PLANTER AND PEASANT

This study is dedicated to
Elizabeth Clark-Pelzer
Dr. Chris Pelzer-White
Ms. Ingrid Pelzer-Burg
and my grandson Eli Pelzer Burg

VERHANDELINGEN
VAN HET KONINKLIJK INSTITUUT
VOOR TAAL-, LAND- EN VOLKENKUNDE

84

KARL J. PELZER

PLANTER AND PEASANT

COLONIAL POLICY AND THE AGRARIAN STRUGGLE IN EAST SUMATRA 1863-1947



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PREFACE

This study had its beginnings as far back as the fall of 1940 when, unexpectedly, I was forced to spend seven weeks, instead of an anticipated one week, in Medan, the capital of the great, prosperous plantation region which stretches along the Strait of Malacca from the Aru Bay in Aceh to Labuan Batu on the Barumun Panai River. During the course of this enforced stay, I first learned about the great tug of war which was going on between planters, the Indonesian sultans, and the Netherlands Indies Government. The object of this tug of war was the land occupied by the plantations under lease arrangements, but to which the subjects of the sultans had alienable rights. All three parties were anxious to see a disentanglement of the intertwined agrarian rights of Western planters and Indonesian peasants, but they could not agree on the terms necessary to protect the future of both the planters and the peasantry without affecting the financial interests of the sultans.

The late Dr. H. Loos, Chief of the Agricultural Service for Sumatra, and the late W. E. K. Baron van Lynden, in charge of a special office to investigate the problems of this agrarian disentanglement (*Bureau van Conversie*) were the first to guide me in my study of the agrarian problems of East Sumatra. I also had occasion to hear the views of the late Sultan of Langkat on the issue during an interview arranged by my gracious host, the late Dr. Mohammed Amir, practicing physician in Tanjung Pura, a town in the Sultanate of Langkat.

Since my pre-war research was concerned with government-sponsored agricultural colonization in Southeast Asia, I made no attempt to include an account of this agrarian conflict in *Pioneer Settlement in the Asiatic Tropics,* referring to it only briefly in a footnote. (Pelzer, 1945, p. 201.) In my capacity as regional specialist for Southeast Asia in the Office of Foreign Agricultural Relations of the U.S. Department of Agriculture from 1945 to 1947, I had the opportunity to follow the development of the agrarian conflict in the immediate post-war

years more closely than would otherwise have been feasible.

A generous grant from the Ford Foundation together with liberal support from Yale University gave me an opportunity to resume my studies of the agrarian problem in 1954. During the academic year 1954-55, I was able to delve into the history of East Sumatra prior to the arrival of the first planters. In this, I was assisted by Joachim Hurwitz, at the time a graduate student in the Southeast Asian Studies Program, and later Director of the Museum of Anthropology in Rotterdam. In September 1955, I returned to East Sumatra and conducted my research with the assistance of Clark E. Cunningham, then a student at Yale University, and now Professor of Anthropology in the University of Indiana, and Kampto Utomo, a graduate in rural sociology of the College of Agriculture in Bogor, Java, presently Professor of Rural Sociology in the same college, and known now as Professor Sajogyo. The present study benefited greatly from the field work undertaken by these two untiring assistants, who spent weeks in squatter settlements, where they often had to overcome the suspicion of the squatters who doubted our motives. Clark Cunningham concentrated his efforts on the role of the Toba Batak as a squatter, while Kampto Utomo investigated Javanese squatter communities. Clark Cunningham has presented some of his field data in the monograph: *The Post War Migration of the Toba-Bataks to East Sumatra,* Yale Southeast Asia Studies, Cultural Report Series, no. 5. Kampto Utomo, alias Sajogyo, has used some of his research data in a Ph.D. thesis presented to the College of Agriculture of the University of Indonesia under the sponsorship of Professor W. F. Wertheim.

While Clark Cunningham and Kampto Utomo were making observations in squatter settlements, I searched the files of government agencies, of plantation companies, and of the Sumatra Planters Association for historical and current data. Among the companies which assisted me in my efforts, I must mention especially: Verenigde Deli Maatschappijen (V.D.M.), Senembah Maatschappij, Handels-Vereniging Amsterdam (H.V.A.), Goodyear Company, Hollandsch-Amerikaansche Plantagen Maatschappij (H.A.P.M.), and a number of plantations affiliated with Harrison and Crosfield.

I found the officials of the Department of Interior (*Kementerian Dalam Negeri*), the Department of Agriculture (*Kementerian Pertanian*), and the Department of Agrarian Affairs (*Kementerian Agraria*) most helpful, and owe them special thanks. I wish to express thanks especially to Mr. Sumarman, Secretary General, *Kementerian Dalam*

Negeri, and to Ir. Gunung Iskander, Secretary General, *Kementerian Pertanian,* whose acquaintance I first made in 1940 during a visit to South Sumatra. Letters of introduction from the Ministeries in Jakarta opened most doors in Medan but did not always bring forth the support the letters of introduction called for.

En route to Indonesia, I spent a few days in the Netherlands discussing the agrarian situation with former N.E.I. officials who had first-hand knowledge of East Sumatra. I owe special thanks to Ir. R. van de Wal, who graciously permitted me to microfilm a large collection of pre-war unpublished documents. The Secretary of the Oostkust van Sumatra Instituut, the late Ir. F. J. J. Dootjes, helped me in my search for historical material.

I must not fail to express my special thanks to Ridder van Rappard, the late Ir. N. van der Molen and their colleagues and assistants in the V.D.M., whose generous help I greatly appreciate. The same generous support I found in the office *Tata Bumi,* headed by Radjamin.

I returned to Indonesia in January 1967 in order to search the archive of the former AVROS, now called GAPPERSU, for records covering the years 1954 to 1958 in order to bring my data to the nationalization of the Dutch enterprises in 1958.

To all these and all the other individuals who gave me support and hospitality during my stay in East Sumatra, I am greatly indebted.

I owe my wife, Elizabeth C. Pelzer, and my colleague, Adrienne V. Suddard, for years the faithful editor of the publications issued by Yale Southeast Asia Studies, more than I can express in words. I am deeply indebted; and without their frequent encouragement the book might not have been completed.

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CHAPTER I

THE HISTORICAL SETTING OF EAST SUMATRA

During the seventeenth, eighteenth, and the first half of the nineteenth century, Aceh and Siak were the two leading states in Sumatra. Aceh at the northern end and Siak in the central part of the island were separated by a number of small river-states located between the Tamiang river in the north and the Barumun Panai river in the south. These east coast states comprising Tamiang, Langkat, Deli, Serdang, Batu Bara, Asahan, Kualu, Panai, and Bila were contested by Aceh and Siak, now one then the other claiming sovereignty over them. In the early seventeenth century Aceh had the hegemony, which passed to Siak at the end of the eighteenth century. At the beginning of the nineteenth century the states between the Tamiang and Barumun Panai recognized the sultan of Siak as their suzerain. None of the east coast states had attracted the serious attention of the European powers prior to 1820.

It was the British who were the first to demonstrate a real interest in East Sumatra. This hitherto ignored and forgotten part of Sumatra was gaining importance in the early 1800s as a market for Penang's exports as well as a source of imports, especially pepper. In May 1820 the secretary of the governor of the British East India Company in Penang wrote to R. Ibbetson, a member of his staff: "The governor in council considers that the time has arrived when we may endeavor to procure a more extensive and intimate knowledge of the ports and people in this neighborhood, and even to derive, by a judicious course of measures, some permanent commercial advantage for this establishment."[1] In the same letter were detailed instructions for a survey of the east coast from Tamiang in the north to Jambi in the south,[2] but illness prevented Ibbetson from carrying out the assignment. In 1822 the government of Penang dispatched the cruiser *Nautilus* under the direction of Lieutenants Rose and Morseby to survey the coast and its navigational problems and to prepare a set of sailing directions.

Then on 1 January 1823 John Anderson was instructed to undertake the assignment that Ibbetson had been forced to abandon. Anderson left Penang on 9 January for East Sumatra and returned 9 April, three months later to the day.

Anderson was well suited for the task. His fluent command of Malay, an invaluable asset, had facilitated numerous personal contacts with traders from East Sumatra who came regularly to Penang and who proved to be important sources of information. Several of these acquaintances were also encountered during the mission and contributed in a number of ways to its success.

With letters from the governor's office for each ruler, he was to visit: the Kejuruan Muda of Langkat, the Sultan Panglima of Deli, Sri Sultan Ahmut of Bulu China, the Sultan Besar of Serdang, the Bendahara of Batu Bara, the Yang di Pertuan of Asahan, and the Sultan of Siak. Anderson traveled up rivers never before visited by a European and gathered an impressive amount of information on a section of Sumatra that had been virtually *terra incognita* prior to his trip. Shallow waters and a lack of navigational skill on the part of the captain of the expedition's brig *Jessey* forced Anderson to anchor offshore and use a small boat for his river travel (only on the Siak did the brig get upstream as far as the river port itself). In several instances very swift currents made upstream travel in a small canoe so laborious and slow that Anderson preferred to move afoot over riverside trails leading from kampong to kampong.

Anderson spent a week to ten days along each of the major rivers, conducting interviews with the local rulers and also, wherever feasible, with leading district and village chiefs. Anderson's report, which includes a detailed day-by-day account of his journey and a history and description of the East Coast of Sumatra between Diamond Point and Siak, is an important landmark in the literature since it presents the first systematic geographic, economic, ethnic, and political data on the various states along the east coast.

Population

Ethnolinguistic maps of Sumatra show a broad belt of Malay-speaking population from Aceh to Asahan separating the Karo and Simelungun Batak from the waters of the Strait of Malacca. At the time of Anderson's visit, however, the Karo and Simelungun Batak came much closer to the coast, which made the Malay belt narrower than modern linguistic maps indicate.[3] Anderson found that only the

kampongs along the lower courses of all rivers which he entered were formed by Islamic Malay-speaking communities. The inhabitants were descendants of immigrant Malays from Jambi, Palembang, and the Malay peninsula as well as some Minangkabau, Bugi, and Javanese who had settled along the coast. A short distance from the coastline this Malay-speaking strip bordered on Batak settlements; so that in fact the greater part of the East Sumatran population consisted of Batak. It is quite possible that in the past the Karo Batak occupied the coast of Langkat, Deli, and Serdang and the Simelungun Batak that of Batu Bara, the way the Toba Batak still hold the coast between the Asahan and Barumun rivers, but that they were gradually either displaced or assimilated by the incoming Malay element. Anderson observed intermarriage between Malays and Batak women in Langkat and Deli. Malay chiefs of Batu Bara married daughters of Simelungun Batak chiefs in order to gain trading privileges and secure personal safety in Batak territory.[4] According to tradition, the founder of the ruling family of Deli was an Indian Moslem in the service of Sultan Iskandar Muda of Aceh. This Indian came to Deli in the 1630s, when it was under the rule of Aceh, and married the daughter of the Karo chief of Sunggal. Some of his descendants married into other leading Karo families. The last ruling sultan used to tell with pride that he was part Indian and part Karo Batak and attributed the hairiness of his arms and hands to his Indian ancestor. The former ruling families of Asahan and Langkat reputedly were of Toba or Karo Batak descent but have been Moslem for several generations. Present-day Moslem kampongs located on the banks of the Deli or Belawan rivers well within the Malay belt were in Anderson's day outside this belt in pagan Karo territory, as evidenced by the presence of pigs in the villages. Batak who converted to Islam soon began to follow Malay customary law, became bilingual, adopted Moslem names, and regarded themselves as Malay,[5] but they never forgot their Batak *marga*.

In the course of his investigations Anderson devoted a considerable amount of time to the question of population size, and finally estimated that the lands between Diamond Point and Siak held some 350,000 persons. This estimate may be too high, since it was based on claims made by rulers who had a tendency to exaggerate in order to increase their own importance. In all of the states, with the exception of Siak, the Batak outnumbered the Malays; Serdang, for example, had some 3,000 Malays and some 8,000 Batak.[6]

Agriculture

Anderson was a careful observer of agriculture, a sector of the Sumatran economy that interested him greatly because he was eagerly looking for information related to agricultural export. In all the states he visited the population was living in kampongs located on banks of rivers which were navigable, if only by small canoes. The kampongs were always set in groves of fruit trees, palms, and clusters of bamboo. The groves included jack fruit, bread fruit, durian, mango, mangosteen, guava, rose apple, pomegranate, rambutan, tamarind, papaya, cashew nut, citrus fruit and bananas, and palms such as coconut and betel nut. In addition to listing a great variety of garden vegetables, Anderson noted that the forests abounded in herbs, roots and leaves that were also used as vegetables. The kampong people practiced swidden cultivation on temporary forest clearings not too distant from the river banks. Where Anderson had to hike, because boat travel was too slow, he followed trails parallel to water courses and frequently came upon men busy with the cutting of swidden, or *ladang.*

At the time of Anderson's visit Langkat, Deli, and Serdang were experiencing a boom in pepper production but, because the Asahan people were just beginning to plant pepper, it was too early to tell whether the Asahan soils were suitable for pepper cultivation. Although pepper was an old export commodity in Aceh and in West and South Sumatra, it seems to have been a relatively new crop in East Sumatra. In Langkat, Anderson was told that pepper cultivation had started there at about the turn of the century. Penang's import statistics seem to support this: shipments of pepper from East Sumatra rose from less than 3,000 piculs in 1814 to over 30,000 piculs in 1822, indicating a remarkable expansion of the region's pepper cultivation. And all signs pointed to even greater shipments in the near future; Anderson predicted another doubling of pepper production because of the rate with which new gardens were being developed.

Long before the introduction of pepper, the swidden cultivators of East Sumatra had practiced the clearing and burning of patches of primeval or second-growth forest during the dry season for the cultivation of upland rice during the following rainy season. These swidden, or *ladang,* were then used a second and possibly a third year for the growing of root crops, vegetables, sugar cane, and bananas while a new swidden was always cleared to produce the grain. When pepper cultivation was introduced, the swidden cultivators incorporated it into their traditional agricultural system. After the rice harvest they

would drive poles into the ground at carefully measured distances as supports for the pepper vines. While the vines were still young a second rice crop or, more frequently, vegetables, maize, or tobacco might be planted amid the pepper vines.

According to Anderson, the Karo Batak played a very important role in the striking growth of the pepper industry. Some of the cultivators had migrated from Karo highlands down into the lowlands of Langkat and Deli in response to promises of assistance made by lowland chiefs. The *orang kaya* of Sunggal, for example, supplied Karo Batak coming from the highlands with rice and salt and furnished them the necessary implements: a large hoe, a spade, a parang, and a basket. When in the fourth year the pepper vines began to bear, the *orang kaya* paid for two-thirds of the crops at the low rate of three Spanish dollars per picul and for the other third at a rate of five Spanish dollars per picul.[7]

Anderson's observations concerning tobacco cultivation in Deli are of significance, since this crop was to make Deli famous the world over. This is what he had to say:

> Tobacco is cultivated by both the Malays and Battas (sic). They sow the seeds in small beds, and transplant it in twenty days, in rows distant about two cubits.[8] In four months it ripens. After two months the tops are cut, which gives strength and increased size to the leaves. When the plant has seven leaves, they begin to gather them: the sign is the leaf drooping, and assuming a brownish hue. The natives pluck one or two leaves at a time, according as they may have approached to maturity; expose them to the sun for four days, and then pack them up in small baskets, in which packages the tobacco is exported. If the seeds are required to be preserved, of course the tops of the plants are left untouched (p. 280).[9]

Since Anderson merely enumerates tobacco, without elaboration, among the exports of several East Sumatran ports, it is probably safe to assume that tobacco production and export came nowhere near that of pepper.

The observations made by Anderson in 1823 are of particular value to us because the European planters who entered East Sumatra forty years later were so busy carving their plantations out of the tropical rain forest that they had little time or interest in traveling about the country to make scientific observations, much less put such observations on paper. There is no evidence of any basic change in the agricultural pattern between the time of Anderson's visit and the entry of the pioneer planters.

Political Organization

Anderson learned from Siak's chiefs who had been engaged in war in Asahan, Deli, and other states conquered by Siak that they had not penetrated the interior of these petty states as far as he had (p. 169). The chiefs of the East Sumatran states whom Anderson met at Siak had come there

to assist in erecting a monument over the remains of the late king, the raja exacting these feudal services of them, as being tributaries of Siak. It is customary for all the states actually or nominally tributary to Siak, as far as Langkat, to send once in three years, a certain number of prows and men to Siak, to repair the fortifications, and to do any public service that may be required. After four or five months, if nothing pressing is going on, they are suffered to depart. They receive no compensation whatever, and are obliged to find themselves in provisions, etc. These chiefs complained bitterly to me of having been kept absent many months from their families and homes (p. 178).

Of Tamiang, Anderson reports that its ruler fully acknowledged the sultan of Aceh, although the ruler of Siak had conquered Tamiang a few years earlier and still claimed sovereignty over that state (p. 236).

Langkat was conquered by Siak some five years prior to 1823 (p. 244); the latter also claimed nominal sovereignty over Serdang (p. 303). Batubara's chiefs were appointed and received their seals of office from Siak (p. 310).

Thus Anderson's observations show that at the time of his survey the states of East Sumatra recognized Siak's overlordship.

Anderson's Recommendations

Anderson recommended that the British East India Company establish a series of small trading posts along the coast of East Sumatra; he was convinced these would be welcomed by the rulers there:

Such factories, under able and experienced men, conversant with the manners and language of the inhabitants, would materially tend to advance the interests of commerce in this quarter. They would stimulate the natives to industry, and excite the taste for a variety of manufactures; a better system of government would be introduced; there would be less dissension and fewer feuds amongst the numerous petty states; stability and order would be introduced; traders from Pinang and Singapore would feel more secure in the protection of their property; and there is no doubt there would be a considerable augmentation in our commerce (p. 221).

His recommendations were prompted by the fear that the Dutch would impose their monopolistic trade practices upon East Sumatra, lying directly across from Penang, should they extend their rule over this part of Sumatra. Should the Dutch be satisfied with "an equitable portion of the trade" and permit Sumatran traders to carry their products to the best market, he believed Penang would be assured an extensive share of the trade (p. 222).

The Treaty of London

The Anglo-Dutch Treaty of London, signed 17 March 1824, not quite a year after Anderson's return from Sumatra, put an end to all hopes that Penang officials and traders may have had for the establishment of trading posts in Langkat, Deli, Serdang, or any other state along the east coast of Sumatra. The aim of this treaty was to end Anglo-Dutch rivalry in Southeast Asia. By it the British ceded Benkulen as well as all other East India Company possessions in Sumatra to the Netherlands and committed themselves never to establish a settlement on the island or sign a treaty with any of its rulers. In return the Netherlands ceded Malacca as well as Netherlands factories in India to Great Britain and promised never to found any establishment on the Malay peninsula or enter into any treaty with any of its rulers. This created two spheres of influence separated by the Strait of Malacca.

As to commerce, the treaty stipulated that the Netherlands would refrain from establishing a trade monopoly in the archipelago. The two treaty partners furthermore granted each other most-favored-nation treatment in the Straits Settlements, the East Indian archipelago, India, and Ceylon.

The territorial clauses proved to be more effective than the commercial ones. The clear separation of the two spheres of interest did indeed eliminate one of the main causes of friction, but for several decades British trading circles in Penang and Singapore accused the Dutch of failure to adhere strictly to the commercial clauses of the treaty.[10]

Netherlands was given a free hand in Sumatra except for Aceh and its dependencies, the Dutch recognizing Acehnese independence.[11]

Expansion of Dutch Interest in Sumatra

Although the Treaty of London gave the Netherlands a free hand to expand its control in Sumatra to the border of Aceh and its

dependencies, the Dutch proceeded rather slowly and cautiously. J. van den Bosch, who was governor-general from 1830 to 1833 and minister of Colonies from 1834 to 1839, planned the political penetration of those parts of Sumatra not yet under Dutch control; he expected that it would require twenty-five years.

