of a new rice variety called *Bengawan* to replace the local variety. This variety was not only resistant to the *mentek* disease, but also produced higher yields. From Panarukan the cultivation of *Bengawan* rice expanded rapidly through all regencies in Besuki.[63] In 1950 the *Bengawan* rice was cultivated in two regencies only: Panarukan (810 hectares) and Banyuwangi (621 hectares). By 1953 this variety of rice was grown in all regencies of Besuki: Bondowoso (1,500 hectares), Panarukan (7,953 hectares), Jember (3,700 hectares), and Banyuwangi (6,517 hectares).[64]

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60) *Geoogste... op. cit., Table 1 and 11.*

61) Van der Eng, 'Regulation... *loc.cit.*

62) B.R.O'G. Aderson, *Java in a Time of Revolution: Occupation and Resistance, 1944-1946* (Ithaca: Cornell University Press, 1972), p. 12; Kurasawa, *Mobilisasi...*, *op.cit.*, p. 26; Tim Jurusan Sejarah, 'Perencanaan Pengembangan Tempat-tempat Benda Bersejarah dan Purbakala di Kabupaten Dati II Jember,' *Laporan*, Bappeda Propinsi Dati I Jawa Timur, Surabaya, 1996/1997, pp. 43, 80-81.

63) 'Dari nihil menjadi 5,000 hectare,' *Trompet Masjarakat* (1 August 1951), p. 4; 'Bengawan akan Mengganti Ho Ing,' *Trompet Masjarakat* (11 January 1952), p. 3; 'Besuki pusat persediaan bibit Bengawan,' *Trompet Masjarakat* (31 May 1952), p. 3.

64) 'Tanaman padi Bengawan,' *Trompet Masjarakat* (18 May 1955), p. 2.

Secondly, pests in the form of *walang sangit* (insects) and *tikus* (rats) along with *mentek* disease were significantly reduced.[65]

Production increased in all regencies in Besuki. However, since the 1960s two areas have come to the fore. The first is the regency of Banyuwangi where most *sawah* can be planted with rice throughout the year.[66] In 1990, about 50,000 hectares of *sawah* in Banyuwangi were planted under rice twice or more a year representing 73 percent of total *sawah*.[67] Secondly, rice cultivation was also widely developed in the southern lowlands of Jember where a good irrigation system was available. In 1990, more than 57,000 hectares of *sawah* in Jember were planted under rice twice or more per year, constituting 68 percent of total *sawah*.[68] In absolute terms, both Banyuwangi and Jember had the largest *sawah* areas in Java, either devoted to rice or planted with rice twice or more per year.

The expansion of rice area under the Green Revolution program was made possible by further improvements in the irrigation system. One illustration is taken from the Pekalen-Sampean Irrigation project, which was rehabilitated in the 1970s. This substantially changed the cropping patterns used by farmers operating lands with irrigation water from the project. Farmers previously practised a rice-*palawija-palawija* cropping pattern. But after the improvements in irrigation, they could practise a rice-rice-rice cropping pattern. In several areas where irrigation water was in short supply during the dry season, a farmer could shift from a rice-*palawija-palawija* to a rice-rice-*palawija* cropping pattern.[69] A survey conducted in two villages of the former

65) 'Keadaan ama tanaman,' *Trompet Masjarakat* (14 June 1954), p. 2.
66) 'Keadaan Pertanian di Besuki,' *Trompet Masjarakat* (12 September 1950), p. 3.
67) *Survey Pertanian... loc.cit.*
68) *Luas lahan Menurut Penggunaannya di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), p. 26.
69) Suparmoko, 'The Impact of Irrigation... *op.cit.*, as quoted by W.L. Collier, Soentoro, K. Hidayat and Y. Yuliati, 'Labour Absorption in Javanese Rice Cultivation,' in W. Gooneratne (ed.), *Labour Absorption in Rice-Based Agriculture* (Bangkok: ARTEP, Asian Employment Program, 1982), p. 20.

Besuki residency in the 1990s also confirmed the increased proportion of a rice-rice-rice cropping pattern.[70]

Under the Green Revolution, agricultural inputs used in Besuki also improved. New rice varieties and chemical fertilisers became key factors in promoting rice production.[71] The use of high yielding rice varieties was encouraged under the *Bimas* (*Bimbingan Massa*, Mass Assistance) program. Based on two villages in Jember surveyed in 1968-1970, 34 percent of farmers adopted high yielding varieties, while 45 percent and 19 percent of farmers respectively planted *bibit unggul nasional* (national improved varieties) and local varieties. With regard to fertiliser, the survey indicated that only 8 percent of farmers in Jember applied chemical fertiliser.[72] No data for the former Besuki residency are readily available to demonstrate the further spread of the Green Revolution, but qualitative evidence indicates that the percentage of farmers adopting high yielding varieties and applying chemical fertiliser continued to increase during the subsequent decades.[73]

In terms of rice production, Jember and Banyuwangi were among the regencies with the highest rice yields in Java.[74] Both were among the leading centres of rice production in Indonesia.[75] Therefore, it is very likely that the Green Revolution in Indonesia's rice agriculture during the 1970s and 1980s affected Besuki in

70) W.L. Collier, K. Santoso, Soentoro and R. Wibowo, 'A New Approach to Rural Development in Java: Twenty Five Years of Villages Studies,' International Labor Organization, June 1993, pp. 3-16.

71) Mears, Rice... *op.cit.*, pp. 34-35.

72) W.L. Collier and Sajogyo, 'Preliminary Analysis of Rice Farmers in 37 Villages,' *Draft Report*, Agro Economic Survey, Bogor, 1970, table 10 and table A-15.

73) Collier, Santoso, Soentoro, and Wibowo, 'A New Approach... *op.cit.*, pp. 3-17.

74) Mackie and Zain, East Java..., *op.cit.*, p. 322; A. Booth, *Agricultural Development in Indonesia* (Sydney: Allen and Unwin, 1988), p. 159.

75) J.J. Fox, 'Lumbung Beras di Jawa Timur: Ekologi dan Konteks Sosial Produksi Sawah,' in H. Dick, J.J. Fox, and J. Mackie (eds.), *Pembangunan yang Berimbang: Jawa Timur dalam Era Orde Baru* (Jakarta: Gramedia, 1997), p. 193.

the same way as it affected the rest of rice producing Indonesia. The Green Revolution facilitated an expansion of rice production that allowed the country to achieve self-sufficiency in rice by 1985.[76] It reinforced Besuki's historical role in the production and trade of rice.

4.5 Maize

The second major food crop after rice in Besuki is maize. Besuki was one of the three leading maize producing residencies in East Java. The other two residencies were Madura and Pasuruan (from 1930 onwards, renamed Malang residency).[77] The Madurese have a high preference for maize cultivation. For instance, Madurese

communities consumed maize as the main staple food mixed with rice.[78] The presence of a large group of Madurese migrants may explain the prevalence of maize production in Besuki.

It was reported in 1954 that 33 percent of the population in Besuki mixed maize and rice for consumption as the main staple food, while 19 percent consumed only maize and 42 percent only rice. The report also showed that maize was consumed as the major staple food by 50 percent of the inhabitants of Jember and 25 percent of the inhabitants of Panarukan. It was eaten in a mix with rice by 30 percent, 60 percent and 62 percent of the population of Jember, Bondowoso, and Panarukan respectively. Unlike these regencies, only in Banyuwangi (98 percent), did

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[76] H. Hill, 'The Economy,' in H. Hill (ed.), *The Indonesia's New Order: The Dynamics of Socio-economic Transformation* (St. Leonard: Allen and Unwin, 1994), p. 72.

[77] P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), p. 126.

[78] J. Hageman, 'Aanteekeningen over Nijverheid en Landbouw in Oostelijk-Java,' *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch-Indië*, 9, nieuwe serie 4 (1863), pp. 300, 315; Manggistan, 'Produksi Padi di Jawa Yang Tidak Mencukupi,' in W.L. Collier and Sajogyo (eds.), *Budidaya Padi di Jawa* (Jakarta: Yayasan Obor and Gramedia, 1986), p. 99; Kartodirdjo *et al.*, (eds.), *Memori...* p. CXXVI.

the majority of the inhabitants consume rice as a staple food.[79] Maize was rarely used in Besuki for livestock feed.[80]

Table 4.7: Distribution of Maize Area in Besuki, 1903-1990 (x1000 hectares)

Regency	1903	1916-1920	1972	1990
Banyuwangi	2.3	7.9	12.2	14.9
Bondowoso	29.8	52.9	45.5	32.8
Jember	20.6	39.0	65.6	36.4
Panarukan	34.6	56.5	38.1	40.7
Besuki total	87.3	156.3	161.4	124.8

Note: Data for 1903 refer to planted area.

Sources: For 1903, *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Vb: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar den Landbouw en Daaruit Gemaakte Gevolgtrekkingen* (Batavia: Van Dorp), Vol.2, Bijlage 14, p. 24; for 1916-1920, *Landbouwatlas van Java en Madoera* (Weltevreden: Department van Landbouw, Nijverheid en Handel, 1926), pp. 74-75; for 1972, *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1972* (Jakarta: Biro Pusat Statistik, 1975), p. 36; for 1990, *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), p. 47.

Table 4.7 shows that maize production in Besuki was mainly concentrated in Panarukan, Bondowoso and Jember. Maize cultivation in Banyuwangi increased over time, but remained small in absolute terms. In this regency consisting of sixteen subdistricts the cultivation of maize during the late 1960s

79) 'Besuki: Situasi Pertanian,' *Trompet Masjarakat* (11 January 1954), p. 2.

80) A. Partadiredja, et al., *Produksi dan Pemasaran Djagung di Djawa Timur* (Bogor: Survey Agro-Ekonomi Indonesia, 1970), pp. 24-25; For a discussion on the use of maize for livestock and industrial purposes see, S.D. Mink, 'The Indonesian Corn Economy.' *Unpublished Ph.D. Thesis*, Stanford University, 1986, pp. 143-204.

developed only in three districts: Giri, Wongsorejo and Tegaldlimo.[81] In Jember the area devoted to maize exceeded those of the traditional centres of maize production, Panarukan and Bondowoso. However, in each case there was a positive correlation between maize cultivation and the proportion of Madurese inhabitants. Maize cultivation dominates in the Madurese areas, parallel with higher maize intakes.

Maize is primarily produced on dry fields (*tegalan*), where it is either monocropped or intercropped with cassava and legumes.[82] Maize is also cultivated on *sawah* as a second crop during the dry season when water for irrigation is in short supply.[83] Maize is capable of surviving in marginal soils and under uncertain climatic conditions, which makes it a useful secondary crop in areas with uncertain rainfall. In this connection, the main factor affecting the cultivation of maize, especially in wet fields (*sawah*), is the length of the dry season.[84] If it comes too early the crop withers. If it arrives halfway, the crop can still be successful.

Between 1925 and 1940 there was a very significant increase in the harvested area of maize, as shown in Table 4.8. This was due to increases in maize export to Europe, particularly the Netherlands for livestock feed.[85] However, the increase in

81) Harsono, *et al. Pemasaran Djagung di Kabupaten Banjuwangi Djawa Timur* (Malang: Lembaga Penelitian Ekonomi Fakultas Ekonomi Universitas Brawidjaja, 1971), p. 1.

82) K. van der Veer, 'Maïs,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: Van Hoeve, 1948), pp. 115, 146; M.I. Semaoen, *Pengusahaan dan Tata-Niaga Djagung di Djawa Timur* (Malang: Fak. Pertanian Universitas Brawidjaja, 1971), p. 41.

83) T.S. Raffles, *History of Java* (Kuala Lumpur: Oxford University Press, 1978), Vol. I, p. 21; J. Hageman, 'Aanteekeningen over Nijverheid en Landbouw in Oostlijk-Java,' *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch Indië*, 9, nieuwe serie 4 (1863), p. 327; C.J.J. van Hall, *Insulinde: De Inheemsche Landbouw* (Deventer: van Hoeve, 1939), pp. 42-43; W.F. Wertheim, *Indonesian Society in Transition: A Study of Social Change* (The Hague: van Hoeve, 1959), p. 19; Partadiredja, et al., *Produksi... op.cit.*, pp. 12-13.

84) R.R. Piggot, K.A. Parton, E.M. Treadgold, and B. Hutabarat, *Food Price Policy in Indonesia* (Canberra: Australian Centre for International Agricultural Research, 1993), p. 100.

85) S. Sanif, *Kuntji Tani (3): Djagung* (Jakarta: Perpustakaan Perguruan Kementerian P.P. dan K, 1955), p. 27.

harvested area was accompanied by a decrease in average maize yields. Hence, production did not increase as fast. Still, by 1940 maize was a prominent food crop and the 1940 output level was not achieved at a later stage. Average maize yields continued to be low until the 1970s, most likely because farmers were not interested in investing more time and effort if there was a risk that the crop could fail if the dry season started too early.

Another reason was the absence of technological improvements in maize cultivation. Unlike rice, little research attention was given to maize. Farmers basically planted local, low yielding maize varieties.[86] Maize production techniques remained rudimentary, characterised by the minimal application of fertilisers and a simple maize planting system.[87] Maize fields were usually prepared with very simple hand tools and animal drawn implements, and without paying serious attention to the ideal plant spacing (*jarak tanaman*) by which the maize plants could give the best yield.

Table 4.8: Production and Harvested Area of Maize in Besuki, 1903-1990

Year	Production (x1000 tons)	Harvested Area (x1000 hectares)	Average Yields Tons/hectares
1903	n.a.	87.3	-
1920	n.a	137.7	-
1925	192.0	128.2	1.50
1930	207.0	179.4	1.15
1940	276.5	226.3	1.22
1944	175.8	174.6	1.00
1955	259.3	217.8	1.19
1961	210.4	196.5	1.07
1971	202.4	196.5	1.03
1980	214.2	129.8	1.65
1990	286.8	124.8	2.30

86) Partadiredja, *et al., Produksi... op.cit.*, p. 21; 'Besuki: Keadaan Pertanian,' *Trompet Masjarakat* (5 August 1954), p. 2.

87) S.D Mink and P.A. Dorosh, 'An Overview of Corn Production,' in P.C. Timmer (eds.), *The Corn Economy of Indonesia* (Ithaca: Cornell University Press, 1987), p. 41; Partadiredja, Produksi..., *op.cit.*, p. 24; Mink, 'The Indonesian Corn... *op.cit.*, p. 17; Sanif, *Kuntji Tani (3)... op.cit.*, pp. 14-20.

Sources: For 1903-1940, P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 97,105,126; for 1944, *Geoogste Uitgestrektheden en Productie van de Voornaamste Voedingsgewassen op Java en Madoera 1937-1946* (Jakarta: Centraal Kantoor voor de Statistiek, 1947), table 4 & table 12; for 1955, for 1955, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1955 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1956), pp. 16,20; for 1961, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1961 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1962), p. 17; for 1971, *Luas Panen dan Produksi Tanam-2an Rakyat Berumur Pendek Jawa dan Madura 1971* (Jakarta: Biro Pusat Statistik, 1975), p. 55; for 1980, *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1980* (Jakarta: Biro Pusat Statistik, 1981), pp. 48-49; for 1990, *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), pp. 46-47.

Research in the improvement of maize varieties did not start until the 1970s, when new varieties of maize were introduced. The two main new varieties of maize were Arjuna and Harapan, which had a higher yield and were more disease-resistant compared to local varieties. These were followed by the introduction of higher yielding maize varieties, especially hybrid maize in the 1980s.[88] Furthermore, several new production techniques were introduced, involving the use of fertiliser and improvements in maize cultivation techniques in land preparation and plant spacing. Improved production techniques were accompanied by a shift from intercropping to a monoculture planting system.[89]

The adoption of new production methods led to a substantial increase in maize yields, as can be seen in Table 4.8. Even though between 1971 and 1980 the acreage of harvested

[88] Piggot, Parton, Treadgold, and Hutabarat, *Food Price... op. cit.*, p. 101.

[89] A. Djauhari, A. Djulin, and I. Soejono, *Maize Production in Java: Prospects for Improved Farm-Level Production Technology* (Bogor: CGPRT, 1988), p. 3; Mink and Dorosh, 'An Overview... *op.cit.*, pp. 46-47.

maize in Besuki was reduced by approximately 35 percent, production in 1980 exceeded that of 1971. From 1980 to 1990 average maize yields increased further by 0.6 ton per hectare. Production increased by more than 70,000 tons. This increase was achieved despite a decrease in harvested area by 5,000 hectares. Among the four regencies of Besuki, Jember had the highest average yields. Average maize yields in Besuki, however, were still lower than in other maize-producing areas in East Java, especially in Kediri where the highest maize yield of 1.9 tons per hectare was achieved.[90] A substantial increase in average maize yields placed Besuki among the regions enjoying the highest maize yields in East Java in 1990.[91]

Maize was produced not only as a food crop, but also as a cash crop. The produce was exported to markets elsewhere in Indonesia and overseas. In 1936, for example, at least 2,900 tons of maize was transported by rail from Besuki to the other residencies of Java. In the same year about 21,000 tons of maize was shipped from the Panarukan and Banyuwangi ports to overseas and domestic markets.[92] After independence, Besuki remained a maize exporting area. In the early 1950s the main destinations were the Netherlands and Belgium.[93] After the breakdown of relations with the Netherlands in 1957-58, exports shifted towards Asian markets. In 1966 the countries sharing in Besuki's maize export trade were Japan (81 percent) and Hongkong (19 percent). By 1970, 50 percent of the maize exported from Besuki went to Singapore, 34 percent to Hong Kong and 16 percent to Japan.[94]

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90) *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1980* (Jakarta: Biro Pusat Statistik, 1981), pp. 48-49

91) *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), pp. 46-47.

92) ANRI, 'Memorie van Overgave van den Resident van Besoeki, Ch.A. van Romondt over de periode 30 Januari 1935-26 Februari 1938,' p. 63.

93) 'Pengiriman Export Panarukan,' *Trompet Masjarakat* (9 May 1953), p. 2; *Ekspor Indonesia: Statistik Pelabuhan* (Jakarta: Kantor Pusat Statistik, 1950), p. 418.

94) Semaoen, Pengusahaan...*op.cit.* p. 41.

Table 4.9 shows that Banyuwangi had a higher share in maize exports compared to Panarukan, even though its acreage of maize was smaller. This is attributed to the fact that maize was not a major staple food in the area, meaning that farmers sold a large part of their maize production for export. Meanwhile, in Jember, Bondowoso, and Panarukan where the Madurese population dominated, maize production was largely used for local consumption.

Table 4.9: Export of Maize to Overseas from Panarukan and Banyuwangi Ports, 1966-1970 (x1000 tons)

Port	1950	1966	1967	1969	1970
Banyuwangi	0.6	4.3	10.0	14.6	24.2
Panarukan	0.1	0.9	1.9	8.4	17.0
Jawa Timur total	n.a	24.0	59.8	105.6	184.5

Sources: For 1950, *Ekspor Indonesia: Statistik Pelabuhan* (Jakarta: Kantor Pusat Statistik, 1950), p. 385; for the rest, M.I. Semaoen, *Pengusahaan dan Tata-Niaga Djagung di Djawa Timur* (Malang: Fakultas Pertanian Universitas Brawidjaja, 1971), p. 40; *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1969-1972* (Jakarta: Biro Pusat Statistik, 1974), pp. 157, 162.