The Java War (1825-1830), caused by the revolt of Dipo Negoro, prevented any expansion in Sumatra immediately after 1824, as troops and funds were needed in Java. The first part of Sumatra to require military attention was the hinterland of Padang, on the west coast, where the Padri, a Moslem sect, carried on its campaigns in the Padang highlands and had begun its drive against the southernmost of the Batak, the Mandailing and Angkola, many of whom it forced to become Moslem. Bonjol, the stronghold of the Padri, was taken by the Dutch in 1832 and lost again, but it was finally stormed a second time in 1837; Mandailing was also occupied. The leader of the Padri, Haji Mohamad Saleh, who was known as Tuanku Tambusi, had fled, after the fall of Bonjol, to Angkola, where he tried to build new strongholds. This necessitated the sending of a military force to drive him out of the Angkola valley. He moved across the mountains in an easterly direction into the valley of the Barumun. The Dutch forces brought the district of Padang Lawas as far as Kotapinang on the Barumun river under their control and turned then against Dalu-Dalu on the banks of the Sosa, a left-bank tributary of the Rokan river. Dalu-Dalu proved to be a heavily fortified and well stocked fortress, which resisted for ten days. Haji Mohamad Saleh was not heard of again. By the end of 1838, Mandailing and Angkola of South Tapanuli and the valleys of the Rokan and Barumun rivers, which are a part of East Sumatra, were thus under Dutch control, secured by a few military outposts. However, van den Bosch's successor, minister of Colonies, J. C. Baud (1839-1848), ordered the withdrawal of military forces stationed in East Sumatra — a total of 9 officers and 510 soldiers in the valleys of the Barumun and Rokan at Portibi, Kota Panai, or Bila, Dalu-Dalu, Indragiri, and several smaller outposts.[12] Only Angkola and Mandailing were retained.

What were the reasons for the withdrawal from East Sumatra? Schadee advances the argument that the establishment of law and order in West Sumatra and the continuation along the coast of East Sumatra drew the trade of the interior of Sumatra in ever increasing degree to the west coast of Sumatra, where the Dutch did not have to fear British competition from Penang, Malacca, and Singapore. It

was obviously of no interest to the Dutch to take on the costly task of establishing stable government and security along the coast of East Sumatra only to share the fruit with British trading centers.[13]

The decision to withdraw from East Sumatra may also have been brought on by the increasing protests of British trading circles against Dutch trade policy, which they considered to be a violation of the commercial clauses of the Treaty of London. John Anderson, for one, protested in 1840 against Dutch violations of the spirit of the Treaty of London by publishing his book on Aceh. In his preface he states:

> The prime object of this work is to draw the attention of her Majesty's Government, and of the British Public, to some of our possessions in a remote part of Asia, and to the native states in the same quarter, which are really objects of great national importance, and might be of material benefit to the interests of British commerce, if steps were taken to arrest the progress of interference on the part of another European power (The Netherlands), which is evidently bent upon engrossing the lucrative trade of the Eastern Archipelago.[14]

The British objected in particular to the introduction of the system of compulsory cultivation of agricultural export crops that placed these crops under government control and their sale in the hands of the Netherlands Trading Company (N.H.M.), preventing the British from sharing in any way in their trade. They protested, further, against the Dutch tariff policy, which had increased the duty on British cottons and woolens from 35 percent to 70 percent between 1824 and 1834 and prevented the importation of British cottons and woolens from Penang or Singapore to any part of the Netherlands East Indies, except to the three Java ports of Batavia, Semarang, and Surabaya. This meant of course that British textiles were excluded from those ports of Sumatra that were under Dutch control. No wonder the British were so anxious to prevent any expansion of Dutch control over East Sumatra, particularly Langkat, Deli, Serdang, and Asahan, whose trade meant so much to Penang.

Abstention was the official Dutch policy in Sumatra in the 1840s. Minister Baud was advised by the former governor of West Sumatra, De Stuers, who argued that the swampy, thinly populated coast of East Sumatra did not merit the outlay of government funds. De Stuers had an obvious interest in directing to West Sumatra the fullest attention of the government. All this led to the temporary withdrawal of the Dutch from the section of East Sumatra that lies south of Asahan.

In the 1850s Aceh began to reach out again toward East Sumatra. Aceh's ruler Tuanku Ibrahim, also known as Sultan Ali Ala'ad-din Mansur Shah, ordered his son, Pangeran Husin, to re-establish Aceh's control over Langkat, Deli, and Serdang. As these East Sumatran states did not receive any military aid from their sovereign, Sultan Ismail of Siak, Husin's expedition was successful. The rulers of the three states accepted seals of office identifying them as Ibrahim's vassals with the titles of *pahlawan, wakil,* and *wazir* respectively.[15]

James Brooke's activities in Sarawak and the establishment of British control over Labuan in the 1840s were protested by the Dutch, who regarded these two actions as violations of the treaty of 1824. The British replies pointed out that the treaty guaranteed interests south of the Strait of Malacca, whereas Labuan and Sarawak were situated at a latitude higher than that of Singapore; furthermore, they called attention to constant Dutch violations of the commercial clauses of the same treaty which the Dutch had cited.

The effect of the Borneo dispute was renewed Dutch interest in political expansion in Sumatra. Governor-General Rochussen, in a decree of 26 September 1845, expressed his desire that Dutch rule be expanded. But in April 1853 Minister of Colonies C. F. Pahud issued directives against further Dutch involvement in the internal affairs of Indonesian states. Dutch sovereignty was not to be extended over such Sumatran states as Aceh and Siak on account of the British interpretation of Article 3 of the London Treaty.[16]

The activities of a British adventurer, Adam Wilson, were the immediate cause for Dutch intervention in Siak. Wilson had come to the aid of Sultan Ismail of Siak in a domestic fight but had demanded such a high price for his aid that the Sultan had refused to pay. When Wilson then attacked him, Ismail turned to the Dutch at Riau for aid. The Dutch Resident of Riau settled the dispute between the sultan and his opponents and forced Wilson to leave the island of Bengkalis. Sultan Ismail, in the Treaty of 1 February 1858, placed the state of Siak Sri Indrapura (the official name of Siak) as well as all the dependencies which Siak claimed at the height of its power, under Dutch sovereignty. This treaty, which proved to be of utmost importance for the subsequent course of events in East Sumatra, overlooked the fact that Ismail had failed to defend his vassals in Langkat, Deli, and Serdang in 1854 and to prevent Aceh's victory. Ismail also ignored Asahan's opposition to Siak's claims. Instead he expected Dutch backing.

Ismail found a strong defender in Elisa Netscher, who was appointed Resident of Riau in 1861. Netscher clearly saw the political implications of supporting Sultan Ismail's territorial claims against those of Sultan Ibrahim of Aceh because it gave the Dutch legal grounds to advance to the border between Aceh and Tamiang.

On 27 March 1862 the governor-general instructed Netscher "to try peacefully to withdraw the states on this coast from the usurped authority of Aceh, and bring them back to acknowledge again that of Siak, and thereby establish Netherlands sovereignty over that part of Sumatra".[17]

In May 1862 Resident Netscher sent Raja Burhanudin on a survey of the states which Siak claimed as its dependencies. Raja Burhanudin reported that Asahan claimed the petty states of Leidong, Kualu, and Batu Bara, refusing to recognize the sovereignty of either Siak or the Netherlands Indies. The territory between Serdang and Tamiang was dominated by Aceh. In short, not a single state was willing to recognize Siak's sovereignty.[18]

On 2 August 1862, Netscher left Bengkalis accompanied by two Dutch and five Siak officials for visits to Panai, Bila, Serdang, Deli and Langkat. The rulers of Panai and Bila were willing to recognize Dutch sovereignty but not that of Siak, since the latter had left them to their fate for a long time. After further discussions they finally agreed to recognize Siak's sovereignty provided the Netherlands Indies would protect them against misuse of power on the part of Siak.

Sultan Basjar Udin of Serdang too was willing to accept Dutch sovereignty, but it took great efforts on the part of Netscher to persuade him to recognize Siak's sovereignty since there had not been any contacts with Siak for years.

Far more difficult were the negotiations with Sultan Mahmud of Deli, who steadfastly refused to recognize Siak's sovereignty but finally accepted a compromise formula associating Deli with Siak on equal terms, both coming under the protection of the Netherlands Indies. A mechanic of the ship on which Netscher traveled chiseled the words "Wakil Sultan Aceh" out of Sultan Mahmud's seal.[19]

The Pangeran of Langkat, who had taken the initiative in February 1862 and had asked for Dutch protection, was ready to recognize Siak's sovereignty, but in view of Deli's claims Netscher avoided an exchange of written declarations. In all other instances Netscher confirmed the ruler then in office in return for recognition of Netherlands Indies sovereignty.

Sultan Ahmad Shah, the Yang di Pertuan of Asahan, lived up to the prediction of Raja Burhanudin and refused to come aboard Netscher's ship for negotiations. Netscher rejected his counter suggestion that they meet ashore, while demanding an explanation within two months of why boats on the Asahan river and some houses on its banks flew the English flag. One month after his return to Bengkalis, Resident Netscher received two letters, one from Sultan Ahmad denying any responsibility for the presence of the English flag and the other from two Chinese — farmers of the opium and gaming monopolies and collectors of custom duties in Asahan — who admitted that they themselves had raised the English flag.[20]

In February 1863 Resident Netscher learned that Aceh was preparing for action against Deli and that Asahan was ready to support Aceh in the campaign. Netscher returned to Deli with two ships and used this second visit to obtain Sultan Mahmud's signature to an agreement which supplemented that signed on 22 August 1862. No sooner had Netscher returned to Riau than a small Acehnese fleet under the command of Raja Muda Chut Latif of Meureudu appeared before the entrances to the Langkat and Deli rivers. But in both instances the rulers refused to meet Chut Latif. Both Serdang and Asahan, however, welcomed the Acehnese. This demonstration on the part of the two states led Netscher to write stern warning letters to the two sultans. While the Sultan of Serdang refused even to accept Netscher's letter, the Sultan of Asahan, probably on the advice of Lawrence Nairne, a Penang businessman, pled "that his state was subject to Aceh, and therefore guaranteed against Dutch aggression by Britain in the 1824 Treaty".[21]

The trading houses of Penang had built up important commercial interests, especially in Langkat, Deli, Serdang and Asahan, which understandably they did not want to lose. The merchants were, therefore, very much disturbed over Netscher's activities along the east coast of Sumatra and started a campaign against Dutch political advances in violation of the London Treaty of 1824 because they had a deep-rooted distrust of the Dutch commercial system.[22]

Although Governor Cavenagh of Penang sent a gunboat to the east coast of Sumatra no less than four times in 1863 and 1864 in the hope that this would strengthen the position of those rulers who opposed Dutch claims, London refused to promise them British protection. Cavenagh's moves were thus empty gestures. With determination Netscher pursued his efforts to overcome all opposition along

the east coast of Sumatra. Batavia authorized him on 27 March 1864 to send controleurs to Panai and Bila, Batu Bara and Deli.[23]

On 25 August 1865 the governor-general ordered an expedition of seven steamers and some 1,400 men to East Sumatra. This gave Resident Netscher the opportunity to place Tamiang under the rule of Langkat, and to declare thus indirectly under Siak the Tamiang river as the boundary between Aceh and the Netherlands Indies. Furthermore, his appearance with such a formidable force brought immediate submission of the rulers of Batu Bara and Serdang. In Asahan, Sultan Ahmad and his brothers fled to the interior, so that Netscher declared Ahmad to have lost his office and appointed his brother-in-law, Naamal Ullah, provisional Yang di Pertuan. At the end of the expedition of 1865 Netscher could claim that the coast between Tamiang and Barumun rivers was under Dutch control.[24]

By the late 1860s the Penang merchants began to benefit from the development of plantation agriculture and did not experience any commercial discrimination by the Dutch, so that their objections to the connection of the East Coast states melted away.

The Treaty of 1871 settled the issue of Aceh. The Dutch received a free hand in Aceh in return for British trading rights on the basis of equality with the Dutch in Siak and her dependencies. This pacified, once and for all, the concern of the trading communities of the Straits Settlements and eased British-Dutch relations greatly. The stage was set for the implementation of the "forward movement" of the Dutch in East Sumatra.

CHAPTER II

EAST SUMATRA: GEOGRAPHIC SETTING

Location and Size

Bounded by Aceh on the northwest, Tapanuli on the southwest, Bengkalis on the southeast, and the Strait of Malacca on the northeast, East Sumatra today covers 31,715 square kilometers or 6.7 percent of Sumatra's total area; but from 1873 to 1941, focal years in the dramatic economic transformation with which this study deals, the Bengkalis territory was administered as part of East Sumatra, giving the famous "east coast" an administrative area of 94,583 square kilometers or about 20 percent of the island's total area.[1] Until 1887 the town of Bengkalis had been the Dutch administrative headquarters for the whole east coast, at which time the seat of government was transferred to the new town of Medan in the heart of the budding plantation region. (Map I)

Physiography

East Sumatra gradually descends from the heights of the (former) Wilhelmina range as well as from the Simanuk-Manuk range, touching the eastern shore of Lake Toba, to the lowlands and coastal swamps along the Strait of Malacca. The two ranges are part of the Bukit Barisan system which, stretching from Kota Raja in the north to Tanjung Cina on the Strait of Sunda in the south, divides Sumatra for its entire length of 1,650 kilometers. Off center, that is, closer to the west coast than to the east coast of the island, the Barisan system has a marked northwest-southeast trend as is likewise true for Sumatra as a whole, a fact which is ignored in the common north-south-west-east nomenclature applied to the island.

a. The Toba region

Between the Wampu and the Barumun rivers the Barisan rises to what van Bemmelen calls the "Batak tumor", a geo-anticline 275 km.

long and 150 km. wide. Its outline on Map II is marked by the 100 m. and 1,000 m. isohypses; its highest points, over 2,000 m. in height, are located around the most striking feature of the tumor, the great Toba cauldron with Lake Toba in its center. The cauldron proper measures about 100 km. by 30 km. for an area of 2,270 sq. km. Lake Toba itself, 87 km. in length, has a circumference of 294 km. and covers 1,776 sq. km. including the island of Samosir. Since this island covers 640 sq. km., the water area of the lake amounts to some 1,130 sq. km.[2]

Ringing the Toba cauldron are such mountains as Sibuatan (2,457 m.) northwest of the lake, Pangulubao (2,151 m.) to the east, Surungan (2,173 m.) to the southeast, and Uludarat (2,157 m.) to the west.[3] All these mountains are composed of pre-Tertiary and early Tertiary rocks, which indicates that the basement complex reaches a height of more than 2,000 m. at the top of the Batak tumor. Steep bluffs of 400 to 1,200 m. mark the edge of the cauldron. The water stands at about 906 m. above sea level and has a maximum depth of 529 m. near Haranggaol in the northeast. (Map III)

Van Bemmelen hypothesizes that the Batak tumor arched up during the Miocene and Plio-Pleistocene periods, lifting the Wilhelmina and Simanuk-Manuk ranges to their present elevation.[4] During the uplift of the tumor, caused by the development of a batholith, fissures originated in the highest section of the tumor that formed the natural orifices of eruption. The ejected material took on the form of "incandescent mixtures of gas and pulverized magma with an admixture of shattered fragments of older rocks from the walls of the outlets. These fiery clouds or 'nuées ardentes' flowed over the surrounding lowlands, following the topographical depressions, as the drainage basins of the Renun, Batang Toru, Kualu, Asahan, and widely spreading over the northeastern slope of the Batak tumor in the Pematang Siantar area." [5]

Some of the ejecta were blown with great violence and deposited as aeolian tuffs as far away as the Malay peninsula, where at a distance of some 300 to 400 km. volcanic ash buried Pleistocene gravel terraces for a depth of about 2 m. With the help of paleolithic hand axes found by Collings (1938) in the Pleistocene gravels buried by volcanic ash at Tampan, West Malaysia, it has been possible to date the great Toba explosion as post-lower Pleistocene.[6] Van Bemmelen estimates that the Toba liparitic tuff-flows cover an area of 20,000 to 30,000 sq. km. around the Toba cauldron and have a thickness of many

hundreds of meters in the central parts. He further estimates that the liparitic tuffs together with the aeolian ashes have a volume of 2,000 cu. km.:

This huge amount of pyroclastics was probably produced by one (or a short succession of) cataclysmic outburst(s), as no distinct stratification has been observed in the tuff-flows, sections of which, many hundreds of metres thick, are exposed in the precipitous bluffs around the cauldron and in the young river canyons. Only in the higher parts of the sections some layering has been observed, which indicates a declining phase of weaker explosions after the major gas-phase, and/or some secondary fluviatile transport.[7]

The eruptions ejected some 2,000 cu. km. of pyroclastics from the upper part of the underlying granite batholith and, as van Bemmelen has hypothesized, this tremendous amount of magma caused the collapse of the overlying vault-roof of the magma chamber, thus creating the great Toba cauldron. So resulted the cauldron, which is a "Kesselbruch", 1150 m. above sea level, as shown by the upper level of the tuff-filling in the Asahan valley and by the terrace at that height around the eastern section of the Toba cauldron. The lake drained over the tuff-fill of the pre-explosion Asahan valley, cut a narrow gorge through the tuff, and gradually lowered the lake level to its present elevation 905 m. Samosir island is a part of the sunken roof of the Toba magma chamber.[8] (Map IV and V)

b. Post-Toba Andesitic Volcanoes of the Karo Plateau

After the eruption of liparitic tuffs and the accompanying caving of the Toba cauldron, volcanic activity continued, creating a series of volcanoes, particularly on the Karo plateau to the north of the lake, especially the important dacito-andesitic complex of the Sinabung (1,450 m.) and the Pintau (2,212 m.)-Sibayak (2,094 m.), all younger than the liparitic tuffs. This andesitic volcanism, which followed the Toba explosion, proved to be especially important for the development of the tobacco industry between the Wampu and Ular rivers, as Druif demonstrated in explaining many of the puzzles which for decades had baffled the planters.[9]

c. The Lowlands and Coast

East Sumatra, lying between the Strait of Malacca and the eastern shores of Lake Toba, is comprised of three sections: the lowlands, the piedmont, and the highlands of Karo and Simelungun. The low-

lands, separable from the piedmont at about the 100-m. contour line, are entirely alluvial in origin. Steeply graded rivers from the Karo and Simelungun highlands have carried enormous quantities of easily eroded volcanic material, ash, and tuff to the lowlands, building up an extensive alluvial plain averaging 30 km. in width. This process continues today at an accelerated rate because of deforestation along the slopes of the highlands, and streams meander widely in the alluvial plain before finding their way to the Strait of Malacca.

The coast between Ujung (Cape) Tamiang near Aru bay and the mouth of the Panai river is low and rather monotonous, fringed either with mangrove and nipa swamps which penetrate inland along the lower courses of rivers or with short stretches of sandy beaches lined with casuarinas. Behind the swamp zone comes the forest zone on *terra firma.* Only a very few of the beaches are suitable for landing due to the swell, particularly dangerous during the northeast monsoon.

The rivers of this section of Sumatra are relatively short; none is comparable in size to the rivers of central and south Sumatra. However, they are navigable for dugouts and small motorized craft. Particularly important are the Langkat, Deli, and Asahan rivers, though the lower courses of all rivers in East Sumatra are subject to rapid silting and must be dredged regularly if shipping is to go uninhibited. Coastwise shipping has deteriorated greatly since the suspension of dredging operations in 1942, and many of the small ports which used to be regularly visited by coastal steamers can no longer be reached. The mouth of the Deli river is no longer navigable, for example, and the town of Tanjung Balai, accessible before World War II to small coastal vessels, is cut off today. The same is true for Bagan Siapiapi, the famous fishing port in the estuary of the Rokan river. When I visited Bagan Siapiapi in 1955, my shallow dugout had to be dragged through the mud at low tide. Only at high tide could I reach the old jetty, even in the dugout, which had been used by coastal steamers as late as 1942. As its name "quay in the mangroves" indicates, the town is located in the mangrove zone, which is especially well developed in the estuary of the Rokan.

d. The Piedmont Zone

Beyond the 100-m. contour line one enters the undulating piedmont zone, demarcated by the 100-m. and 500-m. isohypses. The rivers have cut deeply into the volcanic deposits, and in some instances have reached the Tertiary and pre-Tertiary basement rocks. But most of the

older landscape is buried by liparitic ashes and tuffs. After the great Toba explosion, rivers cut very rapidly through the unconsolidated tuffs and ashes carrying great quantities of this material not only to the plain but as far as the sea and pushing the coast outward at the expense of the sea. This period of rapid erosion and deposition of volcanic materials was followed by a second phase of volcanic activity centered on the Dolok Pintau-Sibayak and Dolok Sinabung. These volcanoes produced great *lahars*, or mudstreams, which spread over the older liparitic deposits and filled the valleys cut earlier by the rivers into the older liparitic formations. The deposits emanating from the Pintau-Sibayak and Sinabung are strictly limited to the area between the Wampu and Ular (Snake) rivers, where smaller rivers forming the boundaries of the younger volcanic formations repeated the erosive action and cut into and even through the younger dacitic and andesitic deposits and then carried the material into the alluvial plains and/or out into the shallow waters of the coastal zone of the Strait of Malacca. The main rivers involved are the Kwis, Percut, Deli, Babura, Belawan, Tuntungan, Mencirim, Bingei, and Begumit. Some of these rivers are navigable for small boats across the alluvial plain but become impassable in the piedmont zone because of their steep gradient and numerous rapids.

e. The Highlands of Karo, Simelungun, and Habinsaran

The third zone covers the highlands north, east, and south of Lake Toba, i.e. the Karo plateau and Simelungun and Habinsaran highlands. Prior to the Toba explosion there may have existed a channel between Gunungtua and Padang Sidempuan in the upper drainage basin of the Barumun connecting the Indian Ocean with the Strait of Malacca so that Sumatra may have consisted of two parts: North Sumatra formed by what are now Aceh, East Sumatra, and North Tapanuli; and Central and South Sumatra.[10] South of Padang Sidempuan, the Bukit Barisan system is considerably narrower than the Toba tumor section to the north and concomitantly the alluvial plain and coastal salt and freshwater swamp zones broaden markedly and reach their greatest width below the equator.

The highland zone from the Karo plateau in the north to the Habinsaran highlands in the south owes its existence to the uplifts of the Wilhelmina and Simanuk-Manuk ranges and the bulging of the Toba tumor. While the Karo plateau ends rather sharply at the 1400 m. contour line in a pronounced drop toward the piedmont zone, the

transition between piedmont and highland sections is far more gradual in the Simelungun and Habinsaran districts to the south. The Wampu river drains the Karo plateau. The Simelungun highlands are drained by rivers which have cut canyons into volcanic deposits covering the Tertiary basement complex. Involved are the Padang, Hapal, Si Paré Paré, and Silau rivers, together with their numerous tributaries. The Habinsaran highlands are drained by the Kuala and Bila and the left-bank tributaries of the Barumun. (The southern border of East Sumatra lies on the interfluve between the Barumun and the Rokan.)

Soils

The key to the understanding of the remarkable growth of the plantation region in East Sumatra is the geology of that area and, closely linked thereto, its land forms and soils. Planters are by necessity keenly concerned with the quality of the soils in considering land for development, and such aspects as climate, rainfall and its distribution, drainage, and vegetation, though important, are less critical as indicators of agricultural development potential.

Bitter experience has taught planters not to judge virgin land, particularly in tropical latitudes, on the basis of its vegetation. It was quite by accident that the pioneer planters in East Sumatra stumbled upon soils of exceptionally high quality. In the veritable land rush set in motion by the spectacular successes of the first plantations, many an eager planter brought under cultivation new land with the same vegetative cover that his successful neighbor had cleared only to find his land lower in soil fertility. Baffled by their failure, the planters called in geologists and soil scientists to investigate the puzzling regional variations in the fertility of soils supporting identical luxuriant tropical rainforest. It has taken a long time to establish the precise reasons but, as we know today, such luxuriant forests can thrive on heavily leached and thus extremely impoverished soils — soils so poor that the land is not worth clearing. Some of the more important pioneer studies in tropical soils were made in East Sumatra.[11]

It so happened that the first plantations were opened on land lying between the Wampu and Ular rivers, but when the planters went beyond these two rivers they discovered to their great disappointment that the tobacco grown outside the Wampu-Ular stretch was not as valuable, with the result that many plantations had to be closed, sold, or converted to crops other than tobacco. In the search for an explanation the scientists began to realize the causal connections be-

tween geology, volcanic deposits, soils, and fertility. Our knowledge of the nature and spatial distribution of the various types of volcanic ejecta covering East Sumatra is extensive and extremely thorough, reflecting the planters' practical interest in mapping the soils of the region. Some fifty years of intensive research by geologists and soil scientists have in fact made East Sumatra one of the geologically best-known parts of Indonesia. It is now clear, for instance, that the ejecta from the Batak tumor were liparitic-rhyolitic and therefore acid in nature, differing radically in chemical composition from the dacitic and andesitic, or basic, ejecta of Sinabung, Pintau, and Sibayak which covered the land between the Wampu and Ular rivers.

For many years planters distinguished among three groups of soils in East Sumatra: red, black (including brown and chocolate), and white soils. Further differentiation of these groups was not made, despite the clear indications of differences in the tobacco itself and the poor prices obtained for crops grown on soils which otherwise seemed the same.

Druif was the first to make a most detailed inventory of the East Sumatra soils. During his investigations the question arose whether all red soils were really one and the same, as had been believed for a long time; this applied also to the black and white soils. The result was a much more elaborate classification which, in addition to the petrographic units of volcanic deposits, i.e. liparitic tuffs, dacitic tuffs, and andesitic tuffs, as well as some *lahar*s or mudstreams, divided the soils of East Sumatra into two other major groups: those formed by the weathering *in situ* of the tuffs and those derived from tuffs carried and redeposited by the rivers in the coastal plain of East Sumatra.[12]

The similarity between the reddish brown top layers of the weathered liparitic tuffs and those derived from the dacitic tuffs, the very slight differences observed between the whitish grey sandy loams and loamy sands composed of liparitic or of dacitic material, or again the even smaller differences between the yellow subsoils of dacitic and andesitic origin made tracing of soil boundaries very difficult. Druif's investigations had to cope not only with the extension of the young volcanic deposits but also with the older Tertiary formations. Crops grown on soils derived from weathered Tertiary rocks had always been poor; so it was important to map these bad spots as accurately as possible in order to guide the managers of the plantations. The very slight differences between the several tuffic soils and the weathered loamy Tertiary sands and soft friable sandstones, also usually red or brown

in color, made differentiation in the field at times uncertain. Furthermore, the division between the Tertiary and Quaternary proved very uncertain. In the absence of reliable petrographic and palaeontological features, Druif used the tectonic principle and postulated that the division between the Tertiary and Quaternary should be at the unconformity, which in many cases can be observed in the field. All undisturbed deposits were assigned to the Quaternary, while all formations that had been folded were relegated to the Tertiary.

Druif applied the method of mineralogical analysis systematically. This permitted him to distinguish five principal residual soils [13] (see Map VI):

1. Soils on Tertiary parent material, found mainly northwest of the Wampu river. The fertility of these soils is quite low.

2. Soils derived from liparitic-rhyolitic tuffs found southeast of the Blumei river. On convex terrain the liparitic soils are highly pervious. This is responsible, in the lowlands, for a thin soil layer, poor in humus even under primeval tropical rain forest. At higher elevations the oxidation of organic matter is slowed due to lower temperatures, so that the highland soils are thicker than lowland soils and contain more humus. These liparitic soils are acid and tend to be highly susceptible to erosion because of their sandy character.

3. Soils found on dacitic-liparitic tuffs.

4. Soils occurring on dacitic tuffs. These may belong to either an older or a younger phase of volcanic activity. Soils which developed on tuffs of the older phase lie between the Bingei and Deli rivers; those of the younger phase are found in three strips running north-south. Although these soils appear to be the same, mineralogical examinations reveal distinct differences.

5. Soils occurring on the youngest lava flows, which are andesitic in nature. The planters call these soils *"zwarte stofgronden"*, or black dust soils. This type shows little cohesion and is easily blown by wind when exposed to the elements. Druif believed that this soil is so young that the ash, consisting of fine sand and silt, has not yet had time to weather into clay. These soils contain a large amount of humus, as high as 13 to 17 percent.

In addition to these five residual soil types, Druif distinguished secondary, or allochthonous, soils deposited by water. These so-called *pamas*, or true river deposits, form strips lying along rivers at about flood level or, in instances of earlier deposits, on river terraces. Varying as widely as the tuffs that became subject to water transport, the

resultant *pamas* can be liparitic, dacitic, andesitic, or a mixture of two or even three types of tuff.[14]

Along the coast we find nothing but soils derived from parent material which was transported by water and deposited in the form of gravel and silt. But even in the coastal lowlands, behind the mangrove and nipa swamps, Druif and his co-workers were able to differentiate the secondary soils on the basis of the nature of the parent material. Only soils formed on alluvial material deposited offshore and thus containing silts transported by different rivers and creeks would not permit a similar differentiation. Since the planters were not interested in the soils nearest to the coast, let us say at a level only five or six feet above high tide, Druif's investigations did not cover the soils of the more recent alluvium.

Mineralogical analysis revealed that the liparitic tuff contains such minerals as volcanic glass, quartz, albite, sanidine, oligoclase, biotite, green amphibole, magnetite, ilemite, zircon, apatite, orthite and spinel. The dacitic tuff contains the same minerals except for orthite but with such additional minerals as strongly colored garnet, brown amphibole, and perowskite, plus a little andesine and green pyroxene. The andesitic-dacitic tuff contains again the same minerals, but with much brown amphibole and somewhat more green pyroxene, much andesine, and very little sanidine and albite. The minerals found in all these tuffs exhibit many differences with regard to relative quantities.[15]

The sediments of the coastal plain show a marked resemblance to the tuffs lying to the south of them, there being much less mixing than had been expected. Abnormal composition can be explained as being caused by the influence of rivers reaching back far enough to the mountains to have sliced through the volcanic layers and to have eroded older formations and plutonic rocks.

Druif's investigations could demonstrate that many instances of abnormal crop development and unexpected differences in the quality of dried and fermented tobacco were due to the fact that this tobacco had been raised on a different tuff from what had been originally believed and also that some strikingly poor results were caused by the influence of Tertiary outcrops not previously noticed.

An old problem could be solved by this mineralogical analysis: the noticeable difference in the general condition of the tobacco plants in fields in different sections of a "division" into which tobacco plantations were divided. These divisions ran east-west, whereas the plantations ran north-south, being bounded on the east and the west

by rivers. The land rises between rivers to an elevation of several meters above the land immediately adjacent to the rivers. The analysis revealed that the higher portions of the divisions, forming the interfluve, are old high-level terraces. Their true character had not been recognized due to the fact that the borderlines between high-level terraces and middle- and low-level terraces had been obliterated by denudation.[16]

The very complicated character of such estates as Gunung Rinteh and others which up to the late 1930s still had primeval jungle along with a great deal of very old second-growth forest and where a high percentage of the soil had been used only once in twenty or thirty years, could thus be explained for the first time. It turned out that such estates had several kinds of tuffs, some mudstreams, older and younger river terraces, and even Tertiary sediments. Little wonder that the tobacco grown in such estates was highly heterogeneous.

The major soils of the tobacco region vary considerably in their pH value. Liparitic soils are quite acid, whereas dacitic and andesitic soils are only slightly acid and have a pH of 6 to 6.7. The quality and price of the tobacco depends upon the soil on which it has been produced. Tobacco grown on either residual or alluvial liparitic soils has a markedly lower value than tobacco coming from dacitic or dacitic-andesitic soils. This is shown in Table 1, which gives the average prices received at the auctions in Amsterdam during the period from 1893 to 1930.

TABLE 1

AVERAGE PRICES OF TOBACCO FOR THE PERIOD FROM 1893 TO 1930, ACCORDING TO SOIL TYPE

Soil Type	Guilders per ½ kg.	US Dollars per lb.
a. Residual soils		
Liparitic ash and tuff	0.90	0.45
Dacitic tuff	1.34	0.67
Liparitic-dacitic	1.51	0.75
Dacitic-andesitic *lahars*	1.70	0.90
Dacitic *lahars*	1.99	0.99
b. Alluvial soils		
Liparitic	1.16	0.58
Dacitic-andesitic	1.81	0.90

Source: J. Barnard Gibbs, *Tobacco Production and Consumption in the Netherlands Indies* (U.S. Department of Agriculture, Office of Foreign Agricultural Relations, Washington, D.C., 1940, mimeo), pp. 12-14.

Mohr called attention to the strange phenomenon of an extensive area between the Asahan river in the east and the Rampah river in the west, containing what Druif called "fluviatile deposits of liparitic material *plus other volcanic material*" (italics added), although there is no "other volcanic material" shown to the south of this area. To justify Druif's map, Mohr suggested that some of the volcanoes to the south, in particular Batopu, Sirapagus, Simarsompah, Simbolon, and Simarito, may have produced basic material rather than the acidic material generally ascribed to the area.[17]

As far as soils are concerned, tobacco plantations may be grouped in three categories: highland plantations with soils derived from Tertiary, liparitic, dacitic, and andesitic materials; piedmont plantations with soils derived from volcanic *lahars*; and lowland plantations with soils which developed on fluvial and marine deposits derived from *lahars* to the south.

Turning to the topography of East Sumatra, an aspect of the region's geography that bears directly on the agrarian conflict of recent years, the Land Planning Office (*Tata Bumi*) in Medan recognized the following topographic units: [18]

1. *The swampy coastal belt, with occasional old, sandy river terraces and old beach ridges (pematang).* The sandy *pematang* areas offer the only suitable location for settlements in these young alluvial coastal areas, which have elevations ranging from sea level to 10 m. above sea level. Such beach ridges are frequently found far inland, indicating a shift of coastline out into the shallow Strait of Malacca. Since the old beach ridges, located at some distance to the south of the present shore line, are not higher than the most recent ones we cannot assume a recent uplift of East Sumatra but must attribute them to silting of the shallow offshore areas.

2. *The coastal lowlands, with elevations from 10 to 45 m.* The coastal plain lies directly to the south of the coastal swamps and, though originally heavily forested and poorly drained, was intensively improved by the planters, who cleared the forest, diked the rivers, and crisscrossed the belt with drainage canals.

3. *The rolling uplands, with elevations from 25 to about 150 m.* The 25-m. contour line, which roughly marks the heads of navigation for small native craft, is today marked approximately by the modern highway paralleling the coast from Binjei in Langkat to Medan, Tanjung Morawa, Tebingtinggi, Kisaran, and points farther south. The near coincidence of the highway and the 25-m. contour line is a natural

consequence of linking the towns at important river junctions whose early development rested on trade between inland producers and sampan owners. The uplands are dissected by swiftly flowing rivers, which have meandered and in some instances developed enough room for broad bands of *pama* soil.

4. *The piedmont,* with elevations from 150 to 500 m. Here the terrain becomes quite broken and rivers are deeply entrenched.

5. *The mountains and highlands, with elevations of 500 m. or more.* These include the Karo plateau and the Simelungun highlands.

6. *The slopes falling south toward the shores of Lake Toba have an upper elevation of from 1,500 to 2,000 m. and a lower elevation of 900 m., which represents lake level.* The upper slopes are very steep in places but the lower slopes are terraced and intensively cultivated, as are the narrow bands of level land near the lake, particularly on the north side. In part, the boundary between East Sumatra and Tapanuli follows Lake Toba.

On the highland plantations rivers are deeply entrenched, in the piedmont belt rivers are less deeply incised, while the lowland plantations have shallow rivers which meander between low natural levees easily topped by rivers during the rainy season. Thus on the lowland plantations land beyond the levees is frequently flooded, which in turn encourages subaquatic and semi-subaquatic weathering. Highland plantations require careful anti-erosion measures such as terracing and protective forest cover but present no problem as to drainage; lowland plantations on the other hand have little or no erosion problem but require costly drainage measures such as strengthening of the natural levees by dyke and dam construction, digging of drainage canals, installation of automatic floodgates to permit evacuation of water at low tide and prevent penetration of sea water at high tide; pumping of water out of enclosed polders.

The early planters of East Sumatra, after a costly period of trial and error, developed an acute awareness of those geologic and topographic conditions essential to the success of any plantation venture, so that, as subsequent chapters will show, the history of the area and the outline of the agrarian conflict there have been shaped largely by the regional variations in topography and soils. The differences in temperature, rainfall, and drainage are less marked.

Climate

Located between the equator and a 4° N. latitude, East Sumatra

has a tropical coastal climate which in its microclimatic features is further influenced by topography: the extensive highland areas of the Batak tumor, the Karo plateau, the Simelungun highlands, and the Habinsaran highlands. Temperatures reflect the steady rise in elevation from sea level near the coast to 1,500 m. on the Karo plateau and in the Simelungun highlands between Pematang Siantar and Lake Toba. In the coastal areas the temperature averages about 25° C., with a maximum of 32° C. The coastal lowlands enjoy land and sea breezes and are relatively cool at night. Since temperature decreases by 0.6° C. per 100 m., the temperature of the highlands is markedly lower than that of the lowlands. In higher elevations the temperature lowers to an average of 12° C. and a range of between 5.5° C. and 18° C.

The plantation belt of East Sumatra has its own series of "hill stations" on the shores of Lake Toba at 900 m. elevation, especially at Prapat, and at Berastagi and Kabanjahe on the Karo plateau. The differences in elevation between the coastal and lowland areas of the north and highland areas to the south also produce considerable variations in rainfall, which tends to increase with elevation. Thus Medan has an average of 142 rainy days, with an annual average of about 2,000 mm., while Pematang Siantar, in the Simelungun highlands, averages 127 rainy days but almost 3,000 mm. of rain per year. Medan has only one month with a monthly average of less than 100 mm. of rain, whereas Pematang Siantar does not show any month with an average of less than 100 mm. The annual rainfall gradually increases at first with elevation, although in the immediate proximity of the coast rainfall is higher than about 5 km. inland. The highest rainfall is observed on the lower slopes of the highlands whereas on the plateaus the rainfall decreases. Bandarbaru (864 m.) on the slope has a rainfall of 6,800 mm. per year while Berastagi, 10 km. from the outer rim of the Karo plateau, has an average rainfall of 1,900 mm.

According to Köppen's climatic classification, the parts of East Sumatra with elevations between sea level and 1,000 m. have a tropical rainforest, or *Af*, type of climate whereas the highlands with elevations above 1,000 m. have a humid mesothermal, or *Cf*, type of climate. The annual temperature amplitude of less than 5° C. Köppen indicates by the letter *i*. The letters *w* or *s* indicate the dry season either in "winter" or in "summer" of the respective hemisphere. Thus Köppen's climatic formula reads *Afwi* for the coastal belt of East Sumatra to a depth of about 60 km. where February or March are

the driest months, and *Afsi* for the lowlands with June or July as the driest months. Land with elevations above 1000 m. belong to Köppen's *Cfsi* type of climate.