The harvested area of maize in Besuki declined significantly between 1971 and 1980. This accounted for more than one-third of the total reduction in maize area at a national level of roughly 200,000 hectares.[95] Both in Besuki and Indonesia in general, the decline in maize area was as a result of the construction of new irrigation facilities and the rehabilitation of older irrigation facilities, which permitted farmers to substitute maize on former *tegalan* (dry lands) for irrigated rice.[96] This was supported by the fact that from 1971 to 1980 the area of rice

[95] Mink and Dorosh, 'An Overview of Corn... *op.cit.*, p. 43.
[96] Mink and Dorosh, 'An Overview of Corn... *ibid.*, p. 44.

cultivation in Besuki experienced an increase by 50,000 hectares. It confirms the fact that rice was given top priority during the New Order period. At a national level, the decline in maize area in Java was offset by the expansion of area under maize in the outer islands.

4.6 Cassava

During most of the colonial period, cassava was a secondary food crop, after rice and maize, as indicated by the harvested area. Its importance was mainly associated with its role as a food buffer especially during the period when the main food staples were in a short supply (*paceklik*).[97] Table 4.10 shows that cassava was grown everywhere in the Besuki residency, although the Jember regency had more land under cassava than other regencies. During the Dutch colonial period cassava production in the Besuki residency was less significant in terms of acreage compared to the other cassava-producing areas such as Madura, Madiun, and Kediri where it became an important cash crop.[98]

Table 4.10: Distribution of Cassava Area in Besuki, 1903-1990 (x 1000 hectares)

Regency	1903	1916-1920	1972	1990
Banyuwangi	0.9	2.6	8.2	5.8
Bondowoso	1.3	4.7	7.7	9.8
Jember	1.1	10.5	12.0	7.5
Panarukan	0.5	1.0	3.9	3.1
Besuki total	3.8	18.8	31.8	26.2

97) *Landbouwatlas van Java en Madoera* (Weltevreden: Departement van Landbouw, Nijverheid en Handel, 1926), pp. 224-226.

98) Boomgaard and van Zande, *Changing Economy... op.cit.*, p. 98; F.C. Roche, 'Production System,' in S.R. Pearson, W.P. Falcon and W.O. Jones (eds.), *The Cassava Economy of Java* (California: Stanford University Press, 1984), p. 32; Unnevehr, 'Cassava Marketing..., *op.cit.*, p. 42.

Note: Data for 1903 refer to planted area.
Sources: For 1903, *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Vb: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar den Landbouw en Daaruit Gemaakte Gevolgtrekkingen* (Batavia: Van Dorp), Vol.2, Bijlage 14, p. 24; for 1916-1920, *Landbouwatlas van Java en Madoera* (Weltevreden: Departement van Landbouw, Nijverheid en Handel, 1926), pp. 74-75; for 1972, *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1972* (Jakarta: Biro Pusat Statistik, 1975), p. 45; for 1990, *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), p. 59.

The main reason for farmers to grow cassava was not related to the high net returns, but to the crop's ability to grow in marginal soils with insufficient irrigation water.[99] In marginal areas and rain-fed lands where rice would not grow, farmers looked to the cultivation of cassava. Cassava cultivated in upland fields was able to generate high net returns.[100] Still, unlike other parts of Java, in Besuki cassava remained a marginal crop. Besuki farmers were not interested in cultivating cassava on a large scale.

There are several possible reasons for this. Firstly, the food situation in Besuki had never been under serious threat. The residency was a rice surplus area that also had a significant maize production. Secondly, there were few middlemen playing an active role in the cassava industry, both in terms of pioneering large-scale cassava cultivation and organising export to distant markets, as was the case with rice and tobacco. Another possible reason is that there are several disadvantages associated with cassava

[99] H.G. Zandstra, 'Interaksi Agroklimat dan Biologi pada Tumpangsari Ubikayu,' in J. Wargiono and D.M. Barrett (eds.), *Budidaya Ubikayu* (Jakarta: Yayasan Obor and Gramedia, 1987), p. 26; D.G. Edwards, C.J. Asher and G.L. Wilson, 'Hara Mineral Ubikayu dan Adaptasinya Terhadap Kondisi Kurang Subur,' in Wargiono and Barrett (eds.), *Budidaya...ibid.*, p. 116.

[100] It is calculated that during 1875-1880, net returns for tobacco cultivated in uplands reached to 10.6 cents per hour, the second highest after sugar, 10.8 cents per hour. Net returns for paddy and maize cultivated in uplands were only, 4.9 and 7.1 cents per hour, see Van der Eng, *Agricultural... op.cit.*, p. 172; also P. van der Eng, 'Cassava in Indonesia: A Historical Re-Appraisal of An Enigmatic Food Crop,' *Southeast Asian Studies*, 36 (1998), pp. 10-11.

production such as rapid soil exhaustion, lower nutritional content, and complicated preservation processes, requiring immediate processing into dry cassava chips (*gaplek)* of sufficient quality.[101]

Cassava was consumed in Java, including Besuki, in three main forms: fresh roots, *gaplek*, and starch used for crispy snacks.[102] No data is available to show the composition of cassava use. It is likely that in the past cassava was mostly used in the form of *gaplek* due to the fact that fresh cassava cannot be kept very long. In the early 1950s, *gaplek* was sold in the local markets, particularly during the *paceklik* when rice and maize were in short supply.[103] Moreover, *gaplek* was also exported for inter-island trade.[104] This is likely to have also been the case during the colonial period.

Before World War II, Java ranked as the world's largest exporter of cassava starch.[105] This product was particularly exported to the United Kingdom and the United States.[106] The cassava export trade resumed after independence. In 1950 exports of cassava were mostly directed to the Netherlands, followed by Belgium. Smaller quantities of cassava went to France, the United Kingdom, Sweden, and Japan.[107] No statistical data are available to show the share of Besuki in the cassava export from Indonesia. However, there is no doubt that the residency of Besuki also exported cassava. In 1970, for example,

101) Van der Eng, 'Cassava... *ibid.*, pp. 11-12.
102) Unnevehr, 'Cassava Marketing... *op.cit.*, p. 12; R.H. Booth and D.W. Wholey, 'Pengolahan Ubikayu di Asia Tenggara,' in Wargiono and Barrett (eds), *Budidaya...op.cit.*, p. 190.
103) 'Tanda-2 kekurangan makanan tampak,' Trompet Masjarakat (24 September 1953), p. 2.
104) *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1969-1972* (Jakarta: Biro Pusat statistik, 1974), p. 159.
105) Unnevehr, 'Cassava Marketing... op.cit., p. 15; F.C. Roche, 'Cassava Production System on Java and Madura.' Unpublished Ph.D. Thesis, Stanford University, 1983, p. 9.
106) Van der Eng, 'Cassava... op.cit., p. 5; G.C. Nelson, 'Starch,' in S.R. Pearson, W.P. Falcon and W.O. Jones (eds.), The Cassava Economy of Java (California: Stanford UP, 1984), p. 92.
107) *Ekspor Indonesia: Statistik Pelabuhan* (Jakarta: Kantor Pusat Statistik, 1950), p. 418.

284 tons of cassava was exported for inter-island trade from the Panarukan port.[108]

Table 4.11: Production and Harvested Area of Cassava in Besuki, 1903-1990

Year	Production (x1000 tons)	Harvested Area (x1000 hectares)	Average Yields Tons/hectares
1903	n.a	4.3	-
1916	n.a	12.2	-
1920	n.a	14.3	-
1925	245.4	18.0	13.6
1930	191.5	14.2	13.5
1940	591.3	41.0	14.4
1944	368.6	29.0	12.7
1955	357.1	23.5	15.2
1961	334.1	28.2	11.9
1971	443.4	37.1	11.9
1980	349.7	32.3	10.8
1990	325.0	26.3	12.4

Sources: For 1903, *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Vb: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar den Landbouw en Daaruit Gemaakte Gevolgtrekkingen* (Batavia: Van Dorp), Vol.2, Bijlage 14, p. 24; for 1916-1940, P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 98,127; for 1944, *Geoogste Uitgestrektheden en Productie van de Voornaamste Voedingsgewassen op Java en Madoera 1937-1946* (Jakarta: Centraal Kantoor voor de Statistiek, 1947), table 5 and 13; for 1955, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1955 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1956), p. 21; for 1961, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1961 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1962), p. 17; for 1971, *Luas Panen dan Produksi Tanam-2an Rakyat Berumur Pendek Jawa dan Madura 1971* (Jakarta: Biro

[108] *Statistik Bongkar... op.cit.*, p. 159.

Pusat Statistik, 1975), p. 55; for 1980, *Produksi Tanaman Bahan Makanan di Jawa dan Madura 1980* (Jakarta: Biro Pusat Statistik, 1981), pp. 60-61; for 1990, *Produksi Tanaman Padi dan Palawija di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), pp. 58-59.

Table 4.11 shows no consistent pattern in the areas harvested with cassava and its production. In terms of area, a decline in the area planted with cassava in the late 1920s was followed by a dramatic increase from the mid-1930s, possibly reflecting a general trend in the conversion of plantation land for food crop production. Production of cassava declined during the 1940s and 1950s. After an increase in the 1960s, production has remained broadly stable since. Two main factors help to explain this stability. The first reason is an emphasis on rice in agricultural extension efforts. Only areas with good irrigation systems benefited from the Green Revolution, while non-rice crops were largely neglected.[109]

The second reason is closely related to the construction and rehabilitation of irrigation facilities. When the demand for irrigation water can be met, farmers would prefer to cultivate rice rather than cassava as the second crop in their agricultural lands.[110] This preference is most likely inseparable from the long history of rice export that provided familiar marketing channels. More importantly, in irrigated lands, paddy could generate higher net returns due to the subsidised inputs such as fertiliser, chemical pesticides, and low interest credits available to rice farmers from the 1960s.[111]

The increase in household income among low-income earners, particularly after the 1970s, enabled them to purchase rice, which is more nutritious and socially more prestigious than

[109] USAID, *Rice Storage, Handling and Marketing The Republic of Indonesia* (Kansas: Weitz-Hettelsater, 1972), p. 31; Roche, 'Cassava Production... op.cit., p. 1.
[110] Roche, 'Cassava Production... *op.cit.*, p. 14.
[111] Van der Eng, Agricultural... *op.cit.*, p. 177.

cassava. The social motive to consume rice is inseparable from the view that cassava has long been identified as a sign of poverty.[112] It is commonly found that a rise in *gaplek* consumption is regarded as an indicator of declining economic prosperity.[113] In conditions of poverty, people are forced to change their preferences to cheaper foods such as *gaplek*.[114] There was evidence for this in Besuki during the 1950s. In several places such as Paspan, Kinjo, Olehsari, Pasanggaran (Banyuwangi District), Gladag, Gentengan, Kaliagung (Rogojampi District), Sraten, Parijata Wetan and Parijata Kulon (Blambangan District), *gaplek* was reported to be consumed as the main diet as a substitute for rice as rice was in short supply and its price was too high.[115] This helps to understand the sustained levels of production during the 1950s and 1960s, as indicated in Table 4.9.

The shift in the consumption pattern from cassava to rice was made possible by a reduction in the seasonal fluctuations in the rice price. *Badan Urusan Logistik* (*Bulog*, Central Logistic Board), as the government's agent in handling logistical matters, intervened in the rice market, accumulating stocks after the harvest and injecting rice during the *paceklik* period in order to stabilise the rice price.[116] This market intervention was supported by various improvements in the transport system that facilitated

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[112] A. Booth, 'Living standards and the distribution of income in colonial Indonesia: a review of the evidence,' *Journal of Southeast Asian Studies*, 19 (1998), p. 322.

[113] A. Hutabarat, *Usaha Mengatasi Krisis Beras* (Jakarta: Lembaga Pendidikan dan Konsultasi Pers, 1974), p. 35.

[114] S.R. Pearson, W.P. Falcon and W.O. Jones, 'Cassava and Java,' in *The Cassava Economy of Java* (California: Stanford University Press, 1984), p. 1; Unnevehr, 'Cassava Marketing... *op. cit.*, p. 20.

[115] 'Di Sekitar soal hongerudeem di Besuki,' Trompet Masjarakat (19 December 1951), p. 4; 'Makan gaplek dicampur katul,' *Trompet Masjarakat* (29 January 1952), p. 4; 'Tanda-tanda kekurangan makanan tampak,' *Trompet Masjarakat* (24 September 1953), p. 2.

[116] Roche, 'Cassava... *op.cit.*, p. 16; R. Trewin and T. Tomich, 'Grain in Indonesia,' *Economics Division Working Paper*, Research School of Pacific Studies, 94/6 (1994), pp. 14-15; R. Goldman, 'Seasonal Production Instability and Price Formation in Indonesian Rice Markets, 1951-1970.' *Unpublished Ph.D. Thesis*, Stanford University, 1974, p. 15; Hutabarat, Usaha... op.cit., p. 21.

the distribution of rice from surplus to deficit areas. The shift in the role of cassava in the Indonesian diet was inseparable from the fact that the government encouraged domestic rice production and secured the supply of cheap rice by importing from overseas until the early 1980s.[117] Moreover, the increase in rice production also brought a lot of cheap, often low quality rice onto the market, which is a close substitute for *gaplek*.

4.7 Soybean

Soybean was introduced in Java in the early 18th century.[118] However, soybean took a long time to become a major food crop like rice and maize. Prior to the 1930s soybean was a relatively unimportant farm crop in Besuki, even though the climate in the region was quite suitable.[119] In terms of area, the cultivation of soybean was relatively limited compared to that of cassava.[120] One possible explanation is the nature of traditional farming. The dominance of other traditional food crops such as rice and maize discouraged farmers from cultivating soybean on a large scale.[121]

Table 4.12: Distribution of Soybean Area in Besuki, 1903-1992 (x1000 hectares)

Regency	1903	1916-1920	1971	1992
Banyuwangi	0.0	0.5	19.2	54.2
Bondowoso	0.1	0.2	6.9	2.6
Jember	0.6	8.2	88.3	53.6
Panarukan	0.0	0.0	4.3	2.2
Besuki total	0.7	8.9	118.7	112.6

[117] P.Van der Eng, 'Food consumption and the standard of living in Indonesia, 1880-1990,' *Economics Division Working Paper*, Research School of Pacific Studies, 93/1 (1993), p. 17.

[118] Sumarno, F. Dauphin, and A. Rachin, *et al*, Soybean Yield Gap Analysis in Java (Bogor: Centre for Research and Development of Coarse Grain, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and Pacific/ CGPRT, 1988), p. 5.

[119] A.J. Koens, 'Peulgewassen,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in de Indische Archipel* (The Hague: Uitgeverij W van Hoeve, 1948) Vol. IIA, p. 261; S. Sanif, *Kuntji Tani (5) Kedelai* (Jakarta: Balai Pustaka, 1956), p. 9.

[120] Boomgaard and van Zanden, *Changing... op.cit.*, pp. 99, 101.

[121] Sumarno, F. Dauphin, and A. Rachin, et al., *Soybean... loc.cit.*

Note: except 1903, the rest of data are based on the harvested areas.
Sources: For 1903, Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Vb: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar den Landbouw en Daaruit Gemaakte Gevolgtrekkingen (Batavia: Van Dorp), Vol.2, Bijlage 14, p. 24; for 1916-1920, Landbouwatlas van Java en Madoera (Weltevreden: Departement van Landbouw, Nijverheid en Handel, 1926), pp. 74-75; for 1971, Luas Panen dan Produksi Tanam2an Rakyat Berumur Pendek Jawa dan Madura 1971 (Jakarta: Biro Pusat Satistik, 1975), p. 57; for 1992, Jawa Timur Dalam Angka 1992 (Surabaya: Kantor Satistik, 1993), p. 96.

Soybean cultivation became more significant in Besuki during the 1930s, about three decades later than other parts of Java. During this decade, the area devoted to soybean started to exceed the area under cassava. For instance, in 1940 the harvested area of soybean reached 67,900 hectares in Besuki, while the harvested area of cassava was 41,000 hectares.[122] Table 4.12 gives an impression of the rapid growth of soybean production since the 1920s. The table also indicates that soybean is grown everywhere in Besuki, but especially in Jember and Banyuwangi.

In the region of Besuki, soybean is cultivated on *sawah* as a second crop after rice. Farmers cultivate soybean only during the dry season, ranging between June and September when irrigation water is insufficient to grow rice.[123] In Jember and Banyuwangi paricularly, soybean is mostly cultivated in low lands

[122] Boomgaard and van Zanden, *Changing... op.cit.*, pp. 99, 101.

[123] S. Brotonegoro, Q.J. Laumans and J. Ph. van Staveren, *Palawija Food Crops other than Rice in East Java* (Malang: Malang Research Institute for Food Crops, 1986), p. 37; Sumarno, F. Dauphin, and A. Rachin, et al, *Soybean... loc.cit.*; Handriyono, 'Studi Mengenai Penggunaan Faktor Produksi Optimal pada Usaha Tani Kedele di Desa Gumukmas Kecamatan Gumukmas Kabupaten Jember.' *Unpublished researched report*, Pusat Penelitian Universitas Jember, 1995, pp. 32-33.

as a monocrop.[124] In smaller acreages, soybean cultivation on *tegalan* (dry lands) is also found, particularly in Bondowoso where soybean is grown either as a monocrop planted from February to April or an intercrop planted in combination with other *palawija* such as maize and cassava between October and November.[125]

Table 4.13: Production and Harvested Area of Soybean in Besuki, 1903-1990

Year	Production (x1000 tons)	Harvested Area (x1000 hectares)	Average Yields (tons/hectare)
1903	n.a	0.8	-
1920	n.a	10.8	-
1930	11.0	20.9	0.53
1940	41.9	67.9	0.62
1945	11.2	20.4	0.55
1955	40.2	64.4	0.62
1961	88.6	102.8	0.86
1971	99.4	118.6	0.84
1981	85.2	91.0	0.94
1992	134.2	112.6	1.19

Sources: For 1903-1940, P.Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), pp. 101,105,130; for 1945, *Geoogste Uitgestrektheden en Productie van de Voornaamste Voedingsgewassen op Java en Madoera 1937-1946* (Jakarta: Centraal Kantoor voor de Statistiek, 1947), table 8 and table 16; for 1955, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1955 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1956), pp. 16, 22; for 1961, *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek Djawa dan Madura 1961 (Angka tetap)* (Jakarta: Biro Pusat Statistik, 1962), pp. 4, 18; for 1971, *Luas Panen dan Produksi Tanam-2an Rakyat Berumur Pendek Jawa dan Madura 1971* (Jakarta:

[124] J.W.T. Bottema (ed.), *The Soybean Commodity System in Indonesia* (Bogor: Bogor: Centre for Research and Development of Coarse Grain, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and Pacific/ GPRT, 1988), pp. 16-18.

[125] Brotonegoro, Laumans and Van Staveren, Palawija... *op.cit.*, p. 38; Bottema (ed.), *The Soybean... ibid.*, pp. 16-17; Sumarno, Dauphin, and Rachin, *et al, Soybean... op. cit.*, p. 7.

Biro Pusat Statistik, 1975), p. 57; for 1981, *Jawa Timur Dalam Angka 1981* (Surabaya: Kantor Statistik, 1982), p. 232; for 1992, *Jawa Timur Dalam Angka 1992* (Surabaya: Kantor Satistik, 1993), p. 96.