Köppen does not take into consideration the ratio between evaporation and rainfall, as Mohr does.[19] Mohr in his soils studies uses a climatic classification which assumes that precipitation exceeds evaporation if the monthly rainfall is above 500 mm. Such months are regarded as "wet". Months with a rainfall of more than 350 mm. but less than 500 mm. are considered "humid", while Mohr classifies months with a rainfall of less than 350 mm. as "dry". According to Mohr's classification East Sumatra has a climate without "dry" months, and even "moist" months are the exception.

From the point of view of an agronomist the difference between Köppen's *Af* and *Cf* is important, because lower temperature tends to retard the weathering processes; vegetative matter decomposes, or oxidizes, less rapidly in the highlands and therefore permits the formation of more humus. In the uplands, the combination of high rainfall and high temperatures all year round produces the problem of continuous leaching and of erosion. One by-product of this erosion is silting in the lower courses of the rivers and at their mouths, reducing the speed with which water drains into the Strait. Sand bars form rather quickly in the slow currents and make the entrance into the rivers difficult. These conditions, in turn, lead to extensive floods which can cause a great deal of damage to settlements, roads and crops. More will be said concerning the problems of silting, floods, and the destruction of tree crops of plantations.

An even greater problem, and one at the heart of the tensions between Western planters and Indonesian peasantry in the 1950s, is presented by the very extensive erosion attributable to widespread destruction of the natural forest vegetation. In the 1950s Western planters were blaming accelerated erosion and deterioration of the drainage on the unbridled deforestation, especially on the slopes of the highlands. Careful examination of the historical records reveals that the planters certainly contributed as much if not more than the Indonesian peasants to the destruction of the forest cover and were responsible for the problems which had already become apparent in the early days of the present century and had forced the government to establish special councils or committees for the control of deforestation and accelerated erosion and the concomitant problems of drainage and flood control.

An important climatic feature of East Sumatra is the strong winds which develop in the months of July to September along the escarpment and along the river valleys, descending from the Batak tumor through the piedmont zone to the lowlands. These falling winds are called *Bohorok* and can be compared with the alpine *Föhn* winds of Austria, southern Germany, and Switzerland. The name *Bohorok* is taken from the valley of the Bohorok river, a tributary of the Wampu river, deeply entrenched when descending from the highlands to the lowlands of Langkat. The *Bohorok* winds are feared by the planters because of their devastating desiccating effect. They displace the sea breezes which blow inland during the day.

A similar phenomenon is the "Sumatran" of the seamen sailing the Strait of Malacca. In July, August and September it is common during the evening hours for very strong, sudden storms associated with heavy downpour to develop. These too descend from the Barisan system, cross the lowlands, and continue into the Strait of Malacca. In the late afternoon one can see the build-up of cumulus clouds over the mountains and hear in the far distance the rolling of thunder. The clouds begin suddenly to move with great speed in the direction of the Strait of Malacca and the Malay peninsula. Just as suddenly the skies open up and the tropical downpour sets in. Sailors who observe these winds approaching from the Sumatra-side call the storms "Sumatrans".

Vegetation

Our data regarding the original vegetation of East Sumatra are meager compared to our knowledge about soils. The early planters made practically no observations, or at least did not record observations, about the vegetation which they were destroying with alacrity. It is safe to say that the natural vegetation of East Sumatra consisted of various types of forest ranging from tidal forest along the coast through freshwater swamp forest and evergreen tropical rainforest up to submontane and montane forests in the highlands. One hundred years ago the land between the coastal swamp forest and the highlands was covered with primeval tropical rainforest and second-growth forest, as well as small patches of cultivated perennial vines and fruit trees together with *ladang*s used for brief periods for the cultivation of annuals. It is justifiable to assume that a high percentage of the cover consisted of primeval rainforest if only because the early planters,

who for so long equated their good tobacco crops and such primeval forest land, concentrated there.

Where the coastal waters are sheltered, shallow, and muddy, the environment is ideal for the development of tidal forests made up of a variety of mangrove trees belonging to several genera and three unrelated families, such as the *Avicennia, Rhizophora, Bruguiera,* and *Sonneratia* species. The sequence of the mangroves reflects changes in the environment. Frequently *Avicennia alba* Blume is the pioneer in waters facing the open sea while *Rhizophora mucronata* Lam is found along river channels, followed farther inland by *Rhizophora conjugata* Kurz. In brackish water behind the mangrove belt follows *Nipa fruticans* Wurmb., a palm which became very important for the planters as a source of shingles, or *atap,* needed in great quantities for the sides and roofs of the tobacco drying sheds.[20]

The brackish swamp-forest belt is succeeded by the freshwater swamp forest with *Ficus* species, *Shorea sinkawang* Burck, *terentang* or *Campnosperma auriculata* Hook., and Sago palm (*Metroxylon sagus* Rottb.). Along stretches of sandy shores, such as near Pantai Cermin, the mangroves give way to such trees as *Casuarina equisetifolia* Linn. and *Barringtonia* species, then to *Pandanus* and the creeper *Ipomoea pes-caprae* Roth.

On higher ground behind the freshwater swamp forest originally followed the broad belt of the evergreen tropical rain forest, which suffered more at the hands of the autochthonous people and the planters than did any other vegetation zone; it has given way to second-growth forest, perennial cultivated crops such as coconut palm, rubber, oilpalm, and sisal, to fruit orchards, to swidden and permanent fields used for the cultivation of annuals, and finally to *alang-alang* consisting of *Imperata cylindrica* Beauv. and other grasses.

A high percentage of the trees in the tropical rain forest probably belonged to various genera of the family of *Dipterocarpaceae,* as for example several *Shorea* species and *Hopea* species. The family of the *Leguminosae* was represented by the *Toalang,* or bee tree (*Koompassia excelsa* Taub.), which the planters were not permitted to cut on account of the numerous beehives collected by the local population.

During the first three or four decades that the tobacco industry operated, land cleared for the raising of wrapper tobacco was quickly taken over by *Imperata* species and other tropical grasses, so that vast expanses of man-made savannas replaced the rainforest because frequent grass fires prevented natural reforestation.[21] So long as the

planters believed that their land could produce only *one* tobacco crop, they did nothing to combat the spread of grasses. Once they realized, however, that they had been far too pessimistic and that tobacco could be planted repeatedly provided the land lay fallow under the second-growth forest, or *blukar,* for not less than seven or eight years, they took measures to prevent the burning of the grasses and the concomitant killing of young trees by planting fireguard belts of teak, or *Tectona grandis,* along public roads [22] and to encourage speedy natural reforestation with such pioneer light-loving trees and shrubs as *Macaranga* and *Trema* species, *Melochia umbellata* Stapf, *Callicarpa tomentosa,* Murr., and *Abroma augusta* L. Some planters also seeded such fast-growing leguminous trees as *Albizzia falcata* Backer, *Cassia siamea* Lam, or Johor tree, *Pithecolobium saman* Benth., or raintree, and *Leucena glauca* Benth., or peteh china. Some plantations seeded this last in belts inside their concessions to serve as firebreaks.[23] These actions greatly altered the physiognomy of the tobacco plantations, as second-growth forest smothered the grasses and spread steadily at the expense of the savannas.

In most of East Sumatra, plantations extend inland up to the 300-m. isohypse; the exception is Simelungun, where tea plantations reach elevations of 1,000 m. or more and have displaced the submontane and montane rain forests which originally covered land above 600-700 m. Extensive parts of the submontane and montane forests in upper Langkat, Deli, and Serdang were declared forest reserves in order to prevent their destruction by shifting cultivators and to protect the watersheds.

The montane forest zone of Langkat and Deli ends at an elevation of 1,400 m., the height of the northern part of the Karo plateau. This plateau, which is bordered in the south by the Wilhelmina range, is deforested open country covered partly by extensive grasslands, partly by permanently cultivated fields. On the valley floors of rivers which have cut deeply into volcanic ashes and tuffs, one finds bands of wet-rice fields, while the higher sections of the plateau are usually unsuited for wet-rice cultivation because the land is too pervious. On the Karo plateau, forests are limited to the sides of the often canyon-like valleys and to the slopes of volcanoes, such as the Sinabung and the Pintau-Sibayak, which rise well above the plateau level to elevations of 2,000 m. and more.

The Karo plateau lies outside the plantation belt of East Sumatra. The planters went to the plateau only for the rest and recreation

offered by its cool climate. Many companies provided bungalows for their employees at the hill station of Berastagi.

The Karo Batak for their part have learned to use their land for the cultivation of potatoes and a wide variety of mid-latitude vegetables, flowers, and citrus fruits, for which Medan and the plantations furnish an excellent market.

CHAPTER III

NIENHUYS AND THE PIONEER PLANTERS

On board the sailing vessel *Josephine* as she dropped anchor in the estuary of the Deli river on 6 July 1863 were Jacobus Nienhuys and representatives of J. F. van Leeuwen and Co., owners of the ship. The role of the Dutch tobacco firm from Surabaya ended about three weeks later with the return of the *Josephine* to Java, but for Jacobus Nienhuys this was to be a historic day both in his life and in the development of East Sumatra. Also on board was Saïd Abdullah Ibn Umar Bilsagih, self-styled prince, whose stories of large quantities of fine quality tobacco growing in Deli had brought the expectant party there.

For Nienhuys the arrival of Saïd Abdullah in Surabaya a few months before could hardly have been better timed. On 27 September 1861 Nienhuys, a young Dutch planter, had been given power of attorney by Pieter van den Arend and Consortium, an association formed less than a week earlier by four Rotterdam merchants intent on acquiring a tobacco plantation in Java. The instructions to Nienhuys had been to choose a small estate of 75 to 150 hectares in a district having easy access to a harbor and offering room for possible future expansion and a population familiar with the cultivation of tobacco.[1] But such an estate had proved exceedingly difficult to find, and Nienhuys had been able to do little more in 1862 than buy tobacco for his employers.

The following year, at the insistence of the Consortium, Nienhuys had rented the estate "Tempeh" near Lumajang in the residency of Besuki in East Java, but after a few weeks he had appointed a manager for the estate and had decided to resume his search for suitable tobacco land.[2] At this moment the Surabaya trading house, J. F. van Leeuwen and Co., business friends of P. van den Arend, had invited Nienhuys to meet Saïd Abdullah in order to hear his glowing account of Deli as a potential tobacco-producing region. Nienhuys had been as favorably impressed as had the Surabaya businessmen.

Together with the representatives of J. F. van Leeuwen and Co., Nienhuys had decided to accompany the prince to East Sumatra. There had been three stops en route to Deli, the first a call on Resident E. Netscher in Riouw. Brief trips in August 1862 and March 1863 had made Netscher one of the very few officials who had even a slight knowledge of East Sumatra. Proceeding to Singapore the party had stocked up on such trade goods as opium and textiles and, following Netscher's advice, a good supply of "pilaar dollars", the currency used in East Sumatra.[3] The last stop had been the island of Bengkalis in Siak, where Nienhuys and his companions called on Assistant-Resident Arnoudt, the official immediately responsible for the administration of Deli, though at the time the petty state of Deli was claimed as part of the Netherlands Indies only on paper. Arnoudt could not, however, add anything to what Netscher had related.

The first sight of kampong Labuan was a shock. The kampong consisted of two winding streets lined by a jumble of lightly constructed houses of bamboo, *nibung* palm, or other readily available materials, all so close that one house often touched the next. Here and there were houses with wood plank sides, but roofs were invariably *nipa atap.* Most of the houses stood on piles about three feet above the ground and had covered verandas along the front, facing the street, which served as a place to display merchandise for sale or simply where one could sit. But the run-down condition of most houses, large accumulations of debris everywhere, and the well-advanced deterioration of roads and gutters gave the whole town an unmistakable air of neglect and decay.[4]

Looking for the "palace" of the sultan of Deli, Nienhuys and his companions found a larger house of sawn timber at the end of the road that paralleled the river. Its roof, like all others in the town, was *nipa atap,* but there were verandas both front and back. The front veranda, measuring about 90 by 30 feet, afforded ample space for large gatherings and Netscher wrote of once having seen hundreds of people in Acehnese dress, armed with krises and long Acehnese swords, milling around on the sultan's veranda.

Both Netscher and Nienhuys estimated the population of the kampong itself at about a thousand, including some twenty Chinese and a hundred Indians (mostly of mixed blood), and the population of Deli proper, the sultan's territory, at two thousand. The income of the sultan was believed to be only about 1,000 Straits dollars a year. Netscher, familiar with Anderson's 1823 account of pepper cultivation

in Deli, had noted earlier in 1863 the obvious decline of the industry and had elicited as explanation that constant intervillage warfare disrupted any attempt to replace the older pepper stands now in a state of natural exhaustion. The revival of the pepper industry, Netscher was convinced, would follow establishment of law and order in East Sumatra. As for tobacco, Nienhuys and his party found Abdullah's annual production figure of 30,000 piculs to be a wild exaggeration and Abdullah himself of dubious character and little influence in Deli.[5]

When after three weeks his travel companions returned to Java, Nienhuys stayed in Labuan and rented a palm-thatched house from the sultan. Nienhuys' first order of business was to get permission from his employers to transfer activities from Java to Sumatra. He promptly sent off a letter outlining a plan to apply for the sole right to buy Deli tobacco produced by the local population, to plant an experimental crop area of 75 hectares, and to obtain an option on another 300 hectares. But an exchange of correspondence between Sumatra and The Netherlands took several months and Nienhuys was still waiting for an answer when forced to write again, in a letter dated Singapore, 3 November 1863, that during his temporary absence from Labuan his house had been ransacked by Abdullah, who had straightway lost in gambling Nienhuys' supply of trade goods valued at about 1,000 Straits dollars.[6] Though the loss was a blow, van den Arend and his accociates, with remarkable determination, proceeded to approve Nienhuys' plan, authorizing the hiring of Chinese laborers to plant the 75 hectares of tobacco and money advances to Karo-Batak tobacco growers to stimulate their production.

The first small shipment of tobacco from Nienhuys arrived in Rotterdam in March 1864 and van den Arend, well impressed with this sample of what Deli could produce, wrote to Nienhuys, extending a new credit of 5,000 pounds and suggesting all his energies be devoted to further development of his pilot project.[7] But a strain in the relationship between Nienhuys and the Netherlands office was becoming noticeable in the letters slowly passing back and forth. Nienhuys, disregarding van den Arend's cautions against dispersal of capital resources, continued to send reports on his trade in salt and his plans to plant coffee and cacao in partnership with the sultan of Deli. From Rotterdam came letters in which van den Arend kept reiterating the Consortium's exclusive interest in tobacco. When the 1864 tobacco harvest proved disappointing, Nienhuys boldly asked for either another liberal grant of funds or an agreement permitting Nienhuys to take

over the Deli estate from his employers. The Consortium reluctantly furnished the funds and at the same time informed Nienhuys that the French-Swiss trading house Matthieu and Co. of Singapore was authorized to pay 25 guilders per picul of tobacco delivered in Singapore.[8]

The credit with Matthieu and Co. was encouraging, but for Nienhuys the far more urgent problem was labor. Tobacco cultivation, particularly that of cigar-wrapper tobacco, is most labor-intensive and, as other planters in various parts of the tropics have learned, the population of a thinly populated area that has plenty of land at its disposal and that practices swidden agriculture is never willing to work regularly six days a week from morning to nightfall. Neither the Malay nor the Karo-Batak element was prepared to work for Nienhuys with any regularity. Nienhuys had tried bringing in a few Javanese hajis from Penang to supervise the Malay and Batak cultivators, but the outcome of that experiment was 50 bales of tobacco shipped in July 1865, only part of which had been produced on the estate. The shipment arrived in Rotterdam early December 1865 and brought a low 0.48 guilders per half kilogram.[9] Next Nienhuys went to Singapore and hired 120 Chinese laborers who knew nothing about tobacco cultivation but were willing workers. At the end of the season, he dispatched 189 bales of tobacco, which had been produced in 1865. The tobacco was of high quality and showed great care as well as expert treatment. Prices received at auction for the shipment ranged from 0.42 to 2.51 guilders per half kilogram for an average of 1.485, an encouraging price but still too small a shipment.[10]

The idea of entering into a contract with his Chinese laborers and paying them on the basis of the quantity and quality of the tobacco produced by each individual laborer first occurred to Nienhuys in 1866 and it is this system, as modified to meet changing conditions, that has been in force to the present day. The principle is simple: the field laborer in the tobacco industry receives advances during the course of the year and his account is settled once the tobacco has been delivered to the drying sheds of the tobacco company.

But Nienhuys' solution of the labor problem came too late. By now his operations had entailed losses both in Java and in Sumatra. Still not convinced that tobacco cultivation in Deli had a future, Nienhuys continued to suggest investments in coffee, nutmeg, and coconut, to the increasing irritation of van den Arend and his associates. Finally, in a letter of 15 November 1866, Nienhuys asked to be relieved of his

assignment, and a letter of 20 January 1867, from Rotterdam, instructed Nienhuys to transfer the management to W. P. H. de Munnick.[11]

Nienhuys arrived in The Netherlands in rather poor physical condition in August 1867.

Other Deli Pioneers

As the first land contract with the ruler of Deli, a 99-year contract with a minimum of provisions, had been issued to Nienhuys personally, administrator de Munnick negotiated a new contract calling for the lease of 2,000 *bouws* of unimproved land for a period of 99 years, without rental but with all products produced on the land subject to the usual export duty. (Nienhuys had been successful in persuading the sultan to reduce the duty from an original 2.00 to 0.50 Straits dollars per picul.) The signing took place on 8 April 1867 with de Munnick representing Pieter van den Arend and Consortium and van Cats Baron de Raet, who had been appointed in June 1864 as the first district office in Labuan-Deli, representing the Netherlands colonial administration.[12]

During 1865 and 1866 — the exact dates are uncertain — two Swiss, Mots and Breker, and a German planter, B. von Mach, had arrived in Deli, followed a little later by another five planters. All of these pioneer planters were interested in tobacco, nutmeg, and coconut but experimented also with coffee and thought even of sugar and indigo cultivation. The nutmeg and coconut gardens which the European planters operated were leased from the local people, who had several years earlier begun commercial plantings of nutmeg trees and coconut palms.[13]

The importance of peasant production in the trade of Deli immediately following the establishment of Dutch control is revealed by statistical data which the first district officer for Deli obtained from the Indonesian in charge of the collection of export duties in Labuan. The figures were undoubtedly too low, van Cats Baron de Raet explained, the *bandar* being for obvious reasons interested in underreporting exports. (See page 37.)

The first district officer's report referred as well to three planters who had by 1867 settled south of Labuan: one was planting tobacco and coconuts; another had rented a nutmeg orchard with 2,000 trees already in production, had planted 20,000 coconut palms, and was about to plant 10,000 additional nutmeg trees which, at the time of his writing, were in a nursery; the third, too, had rented a neglected

nutmeg orchard and was about to plant an additional 20,000 trees.[14]

Side by side with the European planters, probably inspired by their activity, the local aristocracy too were busily planting export crops. Raja Jin Abidin had employed some freed slaves to plant 3,000 coconut palms, according to van Cats Baron de Raet's report for 1866, and planned to increase his grove to 10,000 palms. At about the same time, Raja Musa planted 3,500 coconut palms, 6,000 coffee bushes and 1,400 nutmeg trees.[15] Nor did the Consortium lag in this race to plant. Nienhuys' successor, de Munnick, shipped only 210 bales of tobacco in 1867 — again a disappointing year for the Consortium — but in 1869 de Munnick opened up a new plantation in the district of Sunggal, directly to the west of the first estate opened by Nienhuys, and by November some two hundred laborers were at work clearing the forest in preparation for tobacco cultivation. By March 1870 an impressive 120,000 tobacco plants had been transplanted from the seed beds into the fields; by June some 2,000,000 plants were in the fields, two hundred piculs of tobacco had already been bundled, and eleven tobacco drying sheds were full of tobacco.[16] The Consortium held 5,000 *bouws* (3,500 hectares) of tobacco land by 1871 and — despite a continued reluctance to invest in anything but tobacco — 30,000 nutmeg trees and 16,000 coconut palms. Clearly there was still no one in Deli who had grasped the long-range future of the tobacco industry in East Sumatra.[17]

TABLE 2

EXPORTS FROM THE SULTANATE OF DELI, 1863 TO 1867

Commodity (in piculs)	1863	1864	1865	1866	1867
Black pepper	17,600	38,860	19,200	5,000	3,400
Tobacco	373	507	801	1,200	1,300
Nutmeg	620	9,100	4,260	3,855	9,980
Betel nuts	—	—	120	400	345

Source: J. A. M. van Cats Baron de Raet, "Vergelijking van den vroegeren toestand van Deli, Serdang en Langkat met den tegenwoordigen", *Tijdschrift voor Indische Taal-, Land- en Volkenkunde,* 23 (1876), p. 34.

The Founding of the Deli Company

The chief reason for Nienhuys' return to The Netherlands was to seek new financial backing for his activities in East Sumatra. Soon after his arrival in Amsterdam he was able to gain the necessary

backing of G. C. Clemen, an Amsterdam tobacco trader, and of P. W. Janssen, a merchant of the same city. Janssen, Clemen, and Nienhuys became partners with equal shares in a firm capitalized at $ 10,000. By late December 1867 Nienhuys was back in East Sumatra where he obtained a 99-year concession for a large tract between the Deli and Percut rivers. His first crop, in 1868, cost 30,000 guilders to produce and yielded 67,000 guilders at auction. The next year brought even greater profits, the respective amounts being 36,400 and 87,200 guilders.[18] His earlier experience was paying off. Impressed by the obvious success of the Janssen-Clemen-Nienhuys partnership, the Nederlandsche Handel Maatschappij (N.H.M., or Netherlands Trading Company) was ready to establish a limited liability company (*naamloze vennootschap*) in Deli together with the trio, in which the N.H.M. held 50 percent of the shares. The Deli Maatschappij (Deli Company) was the first such company to be established in East Sumatra or, in fact, all of the Netherlands Indies; up to 1869 enterprises had been developed by merchants and proprietor planters operating alone or in partnership. The necessary papers were signed 28 October 1869 and received royal approval 16 December 1869.[19]

Janssen, Clemen, and Nienhuys brought the following assets into the newly established Deli Company (Deli Maatschappij):

(1) The estate Carlsruhe, with buildings and oil distillery for the extraction of nutmeg oil.

(2) A lease on the nutmeg grove of Raja Abidin, which had 3,600 producing trees and yielded 2,500 Straits dollars in return for a rental of 600 Straits dollars per year.

(3) The nutmeg plantation Vesuvius, with 9,000 trees not yet in production.

(4) The nutmeg plantation Catsburg, with 4,000 trees not yet in production.

(5) The coconut plantation Hospitality, with 20,000 palms not yet in production.

(6) The 99-year, rent-free land concession of B. von Mach, since 1867 a business partner of Nienhuys, who had planted nutmeg trees and coconut palms.

(7) The land concession of J. Nienhuys at Rengas Kupang, also rent-free with a duration of 99 years.[20]

The Deli Company, proceeding with plans developed by Nienhuys, concentrated on tobacco production but also maintained an interest in nutmeg and coconuts. Falling markets, however, forced an abandon-

ment of coconut cultivation in 1876. By the following year it was evident that the nutmeg industry of East Sumatra was doomed, too, and in 1882 the company wrote off all its investment in nutmeg as well. Always vitally interested in tobacco and throughout its history the leading producer of wrapper tobacco in East Sumatra, the Deli Company nevertheless subscribed to a policy of diversification, entering other fields of tropical agriculture as opportunities offered themselves and writing off those that proved unencouraging. Between 1880 and 1891 the company experimented with coffee, between 1879 and 1884 with cacao, between 1879 and 1886 with ramie.[21] In 1901 the Deli Company turned its attention to rubber and by 1955 had about 20,000 hectares under that crop.

The company enjoyed very great prestige in planters' circles becoming, in fact, the real power in East Sumatra as its plantation empire spread through Deli, Serdang and Langkat. At the time of its founding, the company held about 7,000 hectares; by 1941 holdings had grown to no less than 180,000 hectares. In many instances, the original applications for land concessions were made by individual planters or by companies which subsequently sold their holdings to the Deli Company. During periods of depression, the company took over many plantations whose owners had financial difficulties.

For unexplained reasons Nienhuys repatriated to The Netherlands prematurely in 1871 but remained closely connected with the Deli Company until 1927, serving on the board of directors from 1880 to 1927. Rumors have it that the sudden repatriation of Nienhuys is linked to the mysterious disappearance of Saïd Abdullah Ibn Bilsagih. His successor was J. T. Cremer, who served in East Sumatra as *administrateur,* or manager, of the Deli Company from 1871 to 1883 and in The Netherlands as a director from 1888 to 1923. Cremer, building on the foundation laid by Nienhuys, had a great influence on the development of East Sumatra and was a leading personality among the planters. It was Cremer, for example, who initiated plans for the Deli Planters' Association (*Deli Planters Vereeniging*), founded 23 April 1879 to represent the tobacco growers of East Sumatra in their relations with both the petty princes (the so-called *Zelfbestuurders*) and the Netherlands Indies government. The main concerns of the Association were agrarian problems, labor regulations and the importation of laborers — first from Malaya, then from China, and finally from Java. In all other respects, each company represented in the Association acted independently and in competition.

The Senembah Company

Among the many companies operating in East Sumatra after 1870, a few deserve special note for their unique contributions to the development of social features that improved the relationship between planters and their laborers or the conditions under which the latter worked. Perhaps the most important was the Senembah Company, which operated in the state of Serdang adjoining Deli. This company's predecessor was a partnership firm established by C. Grob, a Swiss, and H. Naeher, a Bavarian, who came to East Sumatra in 1870 and were employed at first by Albert Breker, another Swiss, the founder of the estate Helvetia north of Medan which specialized in nutmeg and tobacco cultivation. In 1871 Grob and Naeher applied for their first land concession of 5,300 hectares on the banks of the Blumei river near Tanjung Morawa in the state of Serdang. Over the following eighteen years the firm expanded its concession area until it controlled the Blumei valley on both sides of the river from near the coast to the mountains. Near the mouth of the Serdang river, through which the waters of the Blumei reach the sea, lies Rantau Panjang, a small harbor which served the petty state of Serdang as Labuan served Deli. For about twenty years the Grob and Naeher plantations shipped their products in sampans downstream and obtained all their supplies via Rantau Panjang.

The Swiss-German colony at Tanjung Morawa was a self-contained community which in the early days had little to do with Deli in the absence of any overland connection. Convinced of the importance of a well-educated staff, Grob and Naeher recruited employees who had received good academic and practical training in agriculture in Europe. This gave the Tanjung Morawa planters a reputation for scientific leadership. There was emphasis too on medicine, with the result that the doctors of the Tanjung Morawa hospital were esteemed for their investigations in tropical medicine.

The soils of the Grob and Naeher plantations in Serdang proved to be slightly inferior to the Deli soils and produced a large, thick, dark-colored tobacco leaf. The latter was, however, no serious drawback so long as the American cigar industry bought thick tobacco leaves, since these were subject to a duty of only $ 0.35 against a rate of $ 0.75 per pound for thin leaves. But the coincidental combination of growing consumer preference for light-colored wrapper tobacco and the elimination of the lower duty rate for thick tobacco leaves in the United States seriously reduced the profits of the firm Grob and

Naeher. This development plus Grob's poor health led the owners of the firm to look for a buyer of their holdings. At the suggestion of the directors of the Deli Company, which since 1875 had marketed the tobacco produced by Grob and Naeher, the firm was converted into a limited liability company. The statutes of the Senembah Company gained royal approval on 30 September 1889.

From 1889 until 1927, Dr. C. W. Janssen, son of P. W. Janssen, co-founder of the Deli Company, directed the Senembah Company. Thanks to his pronounced philantropic bent, the company under his leadership repeatedly pioneered in the field of employee and labor welfare. In 1896 the company introduced the pension system for its European staff. Janssen had a special interest in the education of the Javanese children who grew up on estates of the Senembah Company. He rejected the government's elementary education program which used Malay as the language of instruction. Instead his plan called for employment of Javanese teachers who instructed in Javanese in the morning and supervised light practical work in the afternoon. Each child received breakfast in school and each boy was assigned to a small garden plot to plant and maintain. The majority of the boys and girls who passed through these schools took employment on the estates. Janssen also saw to it that the company improved the housing for its older Javanese laborers by gradually replacing the traditional barracks for laborers with one-family houses each surrounded by a lot of 700 sq. m. partially planted with fruit trees. The houses were grouped to create the atmosphere of a Javanese desa and it was not long before the managers noticed a lower turnover among laborers living in these one-family houses than among those housed in the old-style barracks.

The Senembah Company carried on the tradition of good medical care established by its predecessors and even intensified it when cholera, typhus, dysentery and malaria caused heavy losses in human lives among the laborers. Dr. W. Schüffner, brought to Tanjung Morawa to study the connection between the high death rate and the local environment, succeeded within a few years in sharply reducing the death rate and attained fame in medical circles as a pioneering specialist in tropical medicine. His great concern for preventive care is well illustrated by his recommendation that laborers working in the field be provided with tea in order to prevent their drinking polluted water, the main cause of dysentery. With obvious satisfaction Janssen recorded that the Senembah Company had succeeded in lowering the death rate among its laborers to a level that even under

European conditions could be considered normal.[22] Several innovations adopted by the Senembah Company were followed by other companies in East Sumatra.

The Years of Trial and Error

The early planters held the firm belief that the forest soils of East Sumatra, once cleared, were good for only one tobacco crop — at least, of the fancy wrapper tobacco for which East Sumatra was rapidly becoming famous. So long as this view prevailed, planters felt compelled to experiment with new crops on former tobacco lands and to keep looking for new land concessions in order to protect their future in the highly profitable tobacco industry. As older companies were in avid competition with newcomers for land, the hunt for agricultural concessions quickly extended beyond the boundaries of Deli through Langkat to the border of Aceh in the northwest and through Serdang as far as Asahan in the southeast.

In the late 1880s and early 1890s, two important developments took place. The first related to the harvesting of tobacco. Although it was the traditional Batak custom to remove only two ripe leaves at a time from a plant, as described by Anderson, the European planters had been harvesting the whole plant at once. This meant that the harvested leaves were at various stages of the ripening process. Only after the European planters had found this method wasteful did they adopt the principle of gradual harvesting, taking the leaves in stages from the bottom to the top and finally uprooting and burning the defoliated plant stalk. Leaves of the same age and position on a plant — sand leaves, foot leaves, middle leaves and top leaves — were harvested at one time and were kept together in the drying and fermenting process. Harvesting in stages further intensified labor input but improved the quality of the final product.

The second innovation was even more important than the first; it reversed the thinking of the planters in regard to their previous notion that the East Sumatran soils could produce only one good wrapper-tobacco crop. Experiments now proved that land having lain fallow for a period of eight to ten years or even longer was capable of producing choice quality light-colored wrapper tobacco. This discovery stabilized the industry, removing all doubts about its future. As subsequent experiments showed that grass fallow with *alang-alang* (*Imperata cylindrica*) was decidedly inferior to forest fallow, suppression of grasses and speedy natural or artificial reforestation by

seeding quick-growing trees became standard practice on tobacco plantations. Land values soared, and millions of guilders were invested in river dikes, drainage canals, and the training of rivers; as part of the latter, river courses were shortened by cutting out meanders. Drainage canals were equipped with automatic flood gates to permit the drainage of fresh water at low tide and to prevent the flow of salt water upstream at high tide. Whereas in the past, companies had been reluctant to invest in permanent structures, they now began to build better houses for their staff and greatly to improve sorting and fermenting halls by introducing iron frames and corrugated iron roofs; they constructed permanent hard-surface roads and iron bridges to replace temporary wooden ones. During the first twenty to twenty-five years, everything connected with the tobacco industry had had a speculative, temporary character, but this changed completely once the tobacco planter knew that his future was fairly secure as long as his land area was large enough to permit a fallow period of eight to ten years.

At the end of the pioneering period, the planter had solved the major technical problems except the agrarian one involving the equitable sharing of the land with the local population. This problem was to mount over the years in step with the accelerating population growth.

CHAPTER IV

EAST SUMATRA'S GROWTH: PLANTER AND PEASANT, POPULATION AND COMMUNICATIONS

The early planters believed that the soils of East Sumatra were capable of producing only a single crop of tobacco. As late as 1884, the estates Rotterdam A and B, for example, between Binjai and Medan (which, incidentally, were still in operation during my last visit in 1967) were offered for sale to several companies for the very low price of 100,000 guilders, but no one was willing to buy land which had already been used once for tobacco production and which at the time was completely covered with *alang* (*Imperata* spec.) and other grasses.

In the late 1880s and early 1890s, as we saw, the fallacy of this earlier opinion was discovered. Experiments showed that a fine quality of wrapper tobacco, albeit much lighter in color than tobacco coming from forest soil, could be raised on land which had been lying fallow under *alang* and other grasses but that still better yields of high grade tobacco could be produced on land which had been lying fallow under bush- or second-growth forest for a period of not less than seven or eight years. An even longer fallow period, up to twelve years or more, might under certain circumstances be desirable, but this was largely a question of the size of the plantation under consideration.

This discovery made it no longer necessary for those companies which had an early start to keep on applying for new forest land, since they now could turn back to their oldest concessions, which had long since been completely cleared of all primeval forest. Lands which had been a dubious asset to a tobacco company suddenly became an asset of great value. Renewed interest in them was expressed in the form of investments of substantial sums of money in all-weather roads, dikes, drainage canals, permanent buildings, and other improvements. It now became desirable to work out a pattern of systematic field rotation and to study the soils of a given plantation in great detail in

order to discover which soils were capable of producing the best qualities of tobacco. The planters began to pay especial attention to the eradication of the *alang* grass; in the early 1890s, man-made savannas covered most of Deli and large parts of Langkat and Serdang.[1] The quickest way to suppress *Imperata* is to prevent repeated burning of the grasses during the relatively dry season. This permits bushes and trees to push through the grasses and finally shade them out. Reforestation of the old tobacco lands soon completely altered the character of the agricultural landscape of those sections of East Sumatra that were engaged in tobacco cultivation.

With the exception of coastal estates, such as Saentis near the old kampong Percut, we find the following layout on tobacco estates. The concession, or concessions, under the management of a given administrator lay between two main rivers and usually formed a long, narrow unit. An all-weather road ran the length of the estate, in a north-south direction, and linked it with neighboring estates to the north and south, especially if these belonged to the same company. There was usually at least one bridge across each of the two rivers which formed the eastern and western boundary. The whole estate was subdivided by field roads (*plantwegen,* or *pasars*), which were numbered consecutively and ran at a right angle to the main road. These field roads were not kept open permanently but were overgrown part of the time. Each field road made accessible a strip of land on either side.

Experience taught the tobacco companies that a single administrator, with the help of four to six assistants could effectively and efficiently handle the cultivation of some 400 tobacco fields. This meant that in case of eight-year rotation, the administrator needed 3,200 fields (8 × 400) of one *bouw,* or 0.7 hectare, each. Such a field allowed the planting of 16,000 tobacco plants. Depending upon the pattern of field rotation, each field road served for a period of either three or four years and made accessible either three or four divisions, which were cultivated in successive years. If the administration decided to have three divisions per field road, the distance between field roads was, of course, shorter than with four divisions per field road.

Map VII illustrates the field plans of plantations with a three- and a four-division system. In "A" each field road served for three years and was then closed for a period of five years, whereas in "B" each road served for four years and was closed for four years. Should each division of Plantation "A" have about 130 fields, the administration had to operate simultaneously along three field roads for a period of

three years; in the fourth year the activities shifted to another set of three field roads.

Along each field road lay the temporary drying barns, which received tobacco in three consecutive seasons and were then demolished. Some of the timber would be used over again in the construction of the next set of barns, but the *nipa* shingles were burned.

In addition to the temporary field barns, each plantation had permanent buildings for the sorting, fermenting, and baling of tobacco. These permanent buildings were a part of the complex of permanent buildings, known as *emplacement,* which comprised also the houses of the staff members, an office building, a store — usually operated by a Chinese — a work shop, and barracks or two-family dwellings to house the laborers. All large companies operated their own central hospital, whereas in former years groups of small companies pooled their resources and operated a joint hospital to protect the capital which they had invested in the recruiting and transportation of thousands of laborers.

The agricultural year of a plantation began with the clearing of the second-growth forest in the first division serviced by a certain field road. This work was usually performed on a piece-work basis by Karo Batak, who worked under their village headman (*pengulu*), who served as contractor. The trees were cut; usable timber was saved; everything else was burned.

The model contracts forbade the cutting of such fruit trees as durian (*Durio zibethinus* Linn.), aren- or sugar-palm (*Arenga saccharifera* Lab.) *peteh* [2] (*Parkia speciosa* Hassk.), the *kayu gelugur,* or *asam* tree (*Garcinia atroviridis* Griff.), and the famous bee tree, *tualang,* or *poko raja* (*Koompassia parvifolia* Prain).[3]

After clearing, the preparation of the land began. Formerly, this was all done by hand with large hoes and required at least three or four cultivations. Today, because wages are so much higher than formerly, this work is done with tractor-drawn plows and harrows. Since tobacco needs well-drained land, it was necessary in a lowland plantation to dig a network of field drains and canals to move the excess water into rivers or main canals. In addition, dikes had to be constructed to protect the tobacco land against river floods. Map VIII shows the use a plantation made of the natural drainage pattern and the way it increased the speed of water evacuation by the maintenance of additional artificial canals. Wherever possible, natural drains were used, or improved when desirable. In upland estates, the greatest

problem was soil erosion rather than drainage. But before the permanent value of the tobacco soils was recognized, erosion had run its course and caused the removal of the highly erosive topsoil layer, derived from unconsolidated volcanic ash and tuff. It is even doubtful if terracing would have protected some of the estates having accentuated relief features. Here one can say only that the land was not suited for any crop other than perennial tree crops, certainly not for a row-crop like tobacco, which requires clean weeding. The planters ruined these lands by planting tobacco twice or three times, and then abandoned them forever.

To return now to the agricultural year on a tobacco plantation: while the land preparation was still going on, seedbeds had been prepared and tobacco seed was put in the soil at intervals of several days, so as to spread the time that the seedlings had to be transplanted. The planting was extended over a period of two months. Transplanting of the seedlings from seedbeds to field took place after forty to forty-five days on a low-lying estate and after fifty to fifty-five days on a higher estate where the night temperatures are markedly lower.

While the seedlings were in the seedbeds, and later when the plants were in the field, the greatest vigilance had to be exercised in order to protect the tobacco against plant and animal pests, since a spotty or perforated leaf is useless as a wrapper for the cigar industry.

In order to obviate any doubt about the responsibility for the quality of a tobacco leaf, each laborer was assigned his own field and had the full responsibility for 16,000 plants. He delivered his leaves to the section of the tobacco drying shed which was assigned to him. Here the leaves were counted, evaluated by the field assistant, and entered into his account book. Only then did the laborer lose personal interest in his tobacco leaves, which thereafter became the exclusive concern of management.

In the early days, as was said above, planters had the whole plant cut, but later they changed over to a system of removing the leaves gradually, two or three at a time, beginning with the so-called sand leaves (four to six)[4] and, finally, the top leaves (three or four). The tobacco harvest began about forty-four to fifty days after transplanting on lowland estates; on higher estates the plants required a few days longer. Although the harvesting method calling for gradual removal of the leaves is more expensive than the cutting down of the whole plant, it has the great advantage that the yields are higher, expressed in number of leaves; the loss of weight during the drying

process is smaller; each leaf is harvested just at the right moment; leaves dry faster when handled individually, which means that drying space becomes available again approximately two weeks sooner than when the whole plant is hung up in the barn; and, finally, the bundling of leaves proceeds at a quicker rate, since leaves of the same type remain together.