Table 4.13 indicates that between 1903 and 1930 the harvested area of soybean increased gradually. During the 1930s, and particularly after 1934 the area under soybean cultivation in Besuki increased very quickly, making Besuki the largest soybean-producing residency in Java. Besuki exceeded the traditional centres of soybean production, such as Pekalongan, Semarang, Pati, Surabaya, Madiun, and Kediri.[126] The main reason for this rapid expansion was that the colonial government imposed drastic restrictions on the importation of soybean from Manchuria, which increased domestic soybean prices and encouraged production.[127] Another reason was the successful acclimatisation of a superior Japanese variety, which was particularly suitable to the dry season climate in Besuki.[128] In the wake of the expansion of soybean production the trade and processing of soybean took off. After independence, Besuki remained the main centre of soybean production in Java, even though other regions sometimes surpassed it in terms of harvested area.[129]

Production of soybean increased mainly as a consequence of the expansion of area under soybean. Average soybean yields increased only marginally until the 1980s. Substantial increases in soybean yields in the latter part of the 1950s were not followed

126) Boomgaard and van Zanden, *Changing... loc.cit.*

127) 'Voedselproblemen en Overheidspolitiek op Java en Madoera,' *Koloniaal Tijdschrift*, 29 (1940), pp. 685-686; J. van Gelderen, *The Recent Development of Economic Foreign Policy in the Netherlands East Indies* (London: Longmans, 1939), p. 29;C.J.J. van Hall, *Insulinde: Werk en Welvaart* (Naarden: den Toren, 1946), p. 62.

128) Koens, 'Peulgewassen... *op.cit.*, p. 260-261.

129) For example in 1958, the largest harvested area of soybean was in Malang (24,500 hectares), *Luas Panen dan Produksi Tanam-2an Rakjat Berumur Pendek* (Jakarta: Biro Pusat Statistik, 1959), p. 16.

by similar impressive achievements during the 1960s and 1970s.[130] The main reason for this was the lack of technological improvements in soybean production. Most soybeans were produced from local varieties, which could only give low yields.[131] In terms of production techniques, soybean was mainly grown with traditional techniques, indicated for instance by the low use of fertiliser and chemical pesticides, and simple land preparation and planting techniques.[132]

During the 1980s and 1990s average soybean yields increased substantially. One factor in this was the promotion of soybean production by the Agricultural Extension Service. A crucial element of this promotion was raising awareness and facilitating the adoption of new high-yielding soybean varieties and later hybrid varieties. The change in seed technology was accompanied by improvements in production techniques and the increased application of fertiliser and chemical pesticides.[133] As the result of rising average soybean yields, soybean production in Besuki increased substantially, as shown in Table 4.13.

Over a long period of time, soybean has been an important source of protein in the average diet in Java, including Besuki. The most popular forms for consumption included *tempe*, also called *oncom* in West Java and *tofu*.[134] In addition, soybean

130) Data for Java as a whole confirm an increase in both average soybean yields and harvested area in the latter part of the 1950s and a decline during the 1960s, see Sie Kwat Soen, *Prospects for Agricultural Development in Indonesia: With Special Reference to Java* (Wagenningen: Centre for Agricultural Publishing and Documentation, 1968), pp. 51-52.

131) Bottema (ed.), *The Soybean... op.cit.*, p. 25.

132) Brotonegoro, Laumans and Van Staveren, *Palawija... op.cit.*, pp. 45, 51-54; Rizal, 'Peranan Usahatani Tembakau dan Usahatani Kedelai terhadap Pendapatan Petani (Studi Kasus di Desa Mumbulsari Kecamatan Mumbulsari Kabupaten Jember).' *Unpublished research report*, Lembaga Penelitian Universitas Jember, 1997, p. 32.

133) Bottema (ed.), *The Soybean... op.cit.*, pp. 67-74; Sumarno, Dauphin, and Rachin, et al, *Soybean... op.cit.* pp. 8-9.

134) K. Heyne, *De Nuttige Planten van Indonesië* (The Hague: Uitgeverij W. van Hoeve, 1950), pp. 817-819; Van Hall, *Insulinde...op.cit.*, p. 53; Bottema (ed.), *The Soybean ... ibid.*, pp. 49, 51.

underwent further processing to produce of *kecap* (soy sauce) and soymilk.[135]

Soybean produced in Besuki did not only meet regional needs. During the 1930s, soybean production increased enabling export from the region. The main export destination was Central Java. In 1934 more than 1,000 tons of soybeans were exported, compared to 385 tons in 1933.[136] In 1937 Besuki exported 12,500 tons of soybeans by rail to other parts of Java, compared to 10,000 tons in 1936.[137] In 1936 soybeans began to be exported to the European market.[138]

After independence, protection of domestic soybean producers continued and soybean production increased further.[139] Besuki continued to export soybeans to other parts of Indonesia and overseas. No time series data are readily available to demonstrate the expansion of soybean exports from Besuki. In 1972 from the port of Banyuwangi 41 tons of soybeans were exported overseas.[140] In 1979 Jember produced 47,000 tons, of which 31,000 tons were transported to Surabaya and Central Java, leaving 16,000 tons for the production of *tofu* and *tempe* by local small-scale industry.[141] A study conducted in 1990 revealed that more than 70 percent of soybean production was sold, while producer households kept the rest for their own consumption and seed.[142]

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135) Koens, 'Peulgewassen... *op.cit.*, pp. 268-269.

136) ANRI, 'Memorie van Overgave van den Resident van Besoeki, 1931-1934,' p. 31.

137) ANRI, 'Memorie van Overgave van den Resident van Besoeki Ch.A. van Romondt, 30 Januari 1935-26 Februari 1938,' p. 63.

138) E. de Vries, 'Maatregelen op het Gebied van Voedingsgewassen en Voedseldistributie,' *Landbouw*, 13, 7/8 (1937), p. 182.

139) Sanif, *Kuntji Tani (5)... op.cit.*, p. 5.

140) *Statistik Bongkar Muat Barang di Pelabuhan Indonesia 1969-1972* (Jakarta: Biro Pusat Statistik, 1974), p. 162.

141) Brotonegoro, Laumans and Van Staveren, *Palawija... op.cit.*, p. 43.

142) I. Haryanto, 'Soybean Marketing and Processing in Jember District East Java.' *Unpublished research report*, Lembaga Penelitian Universitas Jember, 1990/1991, pp. 7-8;

4.8 Livestock

Discussing farm agriculture would be incomplete without paying attention to livestock, which constituted an integral part of the farm economy and contributed substantially to farm production.[143] Big livestock (buffaloes, cattle and horses) is of paramount interest, as these animals are vital sources of power, transport and food. Both cattle and buffaloes help the farmers to prepare land, provide valuable manure for crops and meat for consumption. All animals contributed significantly to the transport of agricultural produce, and horses in particular were also widely used for the transport of people.[144] Also important is the fact that livestock serve as a form of capital investment, which can be easily accessed when required because livestock can either be sold or generate income from rental.[145] Moreover, among the Madurese community in Besuki, cattle have a cultural importance in terms of recreational activities. Different from the Madurese on Madura island, who prefer *karapan sapi* (bull racing), the Madurese in Besuki appreciate *aduan sapi* (bull fighting).[146] Given the multiple functions of livestock, it is no surprise that livestock, especially cattle, is highly valued, as explicitly reflected in the expression used in Java to refer to livestock, *rojo koyo* (basis of prosperity).[147]

Livestock was usually herded on grassland commons (*padang gembala)* on which all villagers had the same usage rights,

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143) J.H. Boeke, *Prakapitalisme di Asia* (Jakarta: Sinar Harapan, 1983), p. 68.

144) D.W. Robinson, *Livestock in Indonesia* (Bogor: Pusat Penelitian dan Pengembangan Peternakan, 1977), pp. 6, 16.

145) J. Leake, 'The Livestock Industry,' *Bulletin of Indonsian Economic Studies*, 16, 1 (March 1980), p. 6.

146) 'Adoean Sapi (in Besoeki), *Djawa*, (1931), pp. 171-174; B.S. Badriyanto, 'Adoean Sapi: Antara Tradisi dan Judi,' *Bulletin Sastra*, 1(1), 1989; 'Naskah Ringkasan Sejarah Berdirinya Kabupaten Bondowoso.' Unpublished paper, Pemerintah Daerah Dati II Bondowoso, 1992, p. 13; Bull racing tradition is a famous tradition in the island of Madura, Robinson, *Livestock... op.cit.*, pp. 22-23.

147) S. Bakker, 'On Livestock and the Veterinary Service in the Netherlands Indies,' in P. Honig and F. Verdoorn (eds.), *Science and Scientist in the Netherlands Indies* (New York: Board for the Netherlands Indies, Surinam and Curaçao, 1945), p. 2.

a long established practice.[148] However, the area of grassland suffered rapid decline with continued population growth and the increased use of land for agricultural activities. In response to this, the practice of livestock raising shifted. More livestock was kept in sheds. To feed them farmers used grass and paddy straws collected from fields. Maize and peanut leaves and by-products of rice milling *(dedak)* were also used to feed livestock. Moreover, they were sometimes herded on fields after harvest. This practice is common today.

Table 4.14 shows the distribution of livestock in the Besuki residency. The table clearly shows that cattle were preferred to buffaloes. This is presumably associated with the dominance of the Madurese population in the region, who have a preference for cattle. Another explanation is the fact that cattle can be raised both in the uplands and lowlands, while buffaloes are preferred in areas with a lot of water, particularly swampy regions.[149] For this reason most buffaloes in Besuki are in the lowland areas of Banyuwangi and the south-western part of Jember.

Table 4.14: Distribution of Livestock in Besuki Residency, 1845-1890 (x1000 head)

	1845			1890		
Afdeeling	Horses	Buffaloes	Cattle	Horses	Buffalos	Cattle
Besuki	10.8	0.3	21.2	6.0	0.1	29.6
Panarukan	5.8	5.6	11.0	12.5	5.9	42.2
Bondowoso	21.5	10.2	35.3	14.6	0.4	53.8
Jember				11.8	6.3	53.0
Banyuwangi				14.1	7.9	37.4

Notes: in 1845 Banyuwangi was administratively separate from Besuki, but no data are available for this year. Jember was a district of Bondowoso.

Sources: P. Bleeker, 'Fragmenten eener Reis over Java: Reis door Oostelijk Java,' *Tijdschrift voor Nederlandsch Indië*, 2(2), 1849, p. 127; for 1890, *Koloniaal Verslag van*

[149] Robinson, *Livestock... op.cit.*, pp. 16-17; Leake, 'The Livestock ... *op.cit.*, p. 6.

[148] J.W. De Stoppelaar, *Balambangansch Adatrecht* (Wagenningen: Veenman and Zonen, 1927), p. 79.

1892, Bijlage A: Statistiek Betreffende De Bevolking van Nederlandsch-Indië over 1890, pp. 36-37.

The distribution of livestock in 1845 gives some idea of the relative importance of livestock to the northern areas of the region relative to the inland. During the second half of the 19th century the inland areas started to grow due to the expansion of agricultural activities. As a result, in 1890 the number of livestock in Jember had grown significantly. Furthermore, Table 4.15 indicates that from 1922 onwards the number of livestock in Jember exceeded that in Bondowoso and Panarukan. A considerable increase in livestock numbers also took place in Banyuwangi.

Table 4.15: Distribution of Livestock in Besuki Residency, 1922-1992, (x1000 head)

	1922			*1948*			*1992*		
Afdeeling	Horses	Buffaloes	Cattle	Horses	Buffaloes	Cattle	Horses	Buffaloes	Cattle
Bondowoso	-	0.0	8.3.0	1.9	0.0	113.3	6.7	0.0	125.7
Panarukan	-	2.5	64.1	2.6	2.5	90.0	2.7	3.7	126.0
Banyuwangi	-	5.6	40.9	6.0	22.5	101.2	3.0	29.2	107.0
Jember	-	9.6	136.1	2.9	8.1	196.6	1.4	5.7	182.7
Besuki total	18.3	17.7	324.1	13.4	33.1	501.1	13.8	38.6	541.4

Sources: For 1922, *Landbouwatlas van Java en Madoera* (Weltevreden: Departement van Landbouw, Nijverheid en Handel, 1926), pp. 133-134, also *Statistisch Jaaroverzicht van Nederlandsch-Indië 1922-1923* (Weltreveden: Landsdrukkerij, 1924), p. 170; 1948, H. Huitema, *Animal Husbandry in the Tropics: Its Economic Importance and Potentialites* (Amsterdam: Department of Agricultural Research, 1982), p. 5; for 1992, *Jawa Timur Dalam Angka 1992* (Surabaya: Kantor Statistik, 1993), p. 122.

Table 4.16 shows that there have been considerable fluctuations in the number of livestock. The number of horses tended to decrease during the 19th and 20th centuries. As already mention in Chapter III, this was mainly due to the decline in the traditional means of transport using horses and the rise of railroads and motorised means of long-distance transport. Over than a

century, the number of buffaloes remained broadly constant. The number of cattle increased considerably, experiencing faster growth than the other two livestock categories. This was primarily caused by the growing quantity of agricultural produce in the region. In 1890, the number of animals peaked relative to Besuki's population. This is an indication of the under-population of Besuki at that time and the fact that there was ample space to herd cattle. Where it concerns horses, this figure indicates a high dependence on animal drawn carts before the establishment of railroads.

Table 4.16: Development of Livestock in Besuki, 1835-1992 (x1000 heads)

Year	Horses	Cattle	Buffaloes	Total	Total per 1000 inhabitants
1835	35.0	90.7	19.3	145.0	88
1890	58.9	216.2	20.6	295.6	442
1915	36.3	326.7	16.2	343.0	216
1925	19.4	421.0	19.7	460.1	299
1930	23.0	465.1	23.0	507.5	247
1941	18.6	428.6	25.6	472.8	191
1948	13.4	501.2	33.1	547.7	206
1963	6.9	454.9	44.5	506.3	163
1973	20.3	390.5	20.3	431.1	107
1980	19.1	434.4	40.3	493.8	111
1992	13.8	541.4	38.6	593.8	126

Sources: For 1835, ANRI, Arsip Residensi, Besuki 4.4, 'Algemeen Verslag ven de Residentie Besoeki 1841', Population Number as the devider from, P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, 11: Population trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), pp. 140-141; for 1890, *Koloniaal Verslag van 1892, Bijlage A: Statistiek Betreffende De Bevolking van Nederlandsch-Indie over 1890,* pp. 36-37; for 1915, *Jaarboek van het Departement van Landbouw, Nijverheid, and Handel in Nederlandsch-Indië 1915* (Batavia: Landsdrukerij, 1917), p. 273; for 1925, *Statistisch Jaaroverzicht van Nederlandsch-Indië 1925* (Weltreveden: Landsdrukkerij, 1926), p. 191; for 1930, *Indisch Verslag, 1931,* Vol. II, p. 270; for 1941 and 1948, H. Huitema, *Animal Husbandry in the Tropics: Its Economic Importance and Potentialites* (Amsterdam: Department of Agricultural Research, 1982), p. 5. Population 1941 and 1948 as the devider from, P. van der Eng,

Bridging a Gap: A Reconstruction of Population Patterns in Indonesia, 1930-1961, Discussion Paper No. D98-13, Institute of Economic Research Hitotbashi University, November 1998, p. 24; for 1963, *Sensus Pertanian 1963* (Jakarta: Biro Pusat Statistik, 1964), p. 22. As the devider is population in 1961; for 1973, *Sensus Pertanian 1973: Peternakan dan Unggas, Angka Tetap* (Jakarta: Biro Pusat Statistik, 1976), p. 17. As the devider is population in 1971; for1980, *Jawa Timur Dalam Angka 1981* (Surabaya: Kantor Statistik, 1983), pp. 29, 273; for 1992, *Jawa Timur Dalam Angka 1992* (Surabaya: Kantor Statistik, 1993), pp. 29, 122.

Fluctuations in the number of cattle were closely related to developments in the market for livestock in Indonesia, as Besuki had long been involved in the livestock trade in the Malay Archipelago. At times, Besuki imported livestock from other places. For instance, large numbers of the imported cattle went to Jember, whereas smaller numbers of imported cattle went to Bondowoso and Banyuwangi. In 1915, Besuki imported 750 horses, 280 buffalos, and 8,900 cattle.[150] In 1931, for example, the region imported 6,700 cattle, mostly via Panarukan port and to a lesser extent also via Banyuwangi port.[151] Besuki also imported horses and buffalos in smaller numbers. In 1935, 300 buffalos and 900 horses were imported into Besuki, and 2,100 horses and 700 buffalos in 1937.[152] In 1948 the import figures were 1,300 horses, 1,700 cattle and 500 buffalos respectively.[153]

Cattle and horses were mainly imported from two areas. Most cattle came from the neighbouring islands of Madura, Bali, and Sumba. From 1914, the colonial government sponsored

150) *Jaarboek van het Departement van Landbouw, Nijverheid, and Handel in Nederlandsch-Indië 1915* (Batavia: Landsdrukkerij, 1917), pp. 260-262.

151) Krapels, *Vergelijkend Onderzoek... op.cit.*, p. 489.

152) *Jaarboek van het Departement van Landbouw, Nijverheid, and Handel in Nederlandsch-Indië, 1914* (Batavia: Landsdrukkerij, 1915), pp. 248-251; ANRI, 'Memorie van Overgave van den Resident van Besoeki Ch. A. Romondt, 30 Januari-26 Februari 1938,' p. 97.

153) H. Huitema, *Animal Husbandry in the Tropics: Its Economic Importance and Potentialites* (Amsterdam: Department of Agricultural Research, 1982), p. 151.

efforts in Sumba to improve the quality of cattle by raising Ongole breeds imported from India and using them for cross-breeding in Java and other parts of Indonesia with local and imported cattle such as Australian Brahman.[154] Cattle from Madura and Bali had their own characteristics. Madura cattle were small in appearance and temperamental, which made them ideal for bull racing. Bali cattle were ideal for meat production due to the fact that they were well-muscled and largely fat free.[155] Imported horses originated largely from the islands of Bima, Sawu and Sumbawa (Nusa Tengara), where horse husbandry had been much more important than in Java overall.[156] Unlike Java, where the horse was mainly used to draw carts, imported Bima horses were used in Besuki for riding, as were the Sandel horses from Sumba, while Sumbawa horses were suited to drawing carts.[157]

Fluctuations in the numbers of livestock also resulted from exportation. A portion of the imported livestock was reserved for breeding and the off-spring were later exported to other parts of Indonesia. Cattle exported from Besuki went mainly to the city of Surabaya for slaughter. After the establishment of the railroads increasing numbers of cattle reached Surabaya and other parts of Java. At a later stage they were also transported by truck.[158] The livestock market appears to have been very lively.

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154) *Ja arboek...1914*, *op.cit.*, pp. 248-251; Jaarboek...1915, op.cit., pp. 262-263; 'Central Kandang Sapi dan Kambing Goebernemen di Pengarasan,' *Perekonomian Ra'jat*, 1 (1939), pp. 5-6; Robinson, *Livestock... op.cit.*, pp. 8-9; G. Leurink, 'Veeteelt,' in C.J.J. van Hall and C. van de Koppel (eds.), *De Landbouw in den Indischen Archipel* (The Hague: Van Hoeve, 1946), Vol. I pp. 353-354.

155) Robinson, *Livestock... op.cit.*, pp. 10-13; On Madura cattle, see J. Kok, *Het Rund en de Rundveeteelt op Madoera* (Utrecht: Electr. Drukkerij, 1921).

156) ANRI, 'Memorie van Overgave van den Resident van Besoeki Ch. A. Romondt, 30 Januari-26 Februari 1938,' p. 97; J. Merkens, 'De grootveestapel van Nederlandsch-Indië,' *Koloniale Studiën*, 8, 1 (1924), p. 197.

157) J. van der Weide, 'Iets over de op Java voorkomende paarden,' *Tijdschrift voor Nijverheid in Nederlandsch-Indië, 6*, nieuwe serie 1, 1 (1860), pp. 391, 395; also Leurink, 'Veeteelt... op.cit., pp. 351-352.

158) Huitema, *Animal... op.cit.*, pp. 149, 151.