As soon as the leaves had been sufficiently dried they were transported from the field barns to the fermentation barns at the *emplacement,* where the tobacco bundles were placed in huge piles. The temperature in these fermentation piles was very carefully watched, recorded by thermometers which lay in bamboo tubes reaching into the middle of the pile. As soon as the temperature in a pile had reached a certain height (sand and foot leaves may be allowed to heat up to 60° C.), the pile had to be taken down and the tobacco leaves bedded down again in a new pile. The first pile was called an "A" pile. Two "A" piles gave one "B" pile, two "B" piles gave one "C" pile, two "C" piles produced one "D" pile. This final pile was of great height; it might consist of as much as twenty to thirty metric tons of tobacco.

Properly fermented tobacco was then sorted and graded in special buildings having excellent light conditions. This work required a great deal of skill since the grader had to be able to recognize twenty-one different grades, based on the color and the surface condition of the leaves. The leaves which had been sorted by one laborer for color and for surface condition were then bundled by another laborer who sat across from the grader and sorted leaves of the same grade according to length; so that at the end of these processes each bundle contained leaves of the same color, texture, surface condition and length. The work of the graders and bundlers was once more checked by the best and most experienced graders who, in turn, were supervised by the receiving-assistant.

One could not help but admire the orderly system which prevailed in the fermentation, grading and receiving halls, where some six hundred to eight hundred workers engaged in preparing the tobacco leaves for export.

Before World War I the labor force, both in the fields and in fermentation and sorting sheds, was almost exclusively Chinese. Even as late as 1940, when I had my first opportunity to visit a tobacco plantation, many of the laborers in the sorting sheds were Chinese men. By 1955 I did not see any Chinese workers — only Javanese.

The grading and sorting is now done almost entirely by women, of whom it is said that they do not learn as quickly as did a Chinese laborer but are more reliable once they have memorized all twenty-one grades.

To return once more to the land, as soon as the tobacco fields were harvested and all the remnants of the plants had been carefully burned in order to prevent the spread of any disease which might have developed in the plants, the land was then ready for use by those kampong people who had agrarian rights. Before World War II, the Malay or Batak descendents in the male line from a person who had agrarian rights were given their *jaluran.* They were reminded that they were not permitted to uproot young bushes and trees except those standing closer than 9 ft. to each other, nor to interfere in any way with the drainage systems, or to plant anything but upland rice except along the borders of their *jaluran,* where they might plant corn, long bean, or *kacang panjang* (*Vigna sinensis* Savi), and Job's tear (*Coix lacryma jobi*). A long list of economic plants was ruled out because these had been recognized as potential hosts for tobacco pests.

While the *jaluran* were being used by the local peasantry, the secondary vegetative cover got its start. A rice field invariably contained young bushes and trees, which took over the land once the rice had been harvested in November or December. The land then lay fallow for a period of not less than seven years. Light-loving species very quickly produced a second-growth bush formation, which consisted mainly of *Macaranga* species, *Trema* species, and *Melochia umbellata* Stapf, all of which would give way to other species were the second-growth forest to be left untouched for a period of thirty or forty years. These trees acted as shade trees for slow-growing species, which eventually suppressed the pioneer species. Long before such a process could take place, however, the land was cleared again for the production of two crops: the tobacco crop by the planter and the rice crop by the local peasant population.

In this pattern, as it developed after about 1890, it was the planter who was in complete control of the land. He determined the use and the rate of use, the crops to be planted, and the way they were to be planted. Even had he wanted to do so, no peasant would have been permitted to convert tobacco land into *sawah* for the planting of wet rice. The peasant followed the planter and, in some years, had to plant his food crops many miles from his kampong; this meant the hardship

of walking back and forth between kampong and *jaluran* every day during the busy weeks when the field needed attention because of planting, weeding, guarding, or harvesting. The only land over which the peasant had full control was his land within the kampong; but under the law of inheritance, kampong land had over the decades been divided so many times that the parcels had become quite small. This was a clear indication of the gradual development of population pressure within the kampongs.

Why do we never hear about peasant-grown Deli tobacco? Nothing would have been more natural than for the Karo Batak to continue planting tobacco, had it not been for the strict regulations against the planting of tobacco by the autochthonous people, officially because of the danger of the spread of tobacco diseases from neglected peasant fields to plantations. There was also, however, the problem of theft, which would have been hard to prove should a peasant industry have been permitted to exist side by side with a plantation industry. As a matter of fact, thefts of tobacco became a problem in the late 1880s and early 1890s, when Medan and Binjai had quite a few cigar manufacturers who were buying wrapper tobacco. Consequently, in 1893, the Deli Planters' Association forbade its members to sell or give away any tobacco locally. Violation of this self-imposed rule incurred a fine of 100 Straits dollars. As late as 1898, the Association decided to rule out also the sale of tobacco to the Straits Settlement and to China. All tobacco was shipped to The Netherlands, to be auctioned there. This meant that no Chinese trader could attempt to sell wrapper-tobacco or to export it, since it could be nothing else but tobacco obtained by illegal means.[5]

This kind of antipathetic symbiotic relationship resulting from the intertwining of highly commercialized, very labor-intensive but land-extensive plantation agriculture with simple subsistence swidden culture of a retrogressive type could only develop on tobacco estates. All other plantation crops in East Sumatra are of a perennial type; so that from the start the two agricultural systems were prevented from becoming intertwined, but were instead juxtaposed.

At the time when a plantation was being founded for the purpose of producing coffee, tea, rubber, oil palm, or sisal, it was first necessary to take a census in order to determine the number of households that could demand four *bouws* (later four hectares) each of swidden land for themselves. The next step involved the demarcation of the kampong boundaries and the measuring and demarcation of the agricultural land

which was to be excluded from the plantation. Only then could the clearing and planting begin. Actually, many of the present-day rubber- and oil-palm plantations went through a period of tobacco production, because they were obtained when the planters had not yet recognized the fact that only the soils between the Wampu and the Ular rivers were really suited for tobacco cultivation, but not the liparitic soils to the south of the Ular river or to the north of the Wampu river (see Map VI, Soils). Plantations such as those belonging to the U.S. Rubber Company (now called Uniroyal) at Kisaran and many of the rubber plantations managed by Harrison and Crosfield got their start as tobacco plantations. The tobacco planter paid for the clearing of the land, but when the true nature of the liparitic soils was recognized there was little else for the companies to do but shift from tobacco to a less demanding tree crop, if they still had capital left, or to close the company and sell the concession to another company for whatever price they could get. Many of the younger companies benefited from the bad luck of their predecessors by taking over land which had already been opened up by roads and cleared of the original primeval forest and which was covered, at the most, by a light second-growth forest.

The story of the expansion and contraction of tobacco cultivation is closely linked with the development of plantations engaged in the cultivation of perennial crops. The statistical data are presented in Table 3. It should be pointed out, however, that not all the tobacco plantations which had to be closed could be converted to the production of a perennial crop. Plantation use was affected by a number of extraneous factors such as international restriction schemes, legal objections by the government, or violent objection by the local population. Later chapters will deal more fully with these difficulties. It should suffice here to point out that not all former tobacco estates were converted into perennial-crop estates, especially not those closed since 1930-33.

The same story is also told by the series of maps (Map IX) showing the geographic distribution of tobacco plantations. Between 1880 and 1904 tobacco spread from its starting point in Lower Deli both inland and to the southeast as far as the Asahan river. Since that day, tobacco has been steadily retreating, primarily in recognition of the soil factor; another factor has been the changes in the tobacco market; since 1942 the greatest factor has been the drastic change in the political environment.

TABLE 3

EXPANSION AND CONTRACTION OF THE TOBACCO INDUSTRY AS EXPRESSED BY THE NUMBER OF ESTATES PLANTING TOBACCO *

Year	Number of Tobacco Plantations		Remarks
1864	1	Period of Expansion	Nienhuys operates pioneer estate.
1872	22		Period of tobacco boom. Every year sees arrival of new planters.
1880	49		
1888	148		
1896	120		Change in U.S. duty contributes to burst of bubble of 1890 Crisis.
1904	114	Period of Contraction	Beginning of change-over from tobacco, first to coffee, then to rubber and oil palm.
1912	97		
1920	82		
1928	72		
1931	67		Depression of 1930-33; closing of upland estates in Langkat and Deli.
1932	61		
1934	45		
1940	45		
1958	26		Nationalized United Deli Company and Senembah Company estates plus the former Swiss Company Tinta Raja.

* Source: Based, in part, on E. C. J. Mohr, *The Soils of Equatorial Regions with Special Reference to the Netherlands East Indies*, p. 174.

Growth of the Rubber Industry

Experimental plantings of rubber, or *Hevea brasiliensis* Muell.-Arg., were made on such tobacco estates as Mariendal, near Medan, and Rimbun, in the upland parts of Deli, as early as 1885, at a time when the tobacco industry was still searching for a crop to take land over after the tobacco planter had had his go at it. Prior to 1900, however, there was no commercial stand of rubber in East Sumatra. By 1902, the Deli Company had some 5,000 *Ficus elastica* Roxb. trees on the Batang Serangan Estate in Langkat. This stand was expanded to 19,000 ficus trees and 1,000 *Hevea* trees in 1905. In 1907, Batang Serangan shifted to *Hevea* exclusively.

In the southern part of East Sumatra, the Swiss Deli-Bila Company began a tobacco estate at Pangkattan in 1890 but stopped tobacco production as early as 1892 because trial plantings were too disappointing. The company then experimented with coffee, but this crop also failed. The next experiment was with rubber. Some 10,000 trees were planted in 1899, but before the first rubber could be harvested, the concession changed hands twice and finally became

the property of the Sumatra Para Rubber Plantations, Ltd. Another Swiss company made an experimental planting of rubber in Asahan in 1899 and began serious expansion in 1906. In Serdang, planters who had tried their luck in vain with coffee began experimental plantings of rubber in about 1901.

We can say that the period from about 1899 to 1905 saw only pilot projects but that commercial rubber production on a large scale seriously began in 1906, because the pilot projects had demonstrated the suitability of East Sumatran soils and climate for rubber trees. Rubber was a godsend for many bankrupt tobacco and coffee plantations on the liparitic soils of East Sumatra.

Little is known about the growth of smallholder rubber in East Sumatra, but by 1938 it was estimated at 41,924 hectares, of which 40,340 hectares were regarded as tappable. By 1940 the rubber area had increased to a total of about 44,000 hectares, compared with 64,000 hectares in Tapanuli, 71,000 hectares in Jambi, and 189,000 hectares in Palembang.[6] For reasons that become apparent when we study the distribution of agricultural concessions, the autochthonous population of Langkat, Deli, and Serdang was far less active in the production of smallholder rubber than was that of Asahan and Labuan Batu. In the southern part of East Sumatra, the agricultural concessions are often not continguous, so that the Malay and Batak population had swidden land at their disposal which could be planted with rubber.[7] The Netherlands Indies government contributed in no way to the beginnings of this industry, which became of utmost importance to the welfare of the Indonesian population. The industry developed because of Indonesian-peasant and Chinese-trader initiative. Singapore has been closely identified with the development of smallholder rubber. The influence of Singapore upon the growth of smallholder rubber reminds one of Penang's influence upon the growth of the pepper industry a century earlier. Moslems from East and South Sumatra who had spent some time in Malaya, or had passed through Singapore on their way to Mecca, became acquainted with rubber in the Malay Peninsula and brought rubber seeds with them when they returned home to Sumatra. Chinese merchants in Singapore also recognized the economic opportunities of rubber and, through small Chinese traders, distributed rubber seeds to the kampong population along the southern shores of the Strait of Malacca. The swidden cultivators of Sumatra began to stick rubber seeds into their swidden and thus after six to seven years had rubber gardens rather than

patches of second-growth forest. Not until the mid-1920s did the Netherlands Indies government and the planters begin to pay attention to smallholder rubber. The official concern over smallholder rubber during the 1930s, after the establishment of the International Rubber Restriction Scheme, had an adverse affect on the smallholders in that they received less favorable treatment than did the plantation industry.[8] "The underassessment of the N.E.I. native producers was an internationally agreed condition, since it was explicitly stated in the course of the restrictions that an N.E.I. native quota anywhere near their capacity . . . would be so large as to destroy any chance of an agreed scheme".[9]

TABLE 4
GROWTH OF THE PLANTATION RUBBER INDUSTRY IN EAST SUMATRA (in hectares) *

Year	Area Planted	Area in Production
1902	176	—
1903	423	—
1904	651	—
1905	1,337	—
1906	2,078	—
1907	6,873	—
1908	13,090	—
1909	21,926	—
1910	29,471	—
1915	103,112	36,453
1920	150,156	101,428
1925	188,875	146,773
1930	273,094	172,905
1932	284,213	178,438
1935	—	—
1940	—	—

* Data for the period from 1902 to 1915 are taken from *De Buitenbezittingen, Oostkust van Sumatra,* Part II, vol. w, pp. 156-57.
Data for the period 1920 to 1932 are taken from J. de Waard, "De Oostkust van Sumatra", *Tijdschrift voor Economische Geographie,* vol. 25, (1934) p. 263.

Growth of Tea, Oil-Palm and Fiber Industries

The first tea was planted on an experimental scale on Rimbun Estate in Upper Deli in 1898, but the project did not appear promising and was therefore discontinued. A Swiss planter, A. Ris, deserves the credit for having proved the commercial possibilities of tea cultivation

in East Sumatra. Between 1910 and 1920, German and British capital developed tea plantations around Pematang Siantar. The British interests were represented by the "Rubber Plantation Investment Trust", which had obtained extensive concession areas from the rajas of Simelungun, in particular from the Raja of Pematang Siantar and the Raja of Tanah Jawa.[10] Handels-Vereeniging Amsterdam followed the example of German and British tea planters and began the development of several large tea plantations after 1918. It was the annexation of the Simelungun petty states in 1907 that paved the way for the expansion of plantation agriculture into the Simelungun highlands.

At about the same time that tea was being added to the plantation crops, the first commercial experiments were being made with oil palms. The pioneer planters were the German, K. Schadt, who planted the first oil palms on his concession, Tanah Itam Ulu, and the Belgian planter, Adrien Hallet, who planted the oil palm on Pulu Raja Estate in Asahan. Prior to 1911, oil palms had been planted merely as ornamental trees on many estates. All of these ornamental palms, which did very well in the East Sumatran climate, were descendants of four palm trees which had been received by the Botanical Gardens at Bogor in 1848.[11] What is puzzling is that the tobacco planters, who were so desperate in the 1880s for a suitable tree crop to take over their abandoned tobacco lands, had ignored the opportunities that the oil palm offered. It is, however, interesting to note that commercial oil-palm plantations were started almost simultaneously in West Africa and in Sumatra. Prior to that date, the palm oil and the palm kernels which reached Europe had all originated on native smallholdings in West Africa.

In contrast to tea, oil palms were in many instances planted on former tobacco estates which turned out to have been located on liparitic soils. One of the youngest oil-palm estates in East Sumatra, known to all who have traveled by road from Medan to Lake Toba via Tebingtinggi and Pematang Siantar, was converted from tobacco to oil palm in the mid-1930s.

The youngest of the great plantation crops of East Sumatra are sisal and Manila hemp, or *abacca.* The leading producer is the H.V.A., with several large plantations in Simelungun, all of which were developed after 1918. Map X shows those plantations between Pematang Siantar and Tebingtinggi. Because of the steadfast refusal of the H.V.A. to release any data regarding planted area or production, the prewar agricultural statistics are incomplete and contain inadequate

data concerning the sisal and *abacca* industry of East Sumatra. We have only the export data. The exports rose from 718 tons in 1920 to 70,000 tons in 1939. When we deduct the production of those fiber estates which submitted statistics to the government from the total exports, it becomes apparent that H.V.A. supplied no less than 62,000 tons of sisal and *abacca* in 1939.

TABLE 5
PLANTED AREA OF TEA AND OIL-PALM PLANTATIONS IN EAST SUMATRA AND ACEH (in hectares)

Year	Tea	Oil-Palm
1915	3,237	3,294
1920	10,099	8,462
1925	12,835	29,402
1930	21,273	61,229
1935	—	74,919
1938	21,588	92,307
1945	—	73,621 *

* East Sumatra only.
Source: Figures for oil-palm were taken from F. C. van Heuren, "De Oliepalm" in C. J. J. van Hall, and C. van de Koppel, *De Landbouw in de Indische Archipel,* p. 593.

The Security Problem of Perennial Crop Plantations

In the section dealing with the antipathetic symbiosis of tobacco planter and peasantry, I described how the tobacco planter protected himself against competition and theft. Of the plantations engaged in perennial crop production, only the rubber planters found themselves in a similarly difficult position, because the kampong people living on the edge or even within their concessions were planting rubber too. Up to the present time, no one has developed a device which would make it possible to distinguish rubber produced by a smallholder from stolen latex. The problem of latex theft by means of illegal tapping was negligible before World War II but has become very serious since 1945; at times of high rubber prices it reaches major proportions.

On the other hand, oil-palm, tea and sisal plantations never really had a security problem in connection with theft of field crops, as the preparation of the product for the market is too difficult. Because of this difficulty peasant-owned stands of oil palm, sisal, or tea were never, to the best of my knowledge, developed, which again meant greater security for the planter.

Impact of the Plantation Industry on Peasant Agriculture

We know from John Anderson's account of his visit to East Sumatra in 1823 that swidden cultivation was the prevailing agricultural system there prior to the coming of the planters. Wet rice was grown only in a few swampy areas not requiring the improvements usually requisite for wet-rice cultivation, i.e. these patches, found in river valleys and fresh-water swamps, were "natural" *sawah,* rather than man-made *sawah* of the type prevalent in Java, the Minangkabau region of Central Sumatra, or the areas inhabited by Toba Batak.

The Karo Batak had, as we have seen, early in the nineteenth century introduced a perennial crop, pepper, into their swidden system and thereby created at least small patches of crop land that continued in production for as long as fifteen to twenty years. But no Karo Batak family had the manpower to convert each new swidden, year after year, into a pepper garden. Once two or three swiddens had been transformed into pepper gardens, the family had more than enough work with their upkeep and harvesting, since it was still necessary to cut a new swidden every year for upland rice. Yet the enterprising character of the Karo Batak was manifest. Some of their leaders, with commendable acuity, found ways and means to organize a new industry, systematizing both production and marketing and operating their own boats between East Sumatra and Penang.

Nutmeg trees became popular in East Sumatra a little later than pepper and caught the interest of the early planters, who followed the example of the Sumatrans and planted nutmeg on a large scale until changes in import duties made the industry financially unattractive. By the time such crops as rubber, oil palm, sisal, and tea were introduced in East Sumatra, the rulers of Langkat, Deli, and Serdang and the petty chiefs in the Karo and Simelungun Batak districts of the interior had already turned every square foot of their domain over to the planters, except for coastal regions too swampy to arouse the planters' interest. This meant that the Karo of the tobacco belt, for example, could no longer take advantage of new opportunities like these; they had no swidden land of their own, only the use of harvested tobacco fields for the brief period of six months. A few planted rubber trees in their plots within the *tanah seratus* complex, but no one living within concessions could plant rubber systematically in swidden. This was not the case among the Toba Batak of North Tapanuli or Asahan and Labuan Batu (two *kabupatens* of East Sumatra). In Asahan and Labuan Batu, because the planters

had not applied for all the land, the autochthonous population still had the opportunity to share with the planters in the cultivation of such a valuable cash crop as rubber. Had it not been for the fact that the planters were able to obtain all the land they were looking for in East Sumatra, most certainly East Sumatra would not today be finding itself outranked by Jambi, Palembang, and other areas of Sumatra in the production of smallholder rubber. An ethnic group as energetic and enterprising as the Karo Batak would no doubt be leading in smallholder rubber production had it not been for the actions of their own rulers. The Karo plateau is too high for rubber, but its inhabitants made use of other opportunities once a system had been worked out for marketing their crops by trucks on the Medan-Kabanjahé highway.