One indication is the ratio between livestock sold and the number of livestock. The percentage of livestock (cattle, horses, and buffaloes) sold in Besuki's markets in 1925 was 38 percent, much higher than in Pasuruan residency (21 percent) and the second highest after Madura (61 percent).[159] By 1948, 70 percent of livestock in Besuki were sold for export, higher than in Madura (57 percent).[160]

Another factor causing fluctuations in the number of livestock was slaughter for local consumption. In Besuki the number of big livestock slaughtered was relatively high. For instance, in 1915 there were more than 58,000 cattle and buffaloes or 17 percent of total livestock slaughtered in Besuki. This was the highest among the residencies of Java. In Madura 17,800 head of cattle and buffaloes or 2.5 percent of the total big livestock was slaughtered, while in Kediri 40,400 head or 10 percent and in Jakarta 37,500 head or 10.6 percent were slaughtered.[161] Figures for 1948 also give similar pattern. In Besuki 66,600 cattle and 33,100 buffaloes were slaughtered, which constituted 13 percent and 8.4 percent respectively of the total big livestock. In Madura 36,700 head of cattle and 250 head of buffaloes or 8.9 percent and 2.0 percent respectively of big livestock were slaughtered. For the province of East Java as a whole, in 1979 279,700 cattle and 5,100 buffaloes were slaughtered, constituting 11.1 and 2.3 percent respectively of total big livestock numbers.[162]

These figures indicate that meat consumption was high Besuki. However, this was not due to a bigger population in Besuki, which meant that more mouths had to be feed. In 1915

159) Computed from, *Statistisch Jaaroverzicht van Nederlandsch-Indië 1925* (Weltreveden: Landsdrukkerij, 1926), pp. 191, 194.
160) Huitema, *Animal... op.cit.*, p. 153.
161) Computed from, *Jaarboek...1915, op.cit.*, pp. 273-274.
162) Huitema, *Animal... op.cit.*, pp. 154-155.

for example, the number of population of Besuki was smaller than that of Madura, Kediri, and Batavia. Consequently, per capita meat consumption must have been higher than elsewhere in Java, which may indicate a higher standard of living in the region compared to other parts of Java. This strengthens the argument put forward in Chapter II explaining the lower mortality rate in Besuki compared to Java in general.

4.9 Conclusion

This chapter has indicated that farm agriculture in Besuki began to develop extensively from the second half of the 19th century. More land was brought under cultivation and used for an increasing range of agricultural purposes in accordance with the population growth. There were significant changes in farm agriculture over time. However, one thing remained constant, farm agriculture continued to be one of the mainstays of Besuki's export economy, as shown by the fact that in terms of acreage, farm agriculture occupied more arable land than plantation agriculture.

An increasing range of products could be produced over time as transport and marketing facilities improved. Rice has consistently been the most important export product. In the late 1960s rice production increased impressively under the Green Revolution program. During the second half of the 19th century, tobacco emerged as an important product of farm agriculture for export. Farm tobacco continued to play an important role in the region's economy, but tended to decline in the last two decades due to the lack of technological change. From the late 1920s Besuki also produced increasing amounts of maize, soybean, and cassava. Unlike the other two crops, which remained broadly constant or decreased during the independence period, soybean tended to expand after independence both in terms of acreage and production. Like the increasingly important soybean export, maize constituted an important export product from the region. The significance of soybean and maize in Besuki

was inseparable from the promotion of *palawija* (non-rice) production launched in the 1980s and 1980s. The increase in total livestock numbers indicate the importance of livestock in farm agriculture and of livestock trade in the region's economy.

The 1940s may have been a setback to the agricultural economy of Besuki, but nonetheless agricultural development in Besuki continued in a gradual process that was largely spurred on by the two factors discussed in Chapters II and III: population growth and the development of transport facilities. Given that all forms of agricultural development require land as an input and that by the early 1950s the expansion of arable land came to an end, it can be expected that the opportunity cost of land in Besuki gradually increased, making the definition of land titles necessary. This is the subject of the next chapter.

CHAPTER V

DEVELOPMENT OF LAND TITLES IN BESUKI

5.1 Introduction

Land issues have been an important concern for government since the 19th century, as land use expanded and intensified as a result of population growth and the development of cash-crop production. This concern led the colonial government to initiate a systematic investigation of land rights in Java during the 19th century.[1] Furthermore, the emèrgence of Indonesia as an independent nation after 1945 brought an expectation that Indonesian people should be given wider access to lands, which was regarded as the key factor in developing farm agriculture. Not surprisingly, such an expectation provoked the spread of land conflicts.

This chapter focuses on the development of land titles in Besuki. The first section deals with the emergence of property rights to land in Besuki. The following sections discuss the introduction of colonial land tenure principles, the pattern of land tenure, the 1960 agrarian law and issues of land reform, the patterns of conflict over land, and the relationship between land registration and access to capital market. Due to a paucity of source material, this has been a difficult chapter to write.

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[1] W.B. Bergsma (ed.), *Eindresumè van het bij Gouvernementsbesluit dd. 10 Juni 1867 No. 2 Bevolen Onderzoek naar de Rechten van den Inlander op den Grond op Java en Madoera*, (Batavia: Ernst, 1876) Vol. I; (Batavia: Ernst, 1880), Vol. II; (Batavia: Landsdrukkerij, 1896), Vol. III.

5.2 The Emergence of Property Rights to Land in Besuki

Section 2.3 discussed the negative consequence of external raids on Besuki for the area's population growth, which suggests that land in Besuki was historically less important than labour. Labour was long considered as a scarce resource, whereas land was available in abundance. Economic prosperity was not primarily determined by control over land because land was useless without the application of labour to cultivate it. Control over labour by the rulers was the main source of prosperity.[2] The deportation of people from Besuki as a consequence of warfare clearly illustrates the importance of control over labour rather than land.

For centuries Besuki had a low population density, and the population pressure on land was relatively light. One of the consequences of a low population density was the agricultural practice of shifting cultivation, a term which is frequently used interchangeably with the terms swidden or slash and burn agriculture.[3] In the nineteenth century, shifting cultivation was still practised in Besuki,[4] as was the case in other sparsely populated parts of Java such as Priangan in West Java.[5] Even in 1990, 9,500

2) Onghokham, 'Perubahan Sosial di Madiun Selama Abad XIX,' in S.M.P. Tjondronegoro and G. Wiradi (eds.), *Dua Abad Penguasaan Tanah: Pola Penguasaan Tanah Pertanian di Jawa dari Masa ke Masa* (Jakarta: Yayasan Obor and PT Gramedia, 1984), pp. 5-6. Observations about Madiun are relevant to Besuki because the area also confirmed the importance of labour than land; C. Hirschman, 'Population and Society in Twentieth-Century Southeast Asia,' *Journal of Southeast Asian Studies*, 25, 2 (September1994), p. 398, 401.

3) W.J. Peters and L.F. Neuenschwander, *Slash and Burn: Farming in the Third World Forest* (Idaho: University of Idaho Press, 1988), p. 2.

4) R.E. Elson, *Village Java under the Cultivation System, 1830-1870* (Sydney: Allen and Unwin, 1994), p. 10.

5) K.J. Pelzer, 'The Swidden Cultivator as Producer of Agricultural Exports: An Indonesian Case Study.' *Unpublished Paper*, Yale University, 1970, p. 3; Elson, Village... ibid.; W.G. Wolters, 'Land, Property, and Credit Contracts in Priangan, West Java, 1870s Through the 1920s: Legal Framework and Private Ordering,' in R.C. Hunt and A. Gilman (eds.), *Property in Economic Context* (Lanham:University Press of America, 1998), p. 296.

hectares of arable land (or 10 percent of total arable land) in Bondowoso regency was reported to be under shifting cultivation.[6]

Swidden agriculture involves shifting cultivators first clearing the forest and scrub by slashing and burning the existing vegetation. The use of fire is essential in the practice, as it is the most labour-efficient way to clear land. Next, the created field is cultivated with rice and other crops for two or three years. In the first instance, crop yields are relatively high due to the fertilising effect of the ashes. However, after two or three years the yields tend to decrease. At that time, the land is abandoned and left uncultivated for a period of time and reclaimed by nature. While this natural restoration is under way, other fields are opened up and cultivated until yields again decline. In this way, the initial plot is revisited after a decade or more.[7]

In principle, shifting cultivation can only be applied in a sparsely populated area due to its rotational pattern. It rotates the use of fields between short periods of cropping and longer periods of fallowing.[8] Besuki could meet this physical requirement due to the fact that a large part of the region was covered by forest. A rapid expansion in plantation agriculture from the second half of the 19th century substantially reduced the area of forest. Still, at the end of the colonial era, a large area of forest was still available in the region.[9] It is worth noting that not all plantation areas were actually under cultivation because plantation companies did not have the finance or capacity to do so.

Other evidence of the shifting cultivation practice was the presence of secondary forest (*hutan belukar*), which normally

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6) *Luas Lahan Menurut Penggunaannya di Jawa 1990* (Jakarta: Biro Pusat Statistik, 1991), p. 46

7) Elson, *Village Java... loc.cit.*

8) Peters and Neuenschwander, *Slash and Burn... op.cit.*, p. 1.

9) J. van Gelderen, 'The Economics of the Tropical Colony,' in W.F Wertheim et al., (eds.), *Indonesian Economics: The Concept of Dualism in Theory and Policy* (Amsterdam: Royal Tropical Institute, 1961), p. 127; P. Boomgaard and A.J. Gooszen, *Changing Economy in Indonesia, Vol. 11: Population Trends 1795-1942* (Amsterdam: Royal Tropical Institute, 1991), p. 53.

emerges after cultivated land is left fallow. It was reported that in the 1880s areas of *hutan belukar* in Besuki were cleared to establish sites for tobacco plantations. Long grass (*alang-alang*) can also be used as an indication of the existence of shifting agricultural practices.[10] *Alang-alang* areas were reported to exist in Besuki.[11] These still existed in the 1950s, when the *Djawatan Kehutanan* (Forest Service) of Besuki in cooperation with the *Djawatan Penerangan* (Information Service) made efforts to prevent farmers from burning *alang-alang*.[12]

Up to the early 19th century, many farmers might have preferred shifting cultivation. Firstly, the practice could generate relatively high returns to labour compared with sedentary cultivation because it minimised effort.[13] It generated the lowest cost of production for a given yield.[14] Secondly, shifting agriculture was possibly the most appropriate agricultural practice in a society characterised by a scarcity of labour and very few opportunities for the adoption of labour-substituting mechanical technology. And finally, the practice could also serve a way of escaping the excessive burdens imposed by rulers.[15]

At the time when shifting cultivation was still practiced extensively, there was no formal property rights to land (*adat* ownership). According to Van Vollenhoven, a form of temporary tenancies emerged. One major characteristic of this practice was its inalienable nature, meaning that the right would automatically vanish when the cultivation of land discontinued.[16] Hence, in earlier

10) 'Alang-alang sebagai lawan dan kawan,' *Menara Perkebunan*, 29, 2 (Februari 1960), p. 23; B.J. Hagreis, 'Ladangbouw,' *Landbouw*, 6, 1 (1930/31), p. 77.

11) K. Horstmann and W. Rutz, *The Population Distribution on Java 1971: A Map of Population Density by Sub-Districts and Its Analysis* (Tokyo: Institute of Developing Economies, 1980), pp. 41, 98.

12) 'Tahun 1953 banjak hutan terbakar,' *Trompet Masjarakat* (9 December 1953), p. 2.

13) Wolters, 'Land ... *op.cit.*, p. 296.

14) Peters and Neuenschwander, *Slash and Burn... op.cit.*, p. 65.

15) Pelzer, 'The Swidden Cultivator... *loc.cit.*

16) J.F. Holeman (ed.), *Van Vollenhoven on Indonesian Adat Law* (The Hague: Nijhoff, 1981), pp. 190-191; J.W. de Stoppelaar, *Balambangansch Adatrecht* (Wageningen: Veenman, 1927), p. 83.

times the inflow of migrants possibly did not provoke serious land conflicts over lands. *Talun* and *pengalang-alangan* are the expressions used to refer to the abandoned fields under shifting cultivation.[17]

The practice of shifting agriculture might have declined due to the rapid population growth since the second half of the 19th century. This caused a scarcity of land and shortening of the length of fallow period.[18] The increase in population might have accelerated the rapid development of explicit property rights to land based on *adat*. Such definitions of ownership were much stronger than a temporary tenancy, because they expressed inherent meaning to property ownership as exclusive rights of control over a given land.[19] In general, the need for an exclusive property right to land is proportional to the degree to which land becomes a scarce economic resource.[20]

Stoppelaar's study on Blambangan is a crucial contribution to understanding *adat* law in the region. Stoppelaar implied that Blambangan was representative of Besuki. This is indicated by the fact that Stoppelaar discussed not only *adat* law of an exclusive area of Blambangan known in the 1920s, but also a wider area known as Blambangan in the past. This included Lumajang, West Blambangan (Panarukan, Jember, Bondowoso) and East Blambangan (Banyuwangi and recent Blambangan).[21] Stoppelar's study also describes how the rights to land might have developed in the region over time.

The early notions of property rights to land were relatively simple. Property rights to land (*adat* ownership) could be

17) Holeman (ed.), *Van Vollenhoven... ibid.*, p. 191.
18) Peters and Neuenschwander, *Slash and Burn... op.cit.*, p. 4.
19) R.T. Ely and G.S. Wehren, *Land Economics* (Madison: Wisconsin UP, 1964), p. 75.
20) M.C. Hoadley, *Towards a Feudal Mode of Production: West Java, 1680-1800* (Singapore: Institute of Southeast Asian Studies, 1994), p. 170.
21) Stoppelaar, *Balambangansch... op.cit.*, p. 38.

established by simply clearing the forest or virgin land, followed by continued occupation.[22] In Banyuwangi, this land was called *sabe mamandung or sabe yoso* (land obtained by opening up from forest).[23] The first clearers *(cakal bakal)* not only had the right to cultivate, but could also hand the rights to land to their heirs.[24] Such lands were locally called *tanah tingalan, tilaran,* or *sangkolan* (lands inherited from ancestors).[25]

The ease of gaining access to land and the availability of large unoccupied tracts would have been a factor in why the region of Besuki attracted migrants. New settlers would only make the heavy investment in clearing forest and creating new fields if there was a guarantee that they could possess and bequeath the land to their heirs.[26] In this connection, it is not surprising that land ownership in Besuki was not communal as was the case in other parts of Java, but relied on a hereditary individual system (further Section 5.4).[27]

The individual's rights to land was recognised as long as the owners occupied the land and signs of ownership such as cultivation, cut trees around the fields, wood stakes or other signs

22) T.S. Raffles, *Substance of a Minute: The Introduction of an Improved System of Internal Management and the Establishment of a Land Rental on the Island of Java* (London: Black and Parry, 1814), p. 103; C. Van Vollenhoven, *Het Adatrecht van Nederlands-indië* (Leiden: Brill, 1918), Vol. I, p. 504; S. Budhisantoso, et al., *Pola Kehidupan Sosial Budaya Masyarakat Using di Kabupaten Banyuwangi Propinsi Jawa Timur* (Jakarta: Departemen Pendidikan dan Kebudayaan, 1993), p. 71.

23) W.B. Bergsma (ed.), *Eindresume van het bij Gouvernementsbesluit dd. 10 Juni 1867 no. 2 bevolen Onderzoek naar de Rechten van den Inlander op den Grond op Java en Madoera* (Batavia: Ernst, 1876), Vol. I, p. 21.

24) Raffles, *Substance... loc.cit.*; 'Rapport van Hopkins omtrent het Grondbezit in Besoeki, Panarukan en Probolinggo,' *Tijdschrift voor Nederlandsch-indië*, 2, 2 (1864), p. 267.

25) Bergsma (ed.), *Eindresume...(I)., loc.cit.*; S.P. Atmosoedirdjo, *Vergelijkende Adat-rechtelijke Studie van Oostjavase Madoerezen en Oesingers* (Amsterdam: Studentendrukkerij Poortpers, 1952), pp. 87-88.

26) A. Booth, *Agricultural Development in Indonesia* (Sydney: Allen and Unwin, 1988), p. 73.

27) 'Landbezit in Puger en Loemadjang, Oost Java,' *Tijdschrift voor Nederlandsch-indië*, 1, 1 (1863), p. 313; P. Boomgaard, *Children of the Colonial State: Population Growth and Economic Development in Java* (Amsterdam: Free University Press, 1989), p. 53.

showing the boundaries could be found. In the absence of such signs, the right to land could disappear. The loss of such right occurred after the owners, both the clearers and their heirs, terminated their activities for one year. In the case that the owners of land abandoned their property or died without leaving heirs who assumed the various duties related to the land, the village head had the right to make use of the land, locally called *tanah gantungan* (reverted land).[28]

The village head (locally called *petinggi*)[29] could also transfer rights to the reverted land to other villagers who only had small plots and were prepared to assume all duties associated with landownership. Land obtained in such a way was called *sawah ganti wong* (*sawah* whose owner changed). There was, however, a general view that the new right to land was recognised only after the new owner paid the land-related duties to the village. When the new owner abandoned the land, the rights to that land would automatically disappear. To such lands, other villagers could request rights to use and these lands were categorised as *tanah bongkaran* (dismantled land).[30]

In Besuki, particularly in the Using communities, outsiders wanting to settle in a village had to ask permission from the village head. With this permission, newcomers had the right to build a house in an area of the village determined by the village head after consultation with the surrounding neighbours. Once accepted as members of the village, newcomers received equal rights such as a say in village deliberations. They also had the same obligations as the other villagers, such as having to make contributions to the *bersih desa* or *sedekah bumi* (the annual village feast after the

28) De Stoppelaar, Balambangansch... *ibid.*, pp. 89- 90.

29) W.B. Bergsma (ed.), *Eindresume van het bij Gouvernements Besluit van 10 Juni 1867 Bevolen Onderzoek naar de Rechten van den Inlander op den Grond op Java en Madoera* (Batavia: Landsdrukkerij, 1896), Vol. III, p. 209.

30) De Stoppelaar, *Balambangansch... op.cit.*, pp. 90-91.

rice harvest), or the *slametan desa* (sacred village meals), bridal gifts at weddings and to participation in the village night patrols.[31]

Each village had its own area embracing both cultivated and uncultivated areas, even though the borders were often only vaguely defined. The first category consisted of lands owned by the individual farmers and used for crop cultivation, or as compounds (*pekarangan*) surrounding houses. The second category included lands used for grazing (*padang gembala*), former cultivated land reverted to wilderness, and also forested areas where villagers collected various forest products. All lands not claimed by villages was categorised as wasteland, which was mostly located in mountainous areas at a distance from the population settlements.[32] Such land was locally referred to as *bumi sroko* or *bumi gumantung* (pending land).[33]

5.3 Principles of Land Tenure under the 1870 Agrarian Law

The second reason why the definition of land rights accelerated was the promulgation of the 1870 Agrarian Law, which gave private entrepreneurs access to lands for establishing plantation agriculture. The law regarded all unused land as the domain of the colonial government. It thus regarded the practice of shifting cultivation as illegal, because shifting cultivators did not have permission to cultivate the land.[34]

According to the 1870 Agrarian Law, there were two domain categories. The first category was so-called free domain land, referring to lands to which no rights were exercised. The second category was unfree domain, which referred to taxed areas,

31) De Stoppelaar, *Balambangansch... ibid.*, pp. 21-22.
32) De Stoppelaar, *Balambangansch... ibid.*, p. 119.
33) Bergsma (ed.), *Eindresume... (III)*, *op.cit.*, p. 136.
34) P. van der Eng, *Agricultural Growth in Indonesia: Productivity Change and Policy Impact since 1880* (Basingstoke: Macmillan, 1996), p. 143.

on which the indigenous people could have hereditary right of possession. The law also stipulated that unfree domain only prevailed to permanently cultivated lands, meaning that temporarily cultivated lands used in the practice of shifting cultivation were excluded from this category. Such land was regarded as free domain owned by the colonial state.[35]

With this stipulation, the state was positioned as the owner of land (*eigenaar*), a claim developed from the *vorstendomein* theory which was based on the idea that all land was ultimately owned by the local indigenous rulers.[36] In Besuki the right to land had been transferred to the colonial government, as a consequence of the fact that local rulers had accepted the sovereignty of the United Dutch East Indies Company (*VOC*) in 1743.[37] The *VOC* and its successor, the Dutch colonial state, had the right to determine various land transactions such as selling, leasing, and transferring. In principle, only owners of the land had the right to do so.[38]

The state domain decree formed the legal basis on which the colonial government gave foreign entrepreneurs access to lands required for the establishment of agricultural plantations.[39] Such rights were granted in the form of *erfpacht* rights, a hereditary lease of lands for up to 75 years and at the maximum acreage of 500 *bau* (354.8 hectares).[40] *Erfpacht* land was granted to foreign

35) S. Gautama and R.N. Hornick, *An Introduction to Indonesian Law: Unity in Diversity* (Bandung: Alumni, 1972), p. 80.

36) G.P. Rouffaer, 'Vorstenlanden,' *Adatrechbundels*, 34 (1931), pp. 67-68.

37) A. Kumar, 'Historiografi Jawa mengenai Periode Kolonial: Studi Kasus,' in A.J.S. Reid and D.G. Marr (eds.), *Dari Raja Ali Haji hingga Hamka* (Jakarta: Grafiti Pers, 1983), p. 78; D. Lombard, *Nusa Jawa Silang Budaya, III: Warisan Kerajaan-Kerajaan Konsentris* (Jakarta: Gramedia, 1996), p. 46; M.C. Ricklefs, *The Seen and Unseen Worlds in Java, 1726-1749* (St. Leonards: Allen and Unwin, 1998), p. 306.

38) Gautama and Hornick, *An Introduction... loc.cit.*

39) S. Gautama and B. Harsono, *Survey of Indonesian Economic Law*: Agrarian Law (Bandung: Lembaga Penelitian Hukum dan Kriminologi, Fakultas Hukum, Universitas Padjajaran, 1972), p. 8.

40) J.S. Furnivall, *Netherlands India: A Study of a Plural Economy* (Cambridge: Cambridge University Press, 1939), p. 178.

entrepreneurs, both individuals and corporations.[41] All lands thus owned by Europeans and ethnic Chinese were registered as property at the cadastral office.[42]

In regard to the property rights to land of indigenous people, the 1870 Agrarian Law confirmed the *hukum adat* (customary law), which varied across the different parts of Java.[43] According to Van Vollenhoven, Besuki was included in the Central and East Java law area (*rechtkringen).*[44] The 1870 Agrarian Law confirmed that indigenous property rights to land (*adat* ownership) could be obtained in three main ways: the clearing of forest or virgin land, transfer of land right, and the granting of rights to abandoned land.[45] The gradual decline of the Cultivation System strengthened individual land tenure.[46]

There was no cadastre of land owned by indigenous people. However, land used for agricultural purposes by farmers was subject to the annual land tax. In order to administer the land tax, village heads were obliged to register agricultural land in the land tax registers (*petuk).* This was the only formal proof of land ownership farmers had.[47] The lack of proper documentation to prove ownership can be expected to have caused insecurity of land titles. Such insecurity may have been increasingly felt when the commercialisation of agricultural production furthered the development of land markets, as transactions became more frequent and complicated.

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41) J.O. Sutter, *Indonesianisasi: Politics in a Changing Economy* (Ithaca: Southeast Asia Program Department of Far Eastern Studies Cornell University, 1959), Vol. 1,p. 28.

42) R. Soehadi, *Penyelesaian Sengketa tentang Tanah Sesudah Berlakunya Undang-Undang Pokok Agraria* (Surabaya: Karya Anda, undated), p. 16; Wolters, 'Land... op.cit., p. 299.

43) S. Jaarsma, *Grond voor den Nederlander* (Soerabaja: De Toekomst, 1936), p. 35; Soehadi, *Penyelesaian... ibid.*

44) Holleman (ed.), *Van Vollenhoven... op.cit.*, p. 146.

45) Jaarsma, *Grond... ibid.*, pp. 33-34; Holleman (ed.), *Van Vollenhoven...op.cit.*, pp. 186-187.

46) L. Soetrisno, 'Hak Komunal atas Tanah di Jawa dan Irian Jaya.' *Unpublished paper,* presented at the Workshop on Tanah Adat di Indonesia organised jointly by Pusat Penelitian Atma Jaya and Badan Pertanahan Nasional, Ciawi-Bogor, 3-5 September 1996, p. 4.

47) Van der Eng, *Agricultural Growth... loc. cit.*

The colonial government, however, prohibited the selling of farmland to non-indigenous people, except for small plots required for constructing houses or factories with the approval of the Governor General.[48] This prohibition was introduced for two main economic reasons; firstly, to prevent usurers from foreclosing on farmlands, which the owners could use as collateral to obtain loans; secondly, to prevent plantation enterprises from purchasing the best farmland required by farmers for food crop production.[49] *Adat* law allowed farmers to sell their farmland. The selling of farmland, which was accompanied by the transfer of ownership from seller to buyer, was locally called *ngedol bibas* in Banyuwangi.[50] Various local terms such as *adol senden sakuwate, adol senden garapan,* and *adol tahunan* did not refer to the selling of land, but to various types of land pledging based on the duration of pledging, meaning that even though the term *adol* (selling) was used, a transfer of actual ownership of land did not occur.[51]

5.4 Patterns of Land Tenure

One characteristic of Besuki was the absence of communal land ownership and the dominance of hereditary private land tenure, which was very different from the rest of Java, particularly Central Java.[52] The situation in Besuki resembled the *tegal* ecology of Madura, where the scarcity of fertile land to support the

48) R.R. Ardiwilaga, *Hukum Agraria Indonesia dalam Teori dan Praktek* (Bandung: Masa Baru, 1962), pp. 81-82.

49) Van der Eng, *Agricultural... op.cit.*, p. 142.

50) De Stoppelaar, *Balambangansch... op.cit.*, p. 93.

51) De Stoppelaar, *Balambangansch... ibid.*, pp. 91-93.

52) H. Kano, 'Sistem Pemilikan Tanah dan Masyarakat Desa di Jawa Pada Abad XIX,' in S.M.P.Tjondronegoro and G. Wiradi, *Dua Abad Penguasaan Tanah: Pola Penguasaan Tanah Pertanian di Jawa dari Masa ke Masa* (Jakarta: Yayasan Obor and Gramedia, 1984), p. 48; P. Boomgaard, *Between Sovereign Domain and Servile Tenure: The Development of Right to Land in Java, 1780-1870* (Amsterdam: Free University Press, 1989), p. 29; P. Boomgaard, *Children of the Colonial State: Population Growth and Economic Development in Java, 1795-1880* (Amsterdam: Free University Press, 1989), p. 53.

population caused Madurese people to have self-reliant personalities.[53] One possible explanation for the dominance of private land ownership is therefore based on Madurese migration. Madurese migrants brought their social values with them, including a preference for individual land ownership.

Another possible explanation is that the impact of the Cultivation System may have been lighter in Besuki. Consequently, there was no need to share the burden of compulsory services among the villagers. This is based on an argument that the myth of egalitarian villages and communal landownership was a creation of the Cultivation System. Central to this argument is the policy of communalising of land and the redistribution of communal land among landless farmers. This policy allowed landless farmers to be regarded as landowners, and consequently compulsory services could be imposed upon them.[54]

A more plausible explanation is related to the fact that the conversion of land from private hereditary tenure to communal ownership in the extreme corner of East Java was prohibited by the central government in Batavia in 1849.[55] Besuki then was a sparsely populated region. The frontiers of land expansion had not been reached, meaning that there were sufficient opportunities to expand arable land from uncultivated land until the end of the 1940s. In this situation, communalisation and redistribution of land among landless farmers was not necessary because Besuki had no acute problem of landlessness as other densely populated parts of Java. The best way to broaden the tax base was therefore to encourage new settlers to open up new land. This confirms

53) The concept of 'tegal ecology' is borrowed from Kuntowijoyo, 'Social Change in an Agrarian Society: Madura, 1850-1940.' *Unpublished Ph.D. Thesis*, Columbia University, 1980, pp. 525-526.
54) J. Breman, *Control of Land and Labour in Colonial Java* (Holland: Foris Publications, 1983), pp. 15-16.
55) P. Boomgaard and J.L. van Zanden, *Changing Economy in Indonesia, Vol.10: Food Crops and Arable Lands, Java 1815-1942* (Amsterdam: Royal Tropical Institute, 1990), p. 22.

an argument that the communal landholding did not develop in sparsely populated regions.[56]

The land tax was historically levied on *sawah*. Upland areas were of minor importance and the registration of uplands was haphazard. However, in the 1890s farm agriculture started to expand to the upland areas and better registration for taxation purposes was called for. Such improvements were slowly but gradually introduced after the adoption of the 1907 Land Rent Ordinance which replaced the 1819 Land Rent Ordinance. The revision of the registration system and the continued expansion of arable land from 1908-1920 resulted in an impressive increase in taxable lands, by 50 percent for irrigated land (*sawah*), and 157 percent for dry land (*tegalan*) in Besuki.[57]

Table 5.1 shows that until 1983 the average size of landholdings in Besuki was consistently above the average size of landholdings in Java. Between 1903 and 1930 the average size of landholdings both in Besuki and Java increased, as a consequence of the changes in the land registration system and the actual expansion of arable land during the 1910s and 1920s in West and East Java, including Besuki.

Table 5.1: Average Size of Landholding in Besuki, 1903-1983 (in hectares)

Area	1903	1930	1963	1983
Jember	0.86	1.06	0.71	0.58
Banyuwangi	0.86	1.06	0.85	0.79
Bondowoso	0.91	0.92	0.60	0.51
Panarukan	0.86	0.92	0.74	0.58
Besuki Total	0.87	1.01	0.73	0.62
Java Total	0.81	0.99	0.72	0.67

56) R.E. Elson, *The End of the Peasantry in Southeast Asia: A Social and Economic History of Peasant Livelihood, 1800-1990s* (Basingstoke: Macmillan, 1997), p. 125.

57) W.R. Hugenholtz, 'The Land Rent Question and Its Solution 1850-1920,' in R. Cribb (ed.), *The Late Colonial State in Indonesia* (Leiden: KITLV Press, 1994), p. 147.

Notes: In 1930 there were two residencies in Besuki: Jember residency consisting of Banyuwangi and Jember regencies, and Bondowoso residency including Bondowoso and Panarukan regencies.
Sources: For 1903, *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, Ixc: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar de Economie van de Desa*, Bijlage 12, p. 182; for 1930, *Indisch Verslag 1931* (Batavia: Landsdrukkerij, 1931), p. 237; for 1963, *Sensus Pertanian 1963* (Jakarta: Biro Pusat Statistik, 1964), p. 13; for 1983, *Sensus Pertanian 1983: Jawa Timur* (Jakarta: Biro Pusat Statistik, 1986), p. 63; for Java total partly from, P. van der Eng, *Agricultural Growth in Indonesia: Productivity Change and Policy Impact since 1880* (Basingstoke: Macmillan, 1996), p. 146.

The increase in the average farm size occurred particularly in Banyuwangi and Jember where most of Besuki's uncultivated land was located until the end of the 1940s. The expansion of arable land made it possible for Besuki's agricultural sector to absorb the substantial increase in the labour force caused by population growth (as discussed in Chapter II). Consequently, there was no dramatic decrease in the average size of the landholding in Besuki. Between 1930 and 1983 the average size of landholdings in the Banyuwangi regency was still bigger than that for the three other regencies. It was also above the average size of landholding in Java overall.

From 1930 to 1963, however, both Besuki and Java experienced a decline in the average size of landholdings by 27 percent. The frontier of land expansion in Besuki had been reached in the early 1950s. There was little uncultivated land left for conversion into farms. Limited employment opportunities outside agriculture meant that the agricultural sector continued to absorb new entrants in the labour force. The number of landholders increased from 386,000 in 1930 to 410,000 by 1963,[58] and reduced the average size of landholdings.

[58] *Indisch verslag 1931* (Batavia: Landsdrukkerij, 1931), 237; *Sensus Pertanian 1963* (Jakarta: Biro Pusat Statistik, 1964), p. 13.

Table 5.2 shows that between 1903 and 1963 the number of farmers with aland area of less than 2 hectares increased threefold. Their share in the total number of farmers decreased from 87 percent in 1903 to 83 percent in 1963, then increased to 95 percent by 1983. From 1963 to 1983 the number of middle-sized farmers decreased considerably from 69,000 to 17,000 households, a decline from 15 percent to only 4 percent. It is likely that the land of middle-sized farm households had to be subdivided to give heirs equal access to inherited land. Continued subdivision explains the growth of the number of households in the group holding less than 2 hectares (*petani gurem).*

Table 5.2: Number of farm households and size of area operated, 1903, 1963, 1983 (thousands)

Regency	1903			1963			1983		
	<2 ha	2-5 ha	5 ha <	<2 ha	2-5 ha	5 ha <	<2 ha	2-5 ha	5 ha <
Jember	33.0	7.7	0.3	127.3	29.5	1.1	159.0	5.3	1.1
Banyuwangi	12.6	2.5	0.1	82.3	32.0	1.0	89.7	6.6	0.8
Bondowoso	35.8	2.2	0.0	69.3	12.2	0.3	84.0	2.6	0.3
Panarukan	21.0	2.1	0.3	42.5	12.2	0.1	54.4	2.9	0.3
Besuki total	102.4	14.5	0.7	321.4	58.9	2.5	387.1	17.4	2.5

Note: Data for 1903 is converted from *bau* to *hectare* (1 *bau* = 0.7096 hectare).
Sources: For 1903, *Onderzoek naar de Mindere Welvaart der Inlandsche Bevolking op Java en Madoera, IXc: Overzicht van de Uitkomsten der Gewestelijke Onderzoekingen naar de Economie van de Desa*, Bijlage 10, pp. 138-139; for 1963, *Sensus Pertanian 1963* (Jakarta: Biro Pusat Statistik, 1964), p. 4; for 1983, *Sensus Pertanian 1983: Jawa Timur* (Jakarta: Biro Pusat Statistik, 1986), pp. 66-67.

The increase in the number of small farms and landlessness led to the development of share-cropping and tenancy systems. This arrangement was locally called *ngala lakoan* or *malaka* in Bondowoso, *maro, rawatan sawah,* or *ramutan sabin* in Banyuwangi,

and *paroan porak semangkir* or *paroan penanjung* in Panarukan.[59] Under this arrangement, landless farmers operated farm on land owned by landlords such as *petinggi* (village officials), and *haji*, in return for one-half or one-third of the crop yields depending on the agreement.[60]

The development of tenancy and share-cropping systems was inseparable from the rise of big landholders. During the 19th century, there was a small number of people particularly *petinggi* and other village officials who owned considerable plots of land.[61] Table 5.2 indicates that the number of farm households with more than 5 hectares increased from 700 in 1903 to 2,500 in 1963. This increase accelerated during the first three decades of the 20th century.[62] Between 1963 and 1983 the number of farm households with more than 5 hectares remained constant, while there were considerable changes occurring among the small and middle farm household stratum. In 1983, there were 275 households holding a land area of more than 10 hectares, of which 100 households had more than 15 hectares.[63]

In practice, more land was actually controlled by large farm households through various traditional institutions such as land leasing and land pledging, which were frequently conducted in an underhand way. One argument has been that the emergence of large landholders was inseparable from the development of

59) A.M.P.A. Scheltema, *Bagi Hasil di Hindia Belanda* (Jakarta: Yayasan Obor Indonesia, 1989), pp. 129, 140.

60) Scheltema, *Bagi Hasil... ibid.*, pp. 130, 140-141. A recent case study shows that almost all share-croppers were landless farmers and the common distribution ratio between land owner and share-croppers were 1:1 or 1:2, see Sunarto, 'Pelaksanaan Perjanjian Bagi Hasil Tanah Pertanian pada Masyarakat Desa Karanganyar Kecamatan Klabang Kabupaten Bondowoso.' *Unpublished research report*, Pusat Penelitian Universitas Jember, 1992/1993, pp. 21-23.

61) Elson, *Village Java... op.cit.*, p. 124.

62) W.M. Ranneft and W. Huender, *Onderzoek naar den Belastingsdruk op de Inlandsche Bevolking* (Weltevreden: Landsdrukkerij, 1926), bijlage 8, staat B.

63) *Sensus (1983)... op.cit.*, p. 67.

individual land ownership.[64] Under this system, the right of land dispossession rested primarily with the landholders. There were therefore no obstacles posed by village institutions for individual farmers to transfer their lands by sale.

The sale of land tended to occur among small landholders, who were often forced to sell their land due to economic pressures facing their households. Various urgent needs such as paying debts, taxes and customary burdens faced the small farm households. In this connection, it can be understood that the number of land sale transactions in Besuki was high. This is partially indicated by the number of mutations of landownership. In 1924 the number of registered mutations in landownership in Besuki was 21,500 cases. Even though in 1930 it decreased to 13,000 cases, in 1940 it went up again to 23,000 cases.[65] In reality, the number of land sale transactions must have been higher, given the fact that there were also unregistered land sales taking place. A survey carried out in 1987 on two villages in Jember indicated a high frequency of land sale.[66]

Research in 1990 has confirmed revealed that the sale of land mostly occurred among small farmers. The main causes of the sale of land were economic. Most land was sold to pay debts. In the case of land pledging, the inability of farmers to repay their debts often caused foreclosure on land by lenders. Other reasons for the land transactions were the urgent need for cash to finance *adat* (customary) ceremonies, medication, and even

64) T. Svensson, 'Peasants and Politics in Early Twentieth-Century West Java,' in T. Svensson and P. Sorensen (eds.), Indonesia and Malaysia: Scandinavian Studies in Contemporary Society (London: Curzon Press, 1983), pp. 99, 102; Elson, Village... op.cit. p. 167.

65) *Statistisch Jaaroverzicht van Nederlandsch-Indië 1925* (Weltreveden: Landsdrukkerij, 1926), p. 122; *Indisch Verslag*, 1931, Vol. II, p. 238; *Indisch Verslag, 1941*, Vol. II, p. 265.

66) W.L. Collier, G. Wiradi, Soentoro, Makali, and Kabul Santoso, 'Employement Trends in Lowland Javanese Villages.' *Unpublished research report*, April 1988, p. 24.

religious pilgrimages (*naik haji*).[67] To a lesser extent, the sale of land was for political reasons such as instructions by the government for farmers to release their lands for housing, industrial, and other public projects.[68]

5.5 The 1960 Basic Agrarian Law and Land Reform

Following the recognition of Indonesian independence by the Dutch, there was an increased concern about the presence and landholding of western plantations. Political parties regarded the western plantations as representative of colonial interests, which contradicted the political independence. Landholdings by foreign-owned plantation enterprises were also seen as an obstacle for farmers to gain wider access to land required for farm production. A shift in the Indonesian Communist Party's orientation in the early 1950s from a worker-based movement to a farmer-based one contributed significantly to raised awareness about the issues of landlessness, a rejection of the large landholders and capitalistic western plantations associated with a form of exploitation', and the need for a redistribution of farmlands among landless farmers.[69]

On September 24, 1960, the Indonesian government promulgated a new agrarian law, *Undang-Undang Pokok Agraria* (Basic Agrarian Law), which replaced the 1870 Agrarian Law.[70]

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67) R. Nugroho, 'Study tentang Faktor-faktor yang Mempengaruhi Penjualan Tanah Setelah Keluarnya UUPA pada Masyarakat Desa Arjasa, Kecamatan Arjasa Kabupaten Daerah Tingkat II Jember.' Unpublished research report, Pusat Penelitian Universitas Jember, 1991, pp. 33-36.