The only members of the autochthonous peasant population to profit from the development of the plantations were the villagers living on the edge of the coastal swamps or on ancient sandy beach ridges, the habitat of the *nipa* palm. When the planters developed an almost insatiable demand for *nipa* shingles (*atap*) for their tobacco barns, a new industry developed, which kept whole villages busy. *Nipa atap* had been used since time immemorial by the coastal people of Sumatra as roofing and siding material. Since the coastal swamps offered an ample supply of naturally growing *nipa* for the limited traditional demand, it is unlikely that *nipa* had ever been planted on any significant scale. This, however, suddenly changed when sometime after 1870, the planter discovered that *nipa atap* was better than any other type — notably *Imperata* — for drying sheds, because *nipa atap* permits excellent circulation. The Deli Experiment Station had learned that the walls and the roof had to be thick enough to keep the daily range in temperature as low as possible and reduce the moisture content of cool night air which penetrated the barns but at the same time permit adequate air circulation. *Nipa atap* met these requirements better than did any other material.

By 1877 it was already recognized that the bottleneck in *atap* production was not labor but the raw material. Deli, in particular, did not have enough natural *nipa* swamps. The planters therefore advanced substantial sums of money to the Pangeran of Langkat for the organization of the production and export of *nipa* shingles to Deli. In the heyday of the tobacco industry whole boatloads of *nipa* shingles were even imported from across the Strait of Malacca. By 1887, the annual demand for these shingles, whose lifetime was three years, was estimated at 25 million. In response to this great and steady demand

for building material, the people near the coast began to convert their mangrove swamps into stands of *nipa* palm, actually clearing land suitable for *nipa* and planting seed at a depth of about half a foot and at intervals of from one to two meters.

The young *nipa* grows rather slowly, requiring five years or more before the first harvest can be taken. The *nipa* palm has pinnate leaves arranged on both sides of the petiole. When the *pinnae* are about 32 inches long, they are cut, dried slightly, and folded, at two-thirds of their length, over a rod of wood or bamboo, and then stitched in place, thus forming shingles which are light and airy as well as protective. In addition to *nipa pinnae,* therefore, the *atap* maker requires large quantities of rods and stitching material. The wood comes from the *nibung* palm (*Oncosperma tigillaria* Ridl.), which is hard and durable. The stitching material is obtained from the half-herbaceous *bemban* (*Donax arundastrum* Louv.). The stems of this plant are split to furnish an excellent thread. The demand for *bemban* thread is so large that the *atap* makers have also planted pure stands of *Donax arundastrum.* I am not aware of any systematic planting of *nibung* palm, but its consumption is reflected in the fact that this palm is no longer as plentiful in the coastal forests as it once was. The *nibung* palm is to the people of Sumatra what bamboo is to the Javanese.

For a while the population was also able to earn money by cutting timber for the construction of the many buildings needed by a tobacco estate, but by the 1890s the plantation companies began to produce their own building material by planting belts of teak along both sides of roads as well as extensive stands of bamboo. These teak-forest belts provided excellent construction material, supplementing the timber which came from the coastal forests.

Except on the poorly drained, slightly salty coastal soils, the planters were everywhere competing with the autochthonous people for land. The latter had to adjust their agricultural system in such a way that there would be no objections from the all-powerful planters.

There can be little doubt that the symbiotic relationship into which the peasantry of the tobacco regions was forced adversely affected the indigenous agricultural system and gradually also the people's initiative. The planters begrudged the practice of giving the people ready-made swidden and many resented too the constant interference by the government at Batavia, which in their view loomed as a late-comer trying to deprive the planters of economic opportunities. The planters also never

forgave the Malay and Karo their unwillingness to earn their living as plantation workers, thus causing the great expense of importing laborers from distant places. On many occasions I heard the complaints of planters regarding the unbelievable laziness of the autochthonous population in the tobacco-producing section of East Sumatra. The East Sumatran, so the complaints ran, preferred to fish and hunt and let the planter prepare his swidden, which he then promptly turned over to a Javanese laborer because he was too lazy even to push a dibble stick into the ground so carefully prepared for him. The fact remains, however, that the present-day Karo of the plateau still retain the qualities which Anderson observed in 1823. Anderson repeatedly comments in his diary on the industriousness of the Karo Batak, whom he describes as model agriculturists.

Population Growth

The rapid expansion of plantation agriculture in East Sumatra — almost unique in economic annals — had a pronounced effect on the growth, distribution, and composition of the population. In a very short time the autochthonous population found itself outnumbered by Chinese and Javanese laborers. In addition, the development of East Sumatra attracted a great many Sumatrans from Siak, Minangkabau, Mandailing, and Angkola. The Minangkabau and their Batak neighbors from Mandailing and Angkola had come under Dutch rule in the first half of the nineteenth century, several decades before the Dutch moved into East Sumatra. This gave the planters a reservoir of literate people who could be employed as clerks, surveyors, and mechanics or for other minor positions. All three groups were Moslems and thus quite acceptable in Moslem communities in the near-coastal lowlands of East Sumatra. By contrast, the Toba Batak from North Tapanuli, among whom the protestant Rhenish Mission Society worked intensively from about 1863 to 1940, began to flock to East Sumatra in increasing numbers after 1900 but found themselves less accepted by the Moslems of Lower Langkat, Lower Deli and Lower Serdang than were the Moslem Mandailing and Angkola Batak.

The early population figures for East Sumatra are little more than guesses but subsequent data, collected as Dutch administrative machinery expanded over more and more territory, become increasingly reliable. The most recent census figures were obtained in 1930 and 1961. To understand the stresses and strains which have arisen in East Sumatra in recent years, one must take into account the com-

parative strength of the major ethnic groups there. In this respect the 1930 census data will continue to be of special significance.

By 1930, some sixty years after the beginnings of plantation agriculture in Langkat, Deli, and Serdang, and scarcely thirty years after the opening of plantations in Asahan, Labuan Batu, and Simelungun, the autochthonous population of East Sumatra, in every major political subdivision except the Karo plateau, found itself outnumbered by immigrants. This striking difference between the Karo plateau and all other parts of East Sumatra is, of course, due to opposition to the entry of plantation capital into the petty states of the plateau. The Karo of the plateau, benefiting from about thirty-five years of observing the impact of Western rule and of plantation economy on their brethren, the Karo of Langkat, Deli, and Serdang, did not lease their land to foreign plantation companies but rather followed the example of the Karo in the first decades of the nineteenth century. At that time the Karo had responded to the new economic opportunities by growing pepper for export to Penang. This time it was not pepper but mid-latitude vegetables and flowers, for which a great market developed in the plantation belt of East Sumatra as well as across the Strait of Malacca in Penang, Singapore and towns in the interior of the Malay peninsula.

Contributing to the political tensions in East Sumatra in the pre-independence period was an important political decision taken back in 1873 regarding the immigrant population. All individuals working on plantations, it was decided, whatsoever their ethnic origin, who were not subjects of the local princes by virtue of their birth in East Sumatra, were to be removed from the jurisdiction of the local rulers and placed under the direct jurisdiction and administration of the Netherlands Indies government. This applied to Chinese, Javanese, and other laborers as well as to Europeans. The plantations were thus recognized as, in a way, constituting enclaves in the territories of the sultanates. This political measure meant that a large percentage of the population of East Sumatra did not come into contact with the administration of the sultanates but was under the control of the planters, who, in the early days, had been employers, policemen and judges at the same time.

Theoretically, the planters were obliged to repatriate laborers upon request at the end of the contract period. In fact, thousands of Chinese and Javanese had over the decades remained by preference in East Sumatra at the completion of their contracted years of wage labor on plantations, settling either in the kampongs or in the developing towns. Only those ex-laborers who settled in communities formed by the

autochthonous population came under the jurisdiction of East Sumatran rulers. This steady influx of ex-laborers into the kampongs created great population densities within these kampongs. Only rarely were the ex-laborers able to acquire land outright. The Chinese were excluded automatically by the law which forbade Indonesians to sell agricultural land to non-Indonesians. At best, the Chinese could lease land, and this frequently happened. Javanese and other Indonesian immigrants, too, though legally entitled to acquire ownership of land, in most instances became share-tenants of Malay or Karo kampong people.

As Table 6 shows, by 1930 the Malay, representing for the most part the truly autochthonous element of East Sumatra's population, accounted for only 15 percent of the total population. About 88 percent of this population consisted of Indonesians, among whom the Javanese were the most numerous with about 43 percent. The Karo-, Simelungun-, and Toba Batak accounted for 9, 6, and 5 percent respectively. Among the non-Indonesians the Chinese were most numerous and represented no less than 10 percent of the total population. No less than 35 percent of Medan's population was Chinese. The Europeans accounted for less than 1 percent of East Sumatra's but for 5 percent of Medan's population.

Table 7 shows the size of the plantation population by district and sex. All districts had more men than women on the plantations. Simelungun had the largest absolute number of plantation workers and their dependents (105,000) who represented slightly more than one-third of the total population. In Upper Langkat and in Padang-Bedagei the plantation element accounted for less than 45.8 and 45.7 percent of the total population. (See page 64.)

In line with the new policy of the Indonesian government, the census of 1961 did not inquire into the ethnic background of the Indonesians, so that we do not know the present-day ethnic composition of the Indonesian population of East Sumatra; but it is quite apparent that the Toba Batak population has increased substantially because of the mass movement of Toba Batak from the overcrowded Tapanuli highlands. Upper Deli and Upper Langkat have lost, while Lower Deli and Lower Serdang gained, in population on account of the closings of many estates and the exodus of the plantation laborers and their descendants.

TABLE 6

ETHNIC COMPOSITION OF THE POPULATION OF EAST SUMATRA, BY DISTRICT, IN 1930 (in thousands)

	Lower Langkat	Upper Langkat	Lower Deli	Upper Deli	Serdang	Padang & Bedagei	Karoland	Simelungun	Batu Bara	Asahan	Labuan Batu	Medan	Binjai	Tebingtinggi	Pematang Siantar	Tanjung Balai	Total	Percent of Total
Malay *	32	2	25	—	17	12	—	2	28	34	55	5	1	2	—	1	225	15.0
Javanese **	61	55	76	19	79	55	1	122	28	58	54	21	2	4	2	1	641	42.8
Karo Batak	1	27	—	26	11	—	77	2	—	—	—	—	—	—	—	—	134	9.0
Simelungun Batak	—	—	—	—	10	6	1	77	—	—	—	—	—	—	—	—	95	6.3
Toba Batak	—	8	—	—	1	—	4	46	3	17	—	1	—	—	3	—	73	4.9
Mandailing Batak	4	3	7	1	4	3	—	3	1	4	2	5	—	1	1	1	34	2.3
Other Indonesians ***	19	1	12	2	8	7	1	5	2	9	13	9	2	1	3	—	109	7.3
Total Indonesians	117	96	120	48	130	83	84	258	60	122	124	41	5	8	9	3	1311	87.6
Europeans	1	—	1	—	1	—	—	1	—	1	—	4	—	—	—	—	11	0.7
Chinese	15	11	23	5	18	11	2	9	4	10	10	27	4	5	5	3	158	10.5
Others	3	2	3	1	1	—	—	1	—	1	—	4	—	1	1	—	18	1.2
Total	136	109	147	54	150	94	86	269	64	134	134	76	9	14	15	6	1498	100.0
Living on Plantations	9	46	50	20	50	42	—	105	25	43	45	—	—	—	—	—	—	—

* Including Moslem Karo and Moslem Simelungun who by preference identify themselves with Malays.
** Including Sundanese, Batavians, and Javanese proper.
*** Including such major groups as Minangkabau, of whom there were 50,000 in East Sumatra; and Banjarese, from Borneo, who numbered 31,000.
Source: Census of 1930, vol. IV.

TABLE 7
NUMBER OF PERSONS LIVING ON PLANTATIONS AND THEIR PERCENTAGE OF THE TOTAL POPULATION AS OF 1930

District	Male	Female	Total	Percent of Total Indonesian Population
Lower Langkat	4,956	3,989	8,945	7.6
Upper Langkat	24,774	21,305	46,079	45.8
Lower Deli	26,197	24,050	50,247	31.2
Upper Deli	10,264	9,370	19,634	40.5
Serdang	27,249	22,556	49,805	38,3
Padang and Bedagei	23,820	18,120	41,940	45.7
Simelungun	57,604	47,681	105,285	37.2
Batu Bara	14,536	10,389	24,925	41.8
Asahan	25,002	18,103	43,105	34.5
Labuan Batu	28,887	16,446	45,333	36.5

Source: Census of 1930, Vol. IV, p. 6.

Development of a Modern Network of Communication

In the early days, rivers provided the plantations with a convenient, though slow and cumbersome, means of getting crops to the coast for export. But since so many of the rivers were rather shallow and quickly began to show the silting effect of forest clearing and soil erosion, the need for roads soon became very pressing. The government having refused earlier to aid in the pioneering phase of development, planters set about constructing their own roads. The first roads built by the planters opened up their own lands and provided a link with points on some river which could be reached by large sampans; later roads connected plantations belonging to the same company. Only at this stage did the government enter the picture and begin to develop an all-weather road system. The building of roads from the coast inland was followed by the construction of the great highway which runs parallel to the coast from the border of Aceh through the towns of Pangkalan Brandan, Tanjung Pura, Binjai, Medan, Lubukpakam, Tebingtinggi and Kisaran to Rantauparapat in Labuan Batu. This main north-south road together with two roads into the mountains of the interior — the road to Berastagi and Kabandjahé on the Korat plateau and the road through Simelungun to Lake Toba and on south to Tarutung and Sibolga — are the major arteries of the government road network. Yet as late as 1928 several large plantations were still without government road service. Such was the case at Wingfoot, the

Goodyear Company plantation, which remained dependent on boat transport via the port of Labuan Bilik, near the mouth of the Bila river, and Negerilama, on the banks of the same river, because neither the road nor the railroad had yet reached Rantauparapat.

The construction of the great axis road of East Sumatra had a striking effect on the urban settlement pattern. Whereas the key kampongs, the nuclei of potential towns, were all close to the coast on the banks of navigable rivers, new urban settlements sprang up wherever the highway crossed a major river. The highway follows roughly the 25-meter contour line and up to that isohypse, if not higher, all major rivers are navigable. After the construction of the highway, the sultans, traders, Dutch government officials, and everyone else except the fishermen began moving inland to the new towns — from Tanjung Pura to Binjai, from Labuan Deli to Medan, from Rantau Panjang to Lubukpakam, from Sungei Pariok to Tebingtinggi, from Kuala Tanjung to Indrapura, from Tanjung Tiram to Lima Puluh, and so on.

As it took about fifty years to complete the network of roads we know today, the accompanying shift from coastal settlements to inland towns on the great axis road and on the railroad took place only gradually. Many of the once flourishing river ports are seriously affected by sand bars, which developed after 1942. Prior to the invasion by the Japanese, the Dutch had seen to it that dredges kept the more important river mouths open. Since all of the dredges were sunk during World War II or during the revolutionary period from 1945 to 1949, silting has run its course, making it impossible, in many instances, for even small craft to reach harbors which were accessible to small coastal steamers as late as 1942. No wonder that several of these little ports remind one of ghost towns. Customs posts have been withdrawn; today, all exports and imports move through three harbors: Belawan, Telok Nibung, and Labuan Bilik.

The influx of large sums of foreign capital attracted by the natural resources of East Sumatra — fertile soils and minerals such as oil in Langkat — plus the reinvestment of profits made in the area led to a remarkable economic development and the creation of an infrastructure which is superior to that of any other part of Sumatra. East Sumatra, the dollar land of Indonesia, has become indeed the single most important economic region of Indonesia and accounts for a high share of the foreign exchange earnings of the country. Batavia — today, Jakarta — for the last eighty to ninety years followed the development of this key economic region with an eagle eye.

CHAPTER V

AGRARIAN POLICY: REFORM PROPOSALS AND THEIR IMPACT ON SOCIETY

Why did the small cluster of coastal states of East Sumatra claimed as vassal territory by the sultanate of Siak attract planters in such rapidly increasing numbers? The success of the pioneering activities of Nienhuys, the ease with which planters could obtain land, the exceptional fertility of the soils, the very low population density which in turn meant that the bulk of the land was undeveloped and uncultivated, these provide a partial explanation. Here and in the next chapter we shall survey the legal, political, and economic factors which also contributed to the phenomenal development of plantation agriculture in this part of Sumatra, examining the nature of the contracts which placed large parcels of land at the disposal of the planters and the measures taken to protect the agrarian rights of the indigenous population.

The Government Regulation (*Regeerings Reglement*) of 1854, the Treaty of 1858 with the Sultanate of Siak, and the political agreements with Siak's dependencies of 1862 and subsequent years paved the way for the planters. The princes accepted the obligation of encouraging the development of agricultural enterprises, with the difference that the Sultan of Siak was not permitted to lease agricultural land to non-Indonesians without prior approval by the central authorities in Batavia, whereas Siak's vassals needed only the approval of the Resident of Riouw to whose territory Siak and its dependencies were attached until 1873. In that year Siak and dependencies became the separate Residency of the East Coast of Sumatra with the town of Bengkalis on the island of Bengkalis as the seat of the Resident. Finally in 1887, three years after the Sultan of Siak had relinquished all political claims vis-à-vis the petty states of East Sumatra, the office of the Resident of East Sumatra was transferred from Bengkalis to Medan, the rapidly growing new capital of Deli at the junction of the Deli and Babura rivers.

The Land Contracts Prior to 1877

During the first ten to fifteen years a great deal of experimentation and improvisation took place in East Sumatra. Everyone had to learn by trial and error — the rulers, their vassals and subjects, the Dutch administrators and the planters. It took Dutch officials several years to determine the boundaries of the states and to settle conflicting territorial claims which arose the moment land became the source of income for the princes and thus gained greater value than it had ever possessed. And the negotiation of contracts leading to the granting of land concessions was a new experience for the princes.

The state of Deli being the pioneering region of the first planters, it was the ruler of this little principality who granted the first agricultural concessions. It will be recalled that at the time Nienhuys arrived in Labuan the Sultan of Deli had had very limited contacts with Netherlands Indies officialdom and knew little or nothing about the agrarian policy applied by the central government. He viewed his domain as his personal property, of which his subjects were permitted to clear and cultivate as much as they needed to support themselves. As the population was very small, most of the land was still forest-covered and available to anyone for the asking, particularly if the applicant was ready to pay for the permission to clear and cultivate a part of the domain of the prince.

In the absence of any model, it is not surprising that the concession contracts written during the first twelve years varied considerably. Some concessions were for 99 years, others for 70 or 75. The first contracts granted concessions free of rent; instead the sultan regarded the import and export duties as proper compensation, or he collected an annual head tax per laborer employed. A contract signed in 1870 called for a rental charged not on the total concession but only on land in actual cultivation.