68) L. Istiqomah, 'Pembebasan Tanah untuk Pemukiman Purnawirawan ABRI di Lengkong, Jember.' *Unpublished research report*, Direktorat Pembinaan Penelitian dan Pengabdian pada Masyarakat Direktorat Jendral Pendidikan Tinggi, 1985; I.K. Suandra, 'Beberapa Catatan tentang Pemberian Ganti Rugi Pelaksanaan Pembebasan Tanah di Masyarakat Desa Grujugan Kidul Kabupaten Dati II Bondowoso.' *Unpublished research report*, Pusat Penelitian Univesitas Jember, 1992/1993.

69) J.M. van der Kroef, 'Peasant and Land Reform in Indonesian Communism,' *Journal Southeast Asian History*, 4, 1 (March 1963), pp. 54-57.

70) Soehadi, *Penyelesaian... op.cit.*, p. 11.

Under the new regulation, land reforms were introduced, together with the establishment of a land register through cadastral survey in order to accommodate the need for legal certainty and security in land ownership.[71] It was expected that land conflicts would decrease and consequently, that a positive climate for agricultural development in particular, and economic development in general could be established.

Article 19 of the 1960 Basic Agrarian Law ordered the government to conduct the registration of lands through Indonesia. The agency in charge of conducting the activities was the Land Registry Offices. The program of land registration included three main activities. The first activity was cadastral aimed at surveying, mapping and recording land to produce registration maps. The second activity was legal and included the recording of certain titles, holders of lands and other legal events such as transfer and termination. The final activity was the issuing of formal proof of land titles.[72]

Measures taken to implement the land reforms included the registration of land, determination of the legally permitted maximum area for landholding, and distribution of lands among landless farmers.[73] In April 1961, there were 70 landholders registered in Panarukan with holdings exceeding the legally permitted maximum.[74] Furthermore, there were 697 landholders registered in Jember over the legal maximum. An excess land area of 6,626 hectares was reported.[75] No data are available for the other regencies of Besuki.

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71) S. Sjamsuddin, *et al* (eds.), *Pertanahan Dalam Era Pembangunan Indonesia* (Jakarta: Ditjen Agraria Depdagri and Departemen Penerangan RI, 1982), pp. 14-15.

72) B. Harsono, *Land Registration in Indonesia Today* (Bandung: Fakultas Hukum Universitas Padjajaran, 1973), pp. 1-2, 7.

73) E. Utrecht, 'Land Reform in Indonesia,' *Bulletin of Indonesian Economic Studies*, 5, 3 (November 1969), p. 76.

74) '70 pemilik tanah jg. Melebihi maksimum didaftar,' *Trompet Masjarakat* (8 April 1961), p. 4

75) '6626,110 ha jg dilaporkan tuan tanah,' *Trompet Masjarakat* (19 July 1961), p. 4.

The land reform program implemented in the 1960s, however, failed to change the agrarian structure. The 1960 Basic Agrarian Law set maximum limits to landholdings. Based on the population density in 1961 and assuming that population density is applied per regency, the legally permitted maximum landholding was 5 hectares of irrigated land or 6 hectares of dry land in Jember, 7.5 hectares of irrigated lands or 9 hectares of dry land in Banyuwangi and in Bondowoso, and 10 hectares of irrigated land and 12 hectares of dry land in Panarukan. Data in 1983, as shown in Section 5.4, show that there were farm households with land exceeding the legally permitted maximum of landholding.[76]

Several factors help to explain the failure of the land reform program. Firstly, after the abortive communist coup in 1965, landlords in Besuki tried to get back the lands that had been taken from them and that had been redistributed among the landless farmers.[77] Secondly, there simply was not enough land for redistribution to landless households in order to reduce rural poverty. It has been argued that the legally permitted maximum landholdings were too big.[78] However, even if the maximum had been set at 2 hectares, there would have been insufficient land to guarantee a minimum of 2 hectares for each farmer, as general observations suggest.[79] Thirdly, the implementation of the land

76) The maximum of legally permitted irrigated and dry land landholding was based on population density: 1) less than 50 people/km2 = 15.0 hecatare irrigated land or 20 hectares dry land; 2) 51-250 people/km2 = 10 hectares irrigated land or 12 hectares dry land; 3) 251-400 people/km2= 7.5 hectares irrigated land or 9 hectares dry land; 4) over 400 people/km2 = 5.0 hectares irrigated land or 6 hectares dry land, S. Soemardjan, 'Land Reform in Indonesia,' *Asian Survey*, 12, 1 (February 1962), p. 26.

77) Utrecht, 'Land Reform... op.cit., p. 86.

78) Utrecht, 'Land Reform... ibid., p. 78.

79) L.J. Walinsky (ed.), *Agrarian Reforms as Unfinished Business: The Selected Reports of Wolf Ladejinsky* (Washington: World Bank, 1977), p. 349; K.J. Pelzer, 'The Agricultural Foundation,' in B. Glassburner (ed.), *The Economy of Indonesia: Selected Readings* (Ithaca/ London: Cornell University Press, 1971), p. 140; The minimum landholding of 2 hectares is stipulated by Article 8 of the Government Regulation no 56, 1960, see A.B. Loebis, *Land Reform U.U. Pokok Agraria, U.U. Bagi Hasil, Peraturan Pendaftaran Tanah* (Jakarta: unknown publisher, 1962), p. 56.

redistribution program presented difficulties due to the stigma of land reform as a product of the communist party. The New Order government that emerged from the bloody conflict with the communist leaders therefore had no political or ideological interest in continuing the program.[80]

5.6 Patterns of Land Conflict

In the last decades of the 19th century as the use of land intensified due to population growth and the development of plantation agriculture, agrarian conditions became increasingly complicated. In the process, the value of land increased and more parties became interested in this increasingly scarce resource. A side effect of this development was the emergence of conflicts over land. The region of Besuki was, and still is, one of the areas in Indonesia that face fundamental agrarian problems, as indicated by the high incidence of land conflicts. There were four categories of land conflict over land: plantations versus plantations, plantations versus farmers, farmers versus farmers, and farmers versus the state (local government).

An example of land conflicts among plantations involved the *Handels Vereeniging Amsterdam (HVA) and the Landbouw Maatschappij Oud-Djember (LMOD) in 1923.* The *HVA* wanted to expand its sugar plantation from Lumajang to Tanggul in the western part of Jember. The director of *LMOD,* George Birnie protested to the Department of Interior Affairs *(Binnenlandsch Bestuur)* and argued that the area used by *HVA* for cane plantation was reserved for tobacco cultivation.[81] There were also frequent

80) Utrecht, 'Land Reform... *op.cit.*, p. 78.

81) ANRI, Archieven van Binnenlandsch Bestuur, 2407, Aj.1/7/3/ 1922-4, 'Bezwaren van de Heer G. Birnie dvz tegen het inhuren ten behoeve van de Suikeronderneming Djatiroto van 3,500 bouws in het Bondojoedo-oost en Tanggul Oostgebied, 1 Februari 1923'; J. van Gelderen, 'The Economics of the Tropical Colony,' in W.F. Wertheim et al., (eds.), *Indonesian Economics: The Concept of Dualism in Theory and Policy* (Amsterdam: The Royal Tropical Institute, 1961), p. 155.

conflicts among tobacco plantations about lands leased from farmers. Occasionally farmers leased land to two different companies. Such cases of *overhuur* or *dubbelhuur* stemmed from the fact that contracts were made informally by oral agreement. To overcome the emerging problem, various measures were taken by the colonial government in Besuki in 1884, such as requiring a formal registration of any land contract.[82]

Land conflicts between plantations and farmers seem to have occurred mainly during the war of independence and thereafter. From the perspective of the plantation companies, the main issue was illegal occupation by squatters of their erfpacht lands.[83] Political parties such as the Indonesian Communist Party *(Partai Komunis Indonesia, PKI),* the Indonesian Nationalist Party *(Partai Nasional Indonesia, PNI), and Partai Nahdatul Ulama (PNU),* actively supported farmers in their demand for the redistribution of lands held by foreign plantation enterprises.[84] Political parties regarded the existence of western plantation enterprises as representing an exploitative colonial interest, which contradicted the existence of the independent state of Indonesia. This situation was also exacerbated by the continued Dutch occupation of West Irian.

In 1954 a conflict emerged between farmers and the Kota Blater plantation enterprise in Kalisat (Jember). The farmers were accused of illegally occupying *erfpacht* land owned by the company. After rejecting orders to leave the land, 342 farmers from Banpasir, Banjaragung, Gentong, and Gladakputih villages were arrested.[85] The local court found the farmers guilty and

82) Kessler, *Verkort Rapport omtrent Krossokhandel en Crediet in Regenschappen Djember en Bondowoso* (Batavia: Algemeene Volkscredietbank, 1933), p. 415; R. Broersma, *Besoeki: Een Gewest in Opkomst* (Amsterdam: Scheltema and Holkema, 1912), p. 30.

83) M.L. Lyons, *Bases of Conflict in Rural Java* (Berkeley: Center for South and Southeast Asia Studies, 1970), p. 52.

84) The active role of these political parties was often reported, see for example, 'Tanah2 erfpacht supaja diserahkan kepada rakjat,' *Trompet Masjarakat* (5 December 1958), p. 1.

85) 'Penangkapan2 kaum tani di Djember,' *Trompet Masjarakat* (30 November 1954), p. 1.

sentenced them. The Jember branch of the *Barisan Tani Indonesia* (Indonesia Farmer Brigade, affiliated with the Indonesian Communist Party), protested against the sentences, arguing that the farmers had already worked the land since Japanese occupation based on an agreement which had been unilaterally broken by the plantation company.[86] In 1957 another conflict emerged in Curah Damar in Kalisat. This caused the detainment of more than a hundred farmers accused of occupying plantation land.[87]

Also in Jember, farmers of Rambipuji and Jenggawah villages demanded the government not to renew the *erfpacht* of *LMOD*, which expired on April 21, 1957. Backed strongly by three fractions of the *PKI, PNU*, and *PNI* in the Regional People Representative Council *(DPRD)*, the farmers requested for individual land ownership on the land. They argued that their ancestors had opened up the land by clearing from the shrubs and jungle in the 1880s.[88] However, the government rejected the farmers' demand which provoked social unrest leading to a series of incidents in the following decades.

In 1961 a conflict between farmers and the Purwodjojo plantation over 40 hectares of land located in Kampung Lima occurred in Banyuwangi. The farmers, supported by the Banyuwangi branch of *Persatuan Rakyat Tani*, affiliated with the *PNU*,[89] protested against the fact that administrators of the estates cultivated rubber trees on lands which the farmers had used since the Japanese occupation for food crop production.[90]

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86) 'BTI memprotes Hakim,' *Trompet Masjarakat* (24 December 1955), p. 2.

87) '102 orang kaum tani dibebaskan, 126 orang lainnja masih ditahan,' *Trompet Masjarakat* (18 June 1957), p. 2.

88) 'Tanah2 erfpacht supaja diserahkan rakjat,' *Trompet Masjarakat* (5 December 1958), p. 1.

89) S. Kartodirdjo, 'Agrarian Unrest and Peasant Mobilization of Java in the Nineteen Sixties.' *Unpublished paper*, Institute of Rural and Regional Studies, Gadjah Mada University, Yogyakarta (August 1977), p. 19.

90) 'Masalah tanah Kampung Lima di Purwodjojo Djadi sengketa hangat,' *Trompet Masjarakat* (3 March 1961), p. 4.

In 1957-58 foreign plantations in Besuki were nationalised.[91] These estates became a state-owned estate company (*Perusahaan Tanaman Perkebunan, PTP XXVII).* The pattern of conflict therefore subsequently changed from farmers versus plantations to farmers versus the state at the regional level. The company has been the target of a series of incidents. The main incident happened in July 1979 in Jenggawah and spread to other villages such as Klompangan, Ajung, Lengkong, Cangkring. Villagers attacked and destroyed the houses of village officials and other villagers supporting *PTP XXVII.* Many smokehouses *(gudang pengeringan)* owned by *PTP XXVII* were set on fire. To suppress the violence, a police unit from the *Kepolisian Jember* supported by 6 platoons of battle troops of the *Korem 083 Malang-Besuki* were sent. A number of protest leaders were caught and sentenced.[92] Another massive explosion of the social unrest occurred in 1995 and was expressed in the form of attacks and burnings of *PTP XXVII's* buildings and properties. This situation remains unresolved even today.[93]

The pattern of conflict between farmers and the state was also represented in the case of *erfpacht* land in Gumukmas in 1954. State officials at the regency level refused to recognise the transfer of land from Van de Poel to farmers who had bought them, on the grounds that the land was owned by the state.[94] A similar

91) 'Perkebunan dan Pertanian Belanda dikuasai Pemerintah,' *Trompet Masjarakat* (12 December 1957), p. 3; 'Perkebunan sumber besar devisen,' *Trompet Masjarakat* (12 December 1957), p. 2; 'Seluruh Pemil diinstruksikan oper semua perusahaan Belanda,' *Trompet Masjarakat* (14 December 1957), p. 1.

92) For a comprehensive discussion on this conflict see, E.B. Arifin, 'Konflik Antara Petani dengan Pihak PTP XXVII (1970-1979).' *Unpublished undergraduate Thesis,* Fakultas Sastra Universitas Gadjah Mada, Yogyakarta, 1979.

93) L. Soetrisno, 'Aspek Sosial Masalah Pertanahan dan Pengembangan Agribisnis: Belajar dari Kasus Jenggawah dan Kasus Timika.' *Unpublished paper* presented at the Seminar Badan Pertanahan Nasional, Jakarta, 17 October 1995.

94) 'Latar belakang sengketa tanah bekas erfpacht Gemuk Mas,' *Trompet Masjarakat* (30 November 1954), p. 2; also (3 December 1954), p. 2.

conflict was found in the case of Brasan land in Banyuwangi in 1953. The regency officials rejected demands by farmers to issue certificates of land ownership. The regency officials claimed that the farmers lacked the proof to support the rights they claimed and transactions or land sales were made without the approval of state officials. This rejection was protested by a number of farmers who argued that they had already purchased the land from the former landowner.[95]

Other conflicts over land involved farmers and the *Djawatan Kehutanan* (Forestry Service). For example, in 1951 the Forestry Service asked farmers to return 500 hectares of land situated in Mandiku and Silo cleared from forest during the Japanese occupation. The area was due to be reforested as part of a plan to reduce flood threats in the Mayang and Wirolegi areas.[96] In Banyuwangi the Forestry Service had pegged off an area for reforestation, even though this land was cultivated by farmers of Kesilir village, Pasanggaran subdistrict. The farmers protested because they had cleared and occupied the land since 1936. The land had been reclassified in 1949, when it had been marked down as the property of 13 farmers.[97] Furthermore, the Forestry Service demanded the return of 296 hectares of the former Pringgodani forest located in Alasbuluh, which was to be reforested.[98]

In the 1950s, several conflicts over land among farmers emerged. One example concerned Telengsari (Jember) in 1958, when four people claimed rights to a field that was usually used

95) 'Sedjarah kolonisasi Berasan sesudah kedaulatan: Apa maksud pengusiran para magersari secara halus?,' *Trompet Masjarakat* (26 May 1953), p. 4; 'Sekitar pembagian tanah "Geruischloos" rakjat Berasan minta pendjelasan jang berwajib,' *Trompet Masjarakat* (28 July 1953), p. 4; 'DPRDS Kab. Banjuwangi membenarkan "beleid" Bupati sekitar tanah Berasan,' *Trompet Masjarakat* (14 August 1953), p. 4.

96) 'Bupati tak bersedia memberi perintahnja,' *Trompet Masjarakat* (9 June 1951), p. 4.

97) 'Tanah jadi rebutan,' *Trompet Masjarakat* (24 March 1954), p. 2.

98) 'Banjuwangi: penjelesaian tanah Pringgodani,' *Trompet Masjarakat* (4 August 1958), p. 4.

to play sport.[99] A conflict in Muncar involved a plot of land that was sold by the owner to two different buyers.[100] A similar case of conflict also occurred in Lojejer and Ampel vilages, in Wuluhan District.[101] A serious conflict emerged in the case of Rawa Jadukan land situated in the Puger subdistrict. According to Molok, the former *petingi* of Mojosari, the disputed area covered 470 hectares, held by 27 *petuk* (tax bill) holders. The largest parcel was held by Kyai Haji Aliwafah. After being neglected by the holders for more than 20 years, Molok in his capacity of *petinggi* had permitted the area to be converted from swampy lands to *sawah* in 1950-1953. By 1957, 275 farm households worked the land, when the original owners appeared and claimed their rights.[102]

There is an impression that during the 1950s conflicts over land increased in number. A lack of information on conflicts over land, particularly among farmers prior to the 1950s makes it difficult to know this for certain. There are two possibilities: firstly, conflicts over lands among farmers were not recorded, or secondly, conflicts over land among farmers rarely occurred. Two indications give reason to suggest the second possibility, meaning that there was an increase in the number of cases of conflict over land during the 1950s. Firstly, the frontier of land expansion in Besuki was reached around the early 1950s, which indicates that previously there was enough land available for expansion, preventing farmers from becoming involved in conflict over

99) 'Lapangan Telengsari dibadjak, Persatuan2 sepak bola Kalangkabut,' *Trompet Masjarakat* (3 September 1958), p. 4.

100) 'Sekitar Pendjualan Tanah di Muntjar,' *Trompet Masjarakat* (19 August 1958), p. 4.

101) 'Sengketa Tanah di Djember: H. Ibrahim kontra VD Poel,' Trompet Masjarakat (13 March 1957, p. 1; 'H. Ibrahim kontra v.d. Poel,' *Trompet Masjarakat* (14 March 1957), p. 1.

102) 'Mysterie Rawa Djadukan: sekitar 245 keluarga kehilangan sumber hidup,' *Trompet Masjarakat* (27 November 1957), p. 1; 'Pupekumil bertindak: Rawa Djadukan dinjatakan tertutup,' *Trompet Masjarakat* (29 November 1957), p. 1; 'Pupekumil beri konsesi: Rawa Djadukan dibuka kembali,' *Trompet Masjarakat* (15 January 1958), p. 2.

farmlands. This was evident from Stoppelaar's observation that *Using* people reacted to the inflow of *Madurese* migrants to Bondowoso during the late 18th and early 19th centuries by abandoning their villages, not by fighting against them.[103] It is likely that conflicts over land would have increased only if there were insufficient opportunities to expand farmlands. This was only possible in Besuki after the 1940s. Secondly, it is also likely that conflicts over lands increased in the 1950s, given that concerns about landlessness and uncertainty over the position of Western enterprises in the Indonesian economy emerged during this period.

Land conflicts indicate that in the 1950s property rights to land in Besuki were increasingly insecure. This was in accordance with the increased use of land, land transactions involving many parties, the dualistic agrarian law inherited from the Dutch colonial period, and the rising demand among farmers in Besuki for wider access to farmlands. Proper land administration and a clearer definition of land titles were required to end confusion. In the absence of a proper land registration system, there was no legal certainty to provide security in land ownership, a precondition for farm development.

5.7 Land and the Capital Market

Land ownership was a very important factor in allowing farmers access to credit in the capital market. The need for credit among farmers in Indonesia was relatively high, as reflected in the attribute given to the Indonesian farmer economy during the colonial period as 'a debt economy' (*ekonomi hutang*).[104] According to Fokkens, the high demand for credit among farmers in Java was caused by a lack of opportunities to save and poor saving

[103] Stoppelar, *Balambangansch... op.cit.*, p. 78.
[104] S. Djojohadikusumo, *Kredit Rakyat di Masa Depresi* (Jakarta: LP3ES, 1989), p. 252.

habits due to a wasteful way of life.[105] The main source of credit for them was informal financial institutions, a term used to refer to unorganised financial institutions existing independently and outside the control of government agencies.[106]

During the colonial period, farmers' preference for informal financial institutions was inseparable from the fact that credit programs offered by the formal financial institutions such as banks were often beyond farmers' reach.[107] Formal financial institutions were also less popular among farmers due to the various associated disadvantages such as inflexibility, complicated procedures and unfamiliarity. Moreover, most formal financial institutions that provided farmers with credit required land certificates as collateral. Given the fact that there was no legal proof of land ownership by Indonesians, except *petuk* (tax bill) registered at the village office, some farmers found it difficult to access credit offered by the formal financial institutions because *petuk* was not legal proof of land ownership. Therefore, it can be understood why farmers largely relied on informal capital institutions for financial support.

After independence informal financial institutions continued to exist, mainly because they provided faster and easier service, without complicated and costly administrative procedures and without the need for collateral. In an urgent need for capital, these advantages were attractive and outweighed the associated disadvantages such as higher interest rates than the

[105] F. Fokkens, 'The Power of Money Lenders in Java,' in M.R. Fernando and D. Bulbeck (eds.), *Chinese Economic Activity in Netherlands India* (Singapore: Institute of Southeast Asian Studies, 1992), pp. 45-46.

[106] S.B. Martokoesome, 'Small-scale Finance: Lessons from Indonesia,' in R.H. McLeod (ed.), *Indonesia Assessment 1994: Finance as a Key Sector in Indonesia's Development* (Singapore: Institute of Southeast Asian Sudies, 1994), p. 306.

[107] J.T.M. van Laanen, 'Di Antara De Javasche Bank dan Ceti-Ceti Cina: Perbankan dan Kredit di Indonesia pada Zaman Kolonial,' in A. Booth, W.J. O'Malley and A. Weidemann (eds.), *Sejarah Ekonomi Indonesia* (Jakarta: LP3ES, 1988), pp. 349-350, 353.

formal capital institutions imposed.[108] Moreover, some farmers still did not realise that they had access to credit offered by formal financial institutions by using land certificates as collateral.[109] Many farmers were more familiar with the informal capital market, which has functioned for a very long time, rather than with the formal capital market.

One of the popular informal financial institutions was land pledging (*grond verpanding*), which involved a transfer of the right to use land for a pre-determined period of time in return for cash, without transferring the actual land title.[110] Only *sawah* under the individual private ownership could be pledged. The practice was in local term called *adol senden sakuwate, adol senden garapan,* and *adol tahunan* in Banyuwangi and *maghadhi* in Bondowoso.[111] Another form of informal credit was obtained through *sistem ijon,* a term which refers to selling of agricultural products with a cash payment in advance long before harvest.[112] In this system, farmers usually got only a low price for their products from moneylenders including Chinese, Arabs, and rich indigenous people, particularly *haji*.[113]

Informal financial institutions carried a stigma. These institutions were regarded as the cause of farmers' chronic indebtedness because once farmers were tied in debt, the lenders would increase this dependency by continuing to give credit under heavier conditions, which could lead to debt bondage.[114] As a result, moneylenders were frequently identified as usurers who

108) Martokoesome, 'Small-scale... *op.cit.* p. 309.
109) Suandra, 'Study tentang Pelaksanaan ... *op.cit.*, pp. 17-18.
110) S. Gautama, D.E. Allan, M.E Hiscock and D. Roebuck, *Credit and Security in Indonesia* (St. Lucia: University of Queensland Press, 1973), 105-106; E.A. Hoebel and A.A. Schiller, *Adat Law in Indonesia by Ter Haar* (New York: Institute of Pacific Relations, 1948), pp. 109-110.
111) Soebroto, *Indonesiche Sawah-Verponding* (Leiden: Leiden University, 1925), pp. 16-17; De Stoppelaar, *Balambangansch... op.cit.*, pp. 91-93.
112) Van Laanen, 'Di Antara... *op.cit.*, p. 351; Djojohadikoesoemo, Kredit... *op.cit.*, p. 257.
113) Fokkens, 'The Power... *op.cit.*, p. 51; Van Laanen, 'Di Antara... *ibid.* pp. 351-352.
114) Djojohadikoesoemo, *Kredit... op.cit.*, p. 254.

took advantages of farmers' difficulties by imposing high interest rates on them.[115] This confirms the general observation that hight interest rates characterised credit given by informal financial institutions in developing countries.[116]

Recently, there has been a growing appreciation of the importance of informal financial institutions. These institutions serve functions both social and economic.[117] The key argument put forward to justify their existence is that informal financial institutions were able to provide credit services to sectors of the economy, which were not served by formal financial institutions. The argument usually attributes a comparative advantage to informal financial institutions in arguing that the benefits of informal credits outweigh the disadvantages.

It seems that the practice of informal credit provision had some advantages, particularly in situations where access to the formal financial institutions was very limited. But it is a serious mistake to underestimate the impact of the high interest rates imposed by the informal financial institutions upon farmers with relatively small landholdings. It is doubtful that the high interest rates on credit charged by informal financial institutions did much to improve the lot of farmers. There is evidence to show that the informal capital market tended to have a negative impact on farm households. There is general view that borrowers in the informal capital market are exploited.[118]

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115) Fokkens, 'The Power... op.cit., pp. 50-51.

116) 'Interest Rates Outside the Organized Money Markets of Underdeveloped Countries,' in U Tun Way, *Economic Essays on Developing Countries* (Alphen aan den Rijn: Sijthoff and Noordhoff, 1980), p. 104.

117) R.H. McLeod, 'Informal and Formal Sector Finance in Indonesia: The Financial Evolution of Small Businesses,' *Savings and Development*, 15 (1991), p. 201; S.B. Martokoesoemo, *Beyond the Frontiers of Indonesian Banking and Finance* (Jakarta: Ichtiar Baru Van Hoeve, 1994), pp. 57-58; I. Hussain and H. Demaine, *How Informal Credits Offers Greater Benefits to Farmers* (Bangkok: Asian Institute of Technology, 1992), p. 138; S.L. Floro and P. A. Yotopoulos, *Informal Credit Markets and the New Institutional Economics: The Case of Philippine Agriculture* (Boulder: Westview Press, 1991), p. 111.

118) Sugijono, 'Pelaksanaan... *op.cit.*, p. 14; Soenarjati, 'Pelaksanaan... *op.cit.* p. 41.

In land pledging, it is not infrequently the case that the ownership rights of pledged lands eventually fall to the pledgee after a failure of the original landholder to redeem their debts on time. Even though there are no absolute figures, such cases were reported to have frequently occurred in many rural areas in Java during the 1930s.[119] This is likely to be one of the main reasons why the number of large landholders in Besuki between 1963-1983 remained constant, whereas the number of middle and small landholders increased substantially (Table 5.2).[120]

In response to the bad overall impact of the informal financial institutions on farm households, the Indonesian government took measures to stop them. For example, in the 1960s the *ijon* system and land pledging were legally prohibited.[121] To support the farm agricultural activity, the government provided credit channelled through formal financial institutions, particularly the *Bank Rakyat Indonesia* (BRI) and *Rural Unit Cooperatives* (Koperasi Unit Desa).[122] The most important financial support given by the formal financial institutions for farm agricultural production during the 1960s and 1970s was credit packaged under the *Bimas* scheme.[123]

As opposed to informal credit provision, credit from the formal financial institutions was given at a relatively low interest

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119) Djojohadikoesoemo, *Kredit... op.cit.*, p. 260.

120) An illustration based on personal observation shows how a haji is able to control large lands in Jember through land pledging by encouraging small Madurese farmers to make haj pilgrimage.

121) H. Wijaya and N.H. Sturgess, 'Land Leasing in East Java,' *Bulletin of Indonesian Economic Studies*, 2 (July 1979), pp. 83-84; the prohibition of land pledging was regulated in Article 7 of the Government Regulation No. 56 1960, while Article 8 of the Law No 2, 1960 prohibited the practice of ijon system, Loebis, *Land Reform... op.cit.*, pp. 55-56, 76-77.

122) L.Th. Schmit, *Rural Credit between Subsidy and Market: Adjustment of the Village Units of Bank Rakyat Indonesia in Sociological Perspective* (Leiden: Leiden Development Studies, 1991), pp. 114-117; R.H. Patten and J.K. Rosengard, *Progress with Profits: The Development of Rural Banking in Indonesia* (San Francisco: ICS Press, 1991), p. 2.

123) Van der Eng, *Agricultural... op.cit.*, p. 137.

rate. However, only farmers with certificates as a legal document of land ownership had access to these credits. This was because applications for the *Bimas* credit required a certificate of land ownership as collateral.[124] Consequently, farmers without this document were prevented from taking advantage of the low interest rates offered by formal financial institutions. A study conducted in Thailand that revealed that the higher productivity was found among farmers with a certificate of land titles as compared to those without illustrates the consequences of better access to the lower interest rates of formal financial institutions.[125]

There is no doubt that the Indonesian government realised the importance of land registration. In the early 1980s the National Agrarian Project (*Proyek National Agraria, Prona*) was launched. Under this program, there was a spate of land registrations with the objective of certifying as much land as possible.[126] It was expected that farmers would be interested in applying for certificates of land title as the only legal proof of ownership to replace *petuk*. In Situbondo more than 2,900 certificates of land ownership were issued under the *Prona* program between 1985 and 1989.[127] Publications from the other three regencies of the former Besuki residency give no data about this, but a case study in 1989 indicated that farmers supported the implementation of the *Prona* program.[128]

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124) F. Wijaya, 'Kredit Pedesaan di Jawa,' Seri Makalah Fakultas Ekonomi Universitas Gadjah Mada, Yogyakarta, 10, 2 (1980), p. 14.

125) G. Feder, T. Onchan, Y. Chalamwong, C. Hongladarom, *Land Policies and Farm Productivity in Thailand* (Baltimore: The John Hopkins University Press, 1988), p. 148.

126) C. MacAndrews, *Land Policy in Modern Indonesia: A Study of Land Issues in the New Order Period* (Boston: Oelgeslager, Gunn and Hain, 1986), p. 68.

127) *Situbondo dalam Angka 1988* (Situbondo: Kantor Statistik, 1989), p. 43.

128) I.K. Suandra, 'Study tentang Pelaksanaan Sertifikat Hak Milik atas Tanah sebagai Alat Bukti yang Kuat Menurut UUPA di Desa Dawuhan Mangli Kecamatan Sukowono Kabupaten Daerah Tingkat II Jember.' *Unpublished research report*, Fakultas Hukum, Universitas Jember, 1988, p. 18.

However, not all land titles in Besuki are supported with certificates of ownership, even though there has been a special agency to handle certification since 1960. A case study in 1992 showed that most land titles were only supported by *petuk* (tax bills) as a proof of ownership, rather than by land certificates.[129] The *Prona* program, which has only been sporadically implemented due to limited funds and a lack of qualified officials, could not cope with the growth of land parcels to be registered and certified.

Meanwhile, landholders were reluctant to apply for individual certificates for several reasons. Firstly, the procedure was very complicated and convoluted. Secondly, the charges to obtain a land certificate were regarded as being high, particularly for small farmers.[130] The cost of being issued with a land certificate was 1 percent of the land value.[131] In practice, the total cost was often much higher due to various informal fees charged by the authorities.[132] Without certificates of land ownership, many farmers were forced to rely on credit provided by informal financial institutions. Consequently, such institutions continued to exist, even though they were illegal. In other words, the survival of the informal financial institutions should not necessarily be associated with potential benefits they offered to farmers. It is most likely that the main reason was due to the lack of choices farmers had, which made the informal financial institutions the only option for accessing credits.

5.8 Conclusion

During the 19th and 20th centuries, stricter definitions of property rights to land became increasingly important in Besuki.

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129) T. Wirawan, 'Pola Alih Hak atas Tanah Waris di Kecamatan Kaliwates Kotatif Jember.' *Unpublished research report,* Pusat Penelitian Universitas Jember, 1994/1995, pp. 35, 44.

130) Suandra, 'Study tentang... *loc.cit;* Wirawan, 'Pola Alih... *op.cit,* pp. 43-44.

131) Harsono, *Land Registration...op.cit.*, p. 13.

132) Suandra, 'Study tentang... *loc.cit.*

This development is inseparable from the rapid expansion of population and commercial agriculture, including both plantation and farm agriculture sectors, which exhausted the stock of unused land. Hereditary private tenure was long the main form of land ownership, and communal landownership was non-existent.

The absence of a proper land registration system for farmland caused uncertainty over land ownership. Registrations of land in the land tax registers has until now been the main form of security. Conflicts over landownership seem to have flared up in the 1950s, when the weaknesses of the current system became clear and there was uncertainty about the future of *erfpacht* lands. These land conflicts show how complex the agrarian situation in the region had become. The Basic Agrarian Law of 1960 had not resolved these issues because of a failure to put land reform programs into effect.

There appears to be an urgent need for a clearer definition of land titles. Firstly, the urgency is closely related to the creation of legal certainty and security in land ownership. This is crucial for the reduction of land conflicts at present and in the future. Secondly, it can be expected that certification of land ownership will enhance farmers' access to the formal capital market and consequently liberate them from a high dependency on the usurious informal capital market.

CHAPTER VI

CONCLUSION

The core chapters of this thesis described the long-term development of farm agriculture in Besuki. From the mid-19th century, farm agriculture in the region developed rapidly. This counters suggestions that the establishment of plantation agriculture during the colonial period prevented farm agriculture from developing. It has been argued, for example by Kartodirdjo and Surjo, that plantations absorbed the land and labour of farmers, and consequently impeded farm production.[1] A similar view was already voiced by opponents of the Dutch's liberal policy implemented in colonial Indonesia (1870-1900) including Brooshooft and Van Deventer.[2] The case of Besuki indicates that farm agriculture was not marginalised. Instead of experiencing deterioration, farm agriculture became one of the mainstays of the region's export economy.

From the 1870s, Besuki's farmers produced an increasingly diverse range of agricultural products for export to the rest of Indonesia and overseas. Up to 1900, production for export consisted of only rice and tobacco. During the period 1900-1940, maize and soybean were also produced for export. After a setback

1) S. Kartodirdjo and D. Surjo, *Sejarah Perkebunan di Indonesia* (Yogyakarta: Aditya Media, 1991), pp. 8-9.

2) C.L.M. Penders (ed.), *Indonesia: Selected Documents on Colonialism and Nationalism, 1830-1942* (St. Lucia: University of Queensland Press, 1977), pp. 61-64.

during the Japanese occupation and the struggle for independence in the 1940s, the process of development resumed. Besuki was, and still is, one of Indonesia's leading centres of farm agriculture, particularly for rice, soybean, maize, tobacco and livestock. The case of Besuki shows that the development of farm agriculture was a continuous long-term process, and confirms the suggestion by Van der Eng that the sector was not characterised by stagnation during the colonial period.[3]

The importance of non-rice food crops in Besuki contradicts one of the pillars of Geertz's 'agricultural involution' thesis. Geertz speculated that rice agriculture in Java experienced a long-term self-perpetuating stagnation due to its ability to absorb limitless labour force increases.[4] In Besuki the growth of the population and the establishment of plantation agriculture did not cause rice agriculture to stagnate. On the contrary, Besuki continued to play its historical role as a rice-exporting region and emerged as an exporter of non-rice food crops, particularly soybean and maize.

The dynamic nature of farm agriculture is revealed in response to expanded market opportunities over time. It appears that product price was one of the main factors taken into consideration by farmers when choosing what type of crop to grow and when. The variety of crops grown most likely constitutes a strategy to reduce the risk of harvest failure and secure the livelihood of farm households. This presents a challenge to those who hold the view that farm agriculture was static and anti-market in nature, as suggested for example by Boeke's 'economic dualism' and Scott's 'moral economy'.[5] The experience of Besuki confirms

3) P. van der Eng, *Agricultural Growth in Indonesia: Productivity Change and Policy Impact since* 1880 (Basingstoke: Macmillan, 1996), p. 253.

4) C. Geertz, *Agricultural Involution: The Process of Ecological Change in Indonesia* (Berkeley: Univesity of California Press, 1963), p. 80.

5) J.H. Boeke, *The Structure of Netherlands India Economy* (New York: Institute of Pacific Relation, 1942), pp. 14-26; J.C. Scott, *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia* (New Haven: Yale University Press, 1976), pp. 15-26.

Popkin's notion that farm agriculture was rational, dynamic and market-oriented.[6] Therefore, it is also misleading to regard farmers as powerless victims of the process of agricultural change. In reality, as the case of Besuki suggests, farm agriculture played a dynamic and integral role in this process.

A complex of factors was responsible for the development of farm agriculture in Besuki. On the supply side, there are two. The first is population growth. Besuki was transformed from a sparsely populated region in the mid-19th century to a more densely populated region in the 1930s. This demographic transformation resulted to a large extent from the continuous inflow of migrants originating from Madura and other densely populated parts of Java. Population growth led to an increase in the labour force, which was largely absorbed by the agricultural sector. As land was in relative abundance, this led to an expansion of cultivated land. To a certain extent, the case of Besuki reflects Boserup's notion that population growth induces a process of agricultural development.[7] Secondly, this process was substantially facilitated by gradual improvements in transport facilities, which opened up remote areas of the region and increased the mobility of people and goods over long distances.

Another key factor that contributed to the development of farm agriculture in Besuki was an increased demand for agricultural products both in domestic and overseas markets. Middlemen emerged, who acted as intermediaries between farmers and those distant markets. They played a crucial role in inducing an expansion in farm production. This supports an argument by Myint that the establishment of foreign export-

6) S.L. Popkin, *The Rational Peasant: The Political Economy of Rural Society in Vietnam* (Berkeley: University of California Press, 1979), pp. 33-35.

7) E. Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure* (Chicago: Aldine, 1965), 117-118.

import firms was one of the necessary conditions for the expansion of farm agricultural production for export.[8] Secondly, the improved transport system is likely to have contributed to reductions in the cost of transportation and increases in the marketing reach beyond the local boundaries.

The development of farm agriculture increased the need for land, which is a necessary input in agricultural production. Up to the late 1940s, the need for land was largely met by turning uncultivated land or land used for shifting cultivation into sedentary farmland and to a lesser extent by intensifying the use of land through irrigation and double cropping. The first option was possible because the frontier of land expansion was not reached until the end of the 1940s. The second option was facilitated by various improvements in irrigation structures, particularly during the 1920s and 1930s. This not only contributed to the conversion of *tegalan* into *sawah*, but also secured the supply of irrigation water for the existing *sawah*. The frontiers of land expansion were reached in the early 1950s and forced farm agriculture to rely increasingly on intensification in land use. From the 1960s land use intensified through the increasing adoption of inputs such as superior seed varieties, chemical fertiliser and pesticides. This 'Green Revolution' first took place in rice agriculture and later, and to a lesser extent, in the production of non-rice food crops.

A consequence of the development of commercialised farm agriculture and continued population growth was that land became an increasingly scarce resource. Conclusive evidence could not be found, but it is reasonable to assume that this development led to an increase in the price of land relative to that of labour. This may have triggered various changes. In terms of agricultural practices, shifting cultivation was marginalised

[8] H. Myint, *The Economics of the Developing Countries*, 4th edition (London: Hutchinson, 1973), pp. 31-32.

in favour of sedentary cultivation. Institutionally, more clearly defined property rights to land (*adat* ownership) replaced what Van Vollenhoven called a form of temporary tenancy. Newspaper reports from the 1950s suggest a slight increase in the number of conflicts over land, which indicates the growing complexity of agrarian issues in the region. Although such conflicts were not as numerous as in the more densely populated parts of Java, this development reflected an increasing need for the clearer definition of land titles. The promulgation of the 1960 Basic Agrarian Law, which aimed to establish a legal framework in order to provide certainty and security in property rights to land through registration and certification of land, was in part a response to this growing need. However, there were major difficulties in putting this law into effect.

From the 1960s, Besuki's farm agriculture developed and was able to sustain its important role in farm export production, even though the land titling program was far from completed. Given that farmers with land certificates are likely to be more productive than those who are without legal proof of land ownership, as the experience of other countries such as Thailand indicates,[9] the completion of land registration and certification would be an important precondition to the creation of fair opportunities for all farmers in the process of agricultural development. Whether this objective will be achieved appears to depend largely on the government's political will to implement systematic land registration and certification programs and to curb the serious and continuing problems associated with the inefficiency of bureaucracy.

[9] G. Feder, T. Onchan, Y. Chalamwong, C. Hongladarom, *Land Policies and Farm Productivity in Thailand* (Baltimore: The John Hopkins University Press, 1988), p. 122.

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CURRICULUM VITAE

S. Nawiyanto was born in a peasant family in the south part of Klaten. He is a lecturer at the Department of History, Faculty of Letters (since 1992) and the secretary of the Research Centre for Madurese and Javanese Cultures, the University of Jember (2002- May 2003). He graduated from the Faculty of Letters, Gadjah Mada University in 1990, with the notation *cum laude* and obtained his master degree from the Faculty of Asian Studies, The Australian National University. He is taking doctorate degree (Ph.D.) at the National Institute of the Asia and the Pacific (NIAP), The Australian National University, Canberra, Australia (from 2003), with a research focus on environmental history of Besuki residency.

He participated actively in several national and international conferences. He was one of the speakers in The London Workshop on The Economy of Southeast Asia in the 1930s Depression, SOAS, University of London, The United Kingdom, 2-4 April 1998, in The Second Euroseas Conference, The University of Hamburg, Germany, 3-6 September 1998, and in the International Conference on the Modern Economic History of Indonesia, Gadjah Mada University, Yogyakarta, 26-28 July 1999.

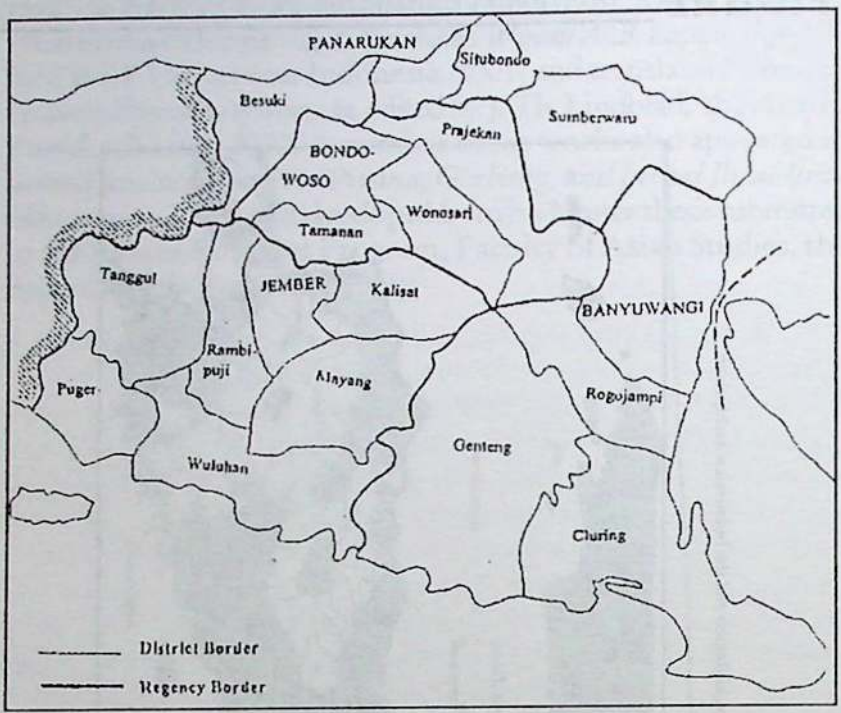
He has published a number of works, including: "The Economy of Besuki during the 1930s Depression," in P. Boomgaard and I. Brown (eds.), *Weathering the Storms: The Economies of Southeast Asia in the 1930s Depression*. Singapore: ISEAS, 2000; "Transport Development in a Frontier Region of

Java", in Edi Sedyawati dan Susanto Zuhdi (Eds), *Arung Samudra: Persembahan Memperingati Sembilan Windu A..B. Lapian*, Depok: PPKB-LP Universitas Indonesia, 2001; and translator, *Fondasi Historis Ekonomi Indonesia,* edited by J. Th. Lindblad, Yogyakarta: Pustaka Pelajar, 2002. A number of his works also appeared in several journals, such as *Prisma, Gerbang, and Jurnal Ilmu-Ilmu Humaniora.* This book developed from his Master thesis submitted to the Southeast Asian Program, Faculty of Asian Studies, the Australian National University.

FIGURE

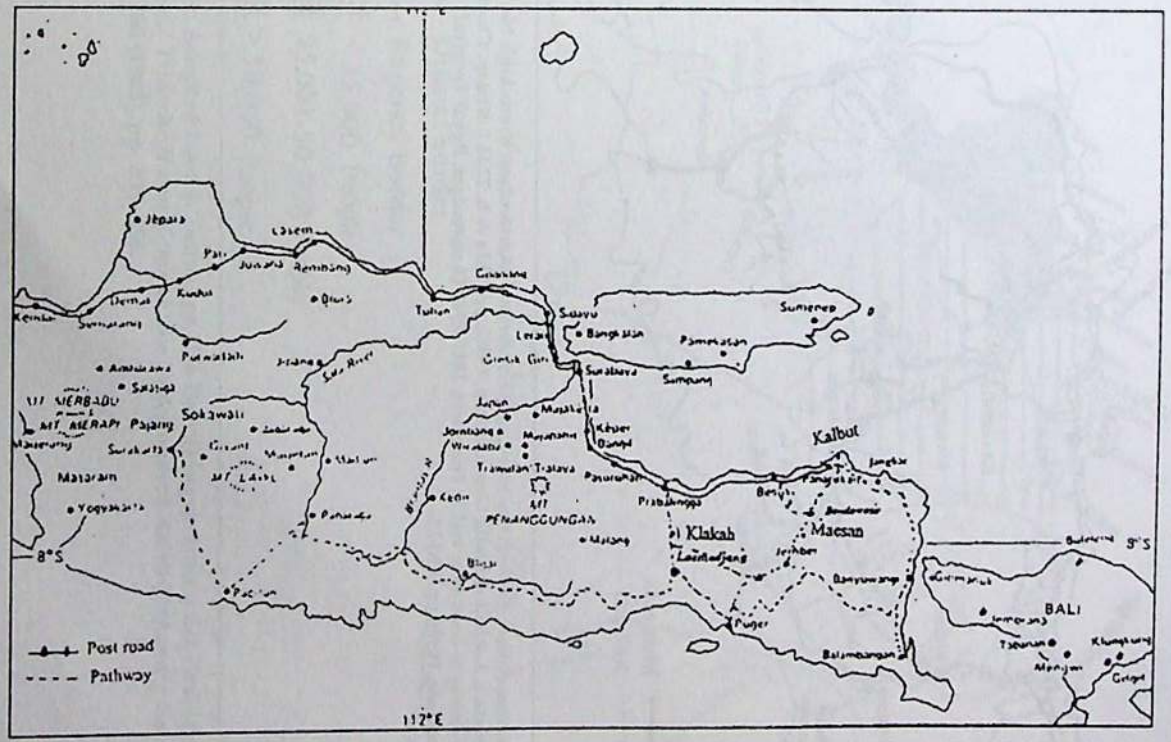
Figure 2.1: Besuki Region and the Indonesian Archipelago

Figure 2.2: Administrative Division of Besuki, after 1930



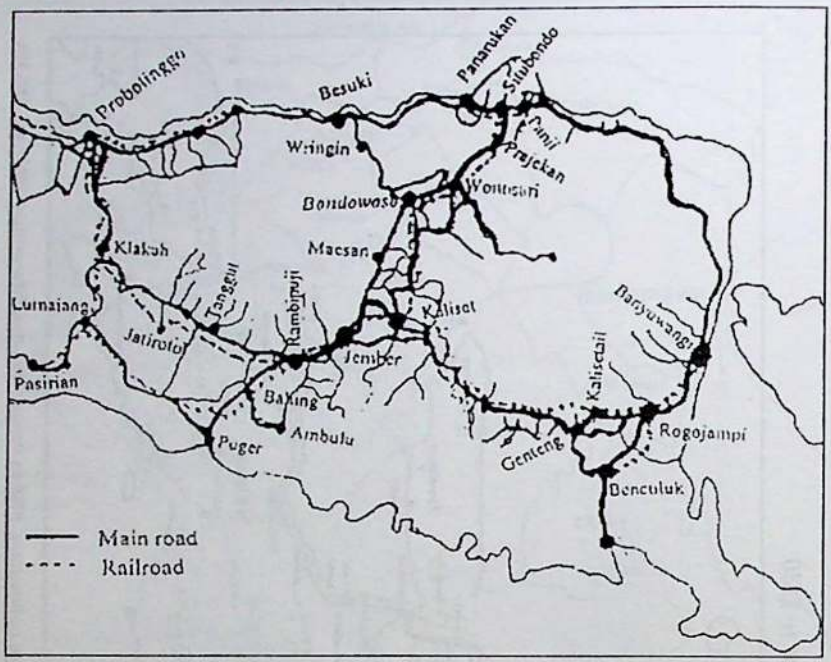
Source: J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki,' *Tijdschrift van Koninkkljke Nederlandsch Aardrijkskundig Genootschap*, 80 (1963), p. 358.

Figure 3.1: Transport Network in Besuki, prior to 1830



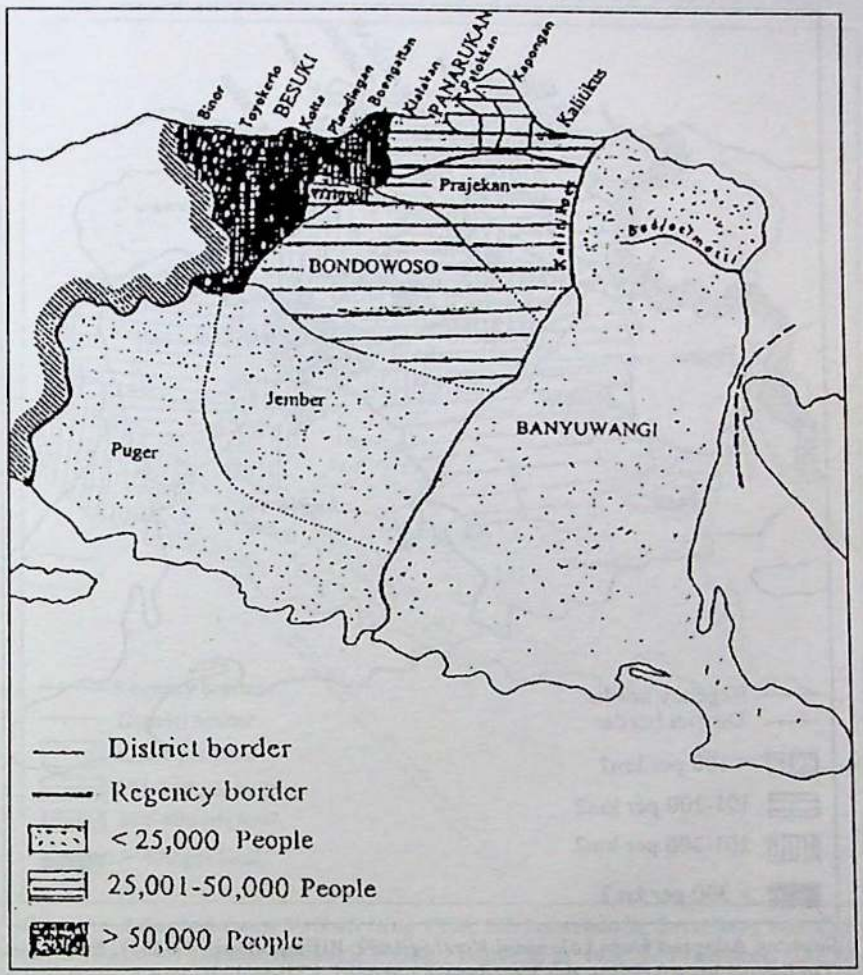
Source: Adapted from M.C. Ricklefs, *A. History of Modern Indonesia, c. 1300 to Present* (London: Macmillan, 1981), pp. 312-313.

Figure 3.2: Transport Network in Besuki, c. 1930



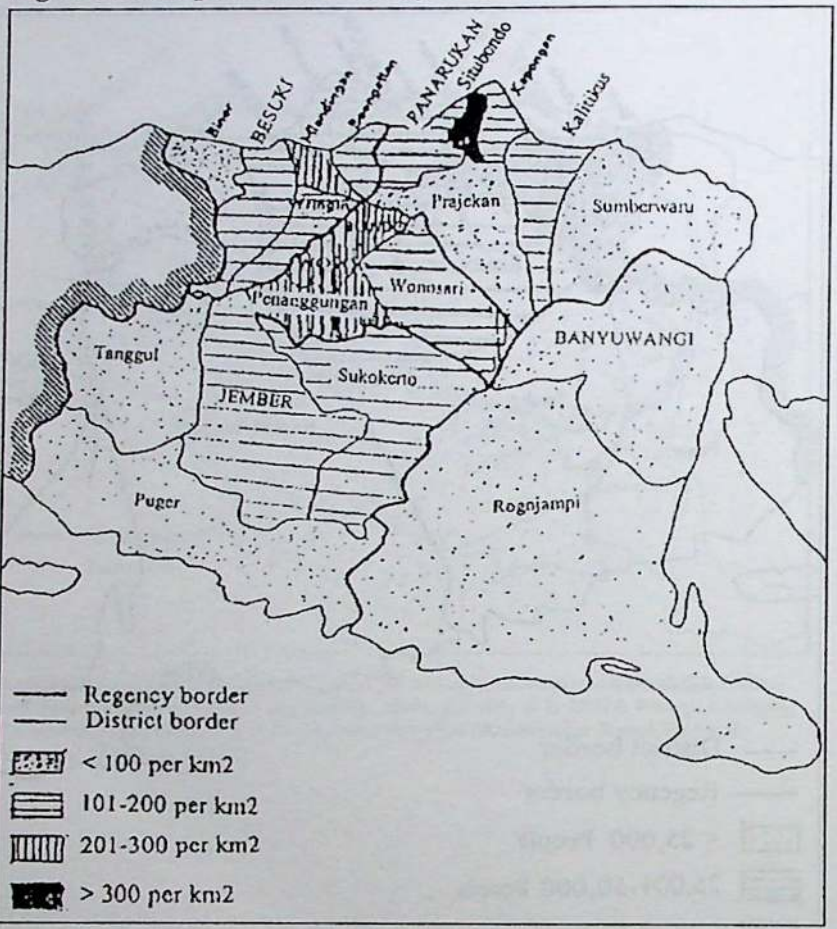
Sources: Adapted from Atlas van Tropise Nederland (Amsterdam: Koninklijk Neder-Landsch Aardrijkskundig Genootschap, 1938), pp. 181a & b, 22;H.J. Knaap, *Changing Economy in Indonesia, vol. 9: Transport, 1819-1940* (Amsterdam: Royal Tropical Institute, 1989), pp. 120-121

Figure 3.3: Population of Besuki by District, 1825



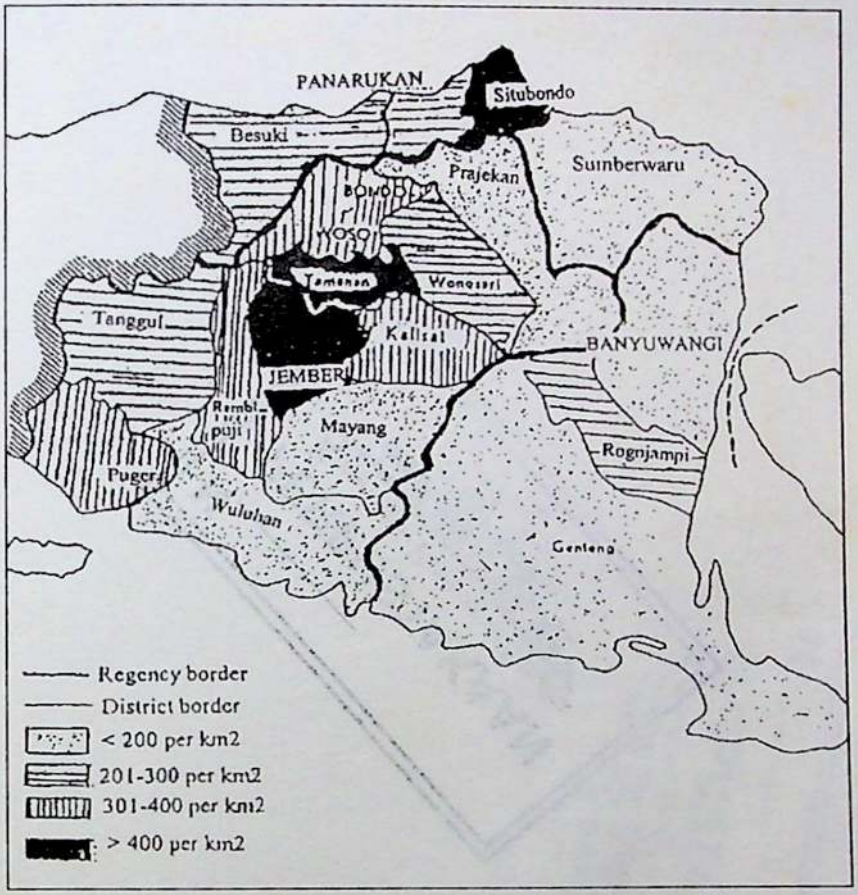
Source: Adapted from J. Tennekes. 'De Bevolkingspreiding der Residentic Besoeki.' *Tijdschrift van Koninkkljke Nederlandsch Aardrijkskundig Genootschap.* 80 (1963), pp. 335, 356.

Figure 3.4: **Population Density of Besuki by District, 1890**



Sources: Adapted from *koloniaal Verslag 1892,* Bijlage B. pp. 22-23; J. Tennekes, 'De Bevolkingspreiding der Residentie Besoeki, ' Tijdschrift van Koninkkljke Nederlandsch Aardrijkskundig Genootschap, 80 (1963), p. 358

Figure 3.5: Population Density of Besuki by District, 1930



Sources: Adapted from *Volkstelling 1930, III: Inheemsche Bevolking van Oost Java* (Batavia: Landsdrukkerij 1934), Table 8, p. 141; J. Tennekes, 'De Bevolkingpreiding der Residentie Besoeki,' *Tijdschrift van Koninkkljke Nederlandsch Aardrijkskunding Genootschap*, 80 (1963), p.358.