As to the size of the concessions, the early contracts were vague since the land tracts were not surveyed prior to the signing of the contracts. In keeping with customary law the prince granted the planter the right to clear and bring under cultivation empty land (*tanah kosong*). Since the prince's income depended upon the rate at which the planter developed the land, the contracts stipulated the amount that had to be cleared within a period of five years in order to avoid cancellation of the concession except for the amount actually developed. The Mabar-Deli Tua contract of 11 June 1870, signed by the Sultan of Deli and the Deli Company, called for the clearing of

2,000 *bouws* within five years. Nonfulfillment of this condition would have rendered the contract void except for the land actually cleared. Fulfillment, on the other hand, gave the company another five years to clear additional land in the same concession. At the end of the second five-year period the Deli Company had earned the right to keep for 99 years all land cleared and brought into production.[1]

The Polonia concession contract, signed 4 December 1869 between the Sultan of Deli and a Mr. Michaelsky, gave the latter the right to open land between the Deli and Babura rivers (land now occupied by the city of Medan) for agricultural purposes. Like the Mabar-Deli Tua, the Polonia contract precluded outright land speculation by tying rights to a schedule for actual clearing and planting. If less than four hundred *bouws* had been opened by 5 December 1874, the contract would then have applied only to the amount actually cleared and developed, except that Michaelsky could add one and a half *bouws* of forest land for each *bouw* cleared and another four *bouws* for each one and a half *bouws* actually planted.[2]

The inclusion of the device to prevent land speculation by insisting that the contract become void after five years unless a stated amount of land had been cleared and planted, and of the provision for giving the planter an incentive to do his best during a pioneering period by promising a bonus in the form of additional land, reveals a remarkable insight into the problems of economic development in an underdeveloped area. It is not clear who was responsible for the introduction of such provisions into the contracts. It may have been officials of the central government, as his own limited experience makes it unlikely that this idea originated with the sultan himself.

As in several of the early contracts, there was no provision for land rent from the Mabar-Deli Tua concession, but this was by no means an oversight on the part of the Sultan of Deli. In his shrewdness the sultan linked the attraction of foreign capital and a bigger income for himself from the resulting rise in exports. The sultan collected duties on all imports and exports — or rather arranged for their collection by a Chinese. A receipt of 13 December 1871 in the archives of the Deli Company, for example, which acknowledges a partial payment of 284.50 rupees of the duty for 569 bales of tobacco, is signed by K. I. Sieuw, Farmer of Import and Export.[3] But the collection of these duties was taken over by the Netherlands Indies government on 1 January 1876, the Sultan of Deli thereafter receiving indemnity for his loss of income. As to the sultan's waiver of land rent

in the Mabar-Deli Tua contract, the Deli Company offered retroactive compensation by agreeing on 28 February 1894 to pay *hasil tanah,* or rental, of 12,000 guilders annually for this concession.

As to the agrarian rights of the local population whose villages and fields were located within the boundaries of a concession, the early contracts made, at best, desultory provision by ruling that village land, fields and orchards, in particular nutmeg and pepper gardens, be respected by the planters. But nothing was said as to the amount of land that must be spared. The Deli contracts contained progressively more provisions for the protection of the sultan's subjects, which must be attributed to pressure brought to bear on the sultan by the Dutch officials. This is illustrated by the contract between the sultan and the German planter Herman Küng, signed 15 September 1870. Its innovation was a requirement that three *bouws* of forest land be set aside on behalf of the sultan's subjects for each *bouw* of land planted by local cultivators with perennials (*pokok jang lama hidup*) such as coconuts, nutmeg, and pepper. Furthermore, Küng was not permitted to cultivate land previously cleared by a third party.[4]

The Sultan of Deli — and, after 1870 also the princes of neighboring states — recognized clearly that it was to his personal advantage to have the primeval jungle cleared and the land cultivated, even if his personal income was derived only from the collection of export duties. The exact wording of the contracts was of secondary importance so long as the land development proceeded with speed. Only when planters began to compete with each other for concessions did it become a practice to charge an annual rental of one guilder per *bouw*.

So long as the Sultan of Deli granted concessions only within the boundaries of his own territory, everything seems to have gone smoothly; but when by 1871 he began to lease land which was located in Karo-Batak districts, outside his own territory, the Karo-Batak chiefs, whom he regarded as his vassals, reacted with strong resentment and anger. Rather than declare war on the sultan, these chiefs attacked the source of the sultan's newfound income by burning the planters' tobacco drying sheds, preferably when filled with tobacco.

The Dutch authorities were forced to bring in troops from the Riouw Islands and from Java, who fought from May until November 1872 before the rebellious Karo-Batak chiefs surrendered.[5] To discover the real causes of the uprising, Dutch officials launched a systematic investigation which quickly revealed that the Karo chiefs did not object

to the establishment of plantations but only to the sultan's unlawful assumption of the right to grant concessions within their territories and, as the chiefs were fully aware, divert to himself all financial benefits.[6] As the investigation disclosed, the state of Deli actually consisted of the following parts: (1) The Sultan's domain, (2) the territory of the Kejuruan of Percut, (3) the territory of the Datu of Hamperan Perak, divided into (a) a Malay part of Hamperan Perak proper and (b) the Karo-Batak Confederation, or *urung*, Sepuluh Dua Kota, (4) the territory of the Datu of Sunggal, or the Confederation Serbanjaman, (5) the territory of the Datu of Kampong Baru, or the Confederation of Sukapiring, (6) the territory of the Confederation of Senembah Deli, and (7) the territory of the Raja of Danai. Of these, parts 1, 2, 3a, and 7 were Malay-inhabited while 3b, 4, 5, and 6 were Karo-Batak territories. It was by virtue of his strategic location at the mouth of the Deli and Belawan rivers that the sultan had been able to force the *datu*s of the Karo-Batak confederations to recognize his overlordship.[7] But when the Karo-Batak *datu*s were not even consulted by the sultan in regard to land concessions in their territories, these *datu*s contended that the Sultan of Deli's granting of these concessions violated the customary law prevailing prior to the coming of the Dutch and the planters. The sultan, on the other hand, cognizant of being backed by Dutch power, greedy for more payments from planters, and feeling greatly superior to the Karo-Batak chiefs, had ignored the *adat*. By their attacks on the plantations the Karo Batak hoped to end this usurpation of their rights and to convince the planters of the necessity for negotiating contracts for land in the Karo-Batak territories with the respective chiefs rather than with the sultan.

In the course of their investigation, the Dutch also learned that the Karo Batak saw themselves impeded in the exercise of their land rights and feared difficulties should they wish to develop new pepper gardens or nutmeg orchards.

They objected to the planters' practice of clearing forest to the very border of their villages. The Karo-Batak spokesmen maintained that their people would welcome the establishment of plantations in their territories, provided (1) that enough land would remain in their possession to practice swidden cultivation, (2) that their fruit trees and other property would be respected, and (3) that they would not be prevented by the Europeans from developing new pepper gardens and wet-rice fields.

The Dutch resident settled the immediate conflict between the

sultan and the Karo-Batak chiefs by ruling that payments for concessions in Karo territories must be divided into three equal parts, one-third going to the sultan, one-third to the Karo-Batak *datus*, and one-third to the village chiefs within the concession.

The Model Land Contracts

By the mid 1870s the desirability of having uniform contracts for land concessions had become quite apparent and prompted the drafting of a model contract for all future agricultural concessions. In pursuit of this goal the Netherlands Indies government found it necessary to issue no less than four successive versions — in 1877, 1878, 1884, and 1892.[8] As mentioned earlier, the immediate reason for drawing up the model contract of 1877 had been to eliminate the procedural discrimination between the sultanate of Siak and its dependencies to the north. This was accomplished when, by Decree No. 4 of 27 January 1877, this first model contract was made applicable to the entire residency of East Coast of Sumatra, embracing Siak proper and its dependencies. But officials in the Ministry of Colonies at The Hague noticed that the model contract gave the local inhabitants only the land in actual use, providing no reserve for the continuation of the prevailing agricultural system of shifting, or swidden, cultivation; the ministry suggested that this be corrected and also that earlier contracts be revised should they differ from the model contract on important points. This led to the promulgation of Model Contract 1878 by Decree No. 1 of 19 October.

The concept underlying this contract model, and its prototype the year before, differs from that in the early concession arrangements. Whereas in the early contracts the Sultan of Deli authorized the planter to clear a piece of "empty land" (*tanah kosong*) in order to start a plantation, the model contracts of 1877 and 1878 provided that the sultan and the territorial chiefs (*rijksgrooten*) grant a specified amount of "waste land" (*woeste grond*) to a concessionaire. The first formulation reflects Indonesian *adat,* while the new one has its roots in Western legal concepts. At the practical level, there arose the question of whether East Sumatra had any waste land. In the eyes of the Malay and the Batak there was no entirely unused or waste land, since all land served as hunting ground and was also used for the gathering of forest products such as building material, firewood, resins, foodstuffs, raw materials for the making of tools, and many other products. But above all it was potential swidden land. In short, all

land contributed in one way or another to the support of the inhabitants.

Admittedly, however, the land was used in a most extensive, casual and intermittent manner, so that there was in fact room for concessions provided that the needs of the population were respected. The most important articles of the model contract therefore related to the agrarian rights of the citizens of the East Sumatran petty states, confirming and expanding efforts of the earlier concession agreements to designate these rights. The problem was to allow the planters sufficient land for the operation of plantations while delimiting their incursions into a system based on the principle of free access to land in abundant supply. An obvious beginning was to exclude land actually being used by the local population. That this included also second-growth forest land as this was a part of the rotation cycle of the swidden cultivators was for the first time recognized by two contracts issued in the state of Langkat in 1877 wherein it was stated clearly that second-growth forest land could not be regarded as waste land.[9] The kampongs themselves were of course always excluded, usually with the provision that a planter finding kampongs in his concession could ask to have his boundaries extended to cover the loss of these areas, where the ruler's subjects held prior agrarian rights. (Such adjustments of boundaries had already become difficult by 1877 in Deli, where concessions increasingly abutted one another and compensatory concession land often had to be given in noncontiguous areas.)

The prohibition against use of kampong areas and the surrounding swidden lands, together with the stipulation that compensation be paid to the owners of any fruit trees encompassed by a concession, were written into the model contract of 1877 as Article 6. It was this article that was deemed inadequate by officials at The Hague and led to the request for revisions.

In Model Contract 1878, Article 6 called for setting aside a total of four *bouws* of land suitable for swidden cultivation for each resident (*voor elken opgezetenen*). But it defined "resident" as a person who had his own house within the concession; in other words, each head of a household had the right to a total of four *bouws*, or about 2.8 hectares of land.

The question must be raised whether it was realistic to expect that the population of East Sumatra could carry on its traditional form of agriculture on 4 *bouws*. This must definitely be refuted. As a matter of fact, in Borneo the administration was at the time allowing a reserve

of 21 *bouws* per household. One should figure on an average of 1 to 1½ *bouws* of land to be cleared each year. Each swidden may be used the first year for one grain crop and two more years for a variety of other crops. Beginning in the fourth year the land is left fallow for a period of preferably not less than ten years. After ten years, the cultivator returns to a swidden last cleared thirteen years before. This kind of agricultural system requires, then, as much as thirteen times the amount of land cleared annually, or from about thirteen to eighteen *bouws*, depending upon the size of the family and the fertility of the soil. Should the swidden land require even more than ten years of fallow, the reserve per family must be increased. Since we cannot assume that Indies officials were ignorant of the nature of the traditional agricultural practices of swidden cultivators — the Borneo allowances stand in contradiction of this — we can only assume an intention to direct the Sumatran peasants into a more intensive type of agriculture.

Acceptance of the principle of peasant reserve lands was one thing, implementation another. Reluctant to survey and set aside permanently any part of their concession area, the planters — with what turned out to be more cunning than foresight — arranged with the peasants to place harvested tobacco land at the disposal of all household heads for the raising of one wet-season crop. The peasants for their part saw no need to ask for their 4 *bouws* of land if the planters were willing to make swidden land available in this way at the beginning of the rice-planting season. Thus a kind of symbiotic relationship evolved in which the planter circumvented any actual transfer of land to the peasant and the peasant traded his claim to any specific land for more tangible and immediate benefits. The peasant no longer had to clear his own swidden; the planter was always ready to employ him as a casual laborer during the season that forest land was being cleared in preparation for the next tobacco crop; above all, the peasant actually had access to a great deal more land than the 4 *bouws* offered by the model contract — up to 8 *bouws* or the equivalent of eight annual swiddens, in fact, on a plantation with an eight-year rotation. A less immediately recognizable benefit derived from the fact that had the 4-*bouw* reserve been surveyed at the time of the granting of the concession, no allowance whatsoever would have been made for population growth, whereas under the system that actually developed the number of claimants grew steadily with an increase in the number of households.

The chief drawback of this system was that, whereas the old swidden was used for not less than three years, the harvested tobacco land (*jaluran*) was used only for the growing of a single rice or corn crop. No second planting was permitted, above all no planting of such crops as cassava, bananas, or pepper. This meant that the agricultural system of the Karo Batak and of other inhabitants of agricultural concessions in East Sumatra was severely curtailed and the people deprived of any flexibility in the development of new crops, such as rubber or other export crops, in response to new market demands or other stimuli.

The planters for their part also discovered drawbacks. In accordance with the *adat,* the rulers regarded any Indonesians who settled in their territory as their subjects with, therefore, the right to use as much land as needed to support themselves. The prospect of unending land claims dismayed the planters, who quickly objected to the identical treatment of autochthonous people and immigrants, insisting that only the descendants of families who were within the concession at the time of the original contract had valid claims; each plantation therefore began keeping lists of persons having legitimate claims. With hindsight, the planters must often have regretted that their predecessors did not comply with the original government requirement for reserve lands, which would have clearly separated the agrarian rights of the two parties.[10] The chance missed, the consequences were unending disputes, investigations, annual allotment of the harvested tobacco fields, competition between laborers and peasantry for the opportunity to plant rice on *jaluran* during the rainy season, the necessity of keeping accurate accounts of the population in order to avoid fictitious claims, and careful supervision of the activities of the peasantry on the *jaluran* in order to prevent the filling in of drains dug at considerable expense by the planter.

Even the model contract of 1878 did not create conditions acceptable to the Karo Batak, who again expressed their resentment by burning tobacco barns. Resident Kroesen, aware of at least the major Karo Batak objections, recommended various revisions, most of which were incorporated in the new model contract issued under Government Decree No. 1/C of 19 September 1884. A response to specific Karo Batak grievances was evident in provisions giving the local population the right to collect forest products in those parts of the concession not yet cleared and to cut firewood and timber for personal consumption — though not for sale. Fruit trees, and any other trees in

which wild bees habitually build their nests, had to be bought — or spared if the owners were not willing to sell. The new contract also moved toward clarifying the planters' land obligations. Article 6 redefined the term "residents" (*opgezetenen*) as "all heads of households who had their home within the concession at the time it was granted or who moved there afterward and who, according to native custom, must be regarded as rightful claimants." [11] The article further stipulated that a reserve of 4 *bouws* be set aside for each rightful claimant only *on request.* In other words, in recognition of the practice that had developed of lending the local peasants harvested tobacco fields, the concessionaire who continued to plant tobacco was no longer obliged to reserve 4 *bouws* automatically for each head of a household.

An innovation in the 1884 model contract was the kampong reserve, required to have a maximum width of 600 feet (100 *vadem*) and a minimum area amounting to three times the existing kampong site (Article 10). There was general acceptance of this provision in contrast to the resistance evoked by Article 11, which extended and in effect legalized the *jaluran* system. The procedure established by this article gave the peasants the *jaluran* for one year, specifically sanctioning the cultivation of rice *and* corn, i.e. upland rice from July to December and corn from January to June. The planters strongly opposed the use of the *jaluran* for more than one crop (half a year), arguing that the production of two crops would expose the land too long to the dangers of erosion and delay the reforestation of the land. Article 11 also drew objections for providing that the claimants had the right to *jaluran* over and above (*boven en behalve*) the right of a reserve of 4 *bouws* for shifting cultivation and kampong reserve. This seems, however, not to have been observed. I am not aware, at least, of any instances in which claimants received their 4 *bouws* and still shared in the use of harvested tobacco lands. There were already signs of a *jaluran* shortage, and the model contract faced this eventuality by requiring that on tobacco plantations where claimants outnumbered available *jaluran,* forest land (*rabean*) be placed at the disposal of the villagers.

The planters proposed a number of changes in the 1884 model contract, but their most serious objections centered on Article 11. One suggested revision of this article would have limited *jaluran* rights to residents of nearby kampongs — an undisguised attempt by the planters to retain some of the original flexibility of the system. Many

advantages accrued from such practices as giving *jaluran* to Chinese laborers, who were usually bachelors and therefore amenable to selling their rice or corn to the plantation.

The district officers recognized this aspect of the planters' anxiety; and they pointed out that their habit of dispensing *jaluran* to Batak headman in return for good will and cooperation, or to imported Batak laborers as an inducement to work on the plantations, had significantly contributed to the apparent shortage. Furthermore, with tobacco planted to the very borders of kampongs, the villagers no longer had any forest soils at their disposal for the cutting of swiddens, even if they wanted to do so. The planters had no right, therefore, to exclude any claimants from the allotment of *jaluran* under any pretext whatsoever. This was especially true, the district officers added, in light of the fact that the planters had not surveyed and set aside the 4 *bouws* of forest land to which the people had claim and, worse, having gradually planted their entire concession areas could no longer do so even for a legitimate demand. This situation had already arisen in the late 1880s on plantations in the lowlands. The district officers had suggested at that time that the big tobacco companies as an alternative develop irrigated rice land (*sawah*) and place this at the disposal of Karo Batak laborers from the plateau and of laborers from Bantam, Java, and South Borneo, who according to the planters were willing to cut forest and build tobacco barns only if provided with a plot of land on which to plant rice. "If the large companies would invest a modest part . . . of their dividends, which remind one of the period of the East India Company, in order to develop *sawahs* . . . for their wood cutters and barn builders, then all grievances would disappear," observed one district officer.[12]

After several unsuccessful attempts to persuade Batavia to alter the model contract of 1884, particularly Article 11, the planters petitioned the Minister of Colonies in 1891 to order a revision, arguing first of all that the mere existence of the custom of alloting *jaluran* to the local population, an outgrowth of the casual practice of putting such plots at the disposal of Chinese and other laborers, did not constitute grounds for making the *jaluran* system a legal obligation. Their petition also cited unwarranted interpretations of the contract, e.g. Article 11 had been intended as a temporary measure for the benefit of the Karo Batak, who were expected sooner or later to turn to the cultivation of permanent rice fields, or *sawahs,* but in fact the *jaluran* system was being applied in areas inhabited by Malays near the coast. The planters

perhaps petulantly added that the *jaluran* were actually badly managed and that *Imperata* was gaining the upper hand, a situation with harmful consequences for the tobacco industry.

Resident Michielsen skilfully rebutted their arguments in his memorandum of 2 January 1892.[13] Reviewing the history of the *jaluran* system the resident conceded that in the lowlands the granting of *jaluran* was a voluntary act on the part of the planters, as concessions there either predated 1877 or conformed to the first model contract and so did not have a provision for reserve lands. But in the uplands the planters had always had a legal obligation to allow rightful claimants the use of harvested tobacco land — in lieu, that is, of the explicit requirement in the later contracts covering the uplands that 4 *bouws* be set aside for each household. In a further rebuttal Michielsen pointed out that in their eagerness for land the planters had generally taken more than their right, had fixed concession boundaries among themselves without consulting the local rulers, and by juxtaposition of concession areas had left no land for the population — which had meanwhile increased considerably both because of natural growth and because of the immigration of people attracted by the economic opportunities in East Sumatra. The result was a clear moral obligation to assume responsibility for these people. The planters were to be deplored for regarding the local population as superfluous or a nuisance and for begrudging the Malay, too "lazy" to work on the plantations, his right to exist. Commenting on the planters' demand that the population of East Sumatra be directed from swidden to permanent-field agriculture the Resident asked: "Why must the native population change over to an intensive form of agriculture, while the planters continue to practice shifting cultivation (*roofbouw*)? The former are the ones who have the strongest rights to the land."[14] As for the charge that the *jaluran* cultivators were doing nothing to control the *Imperata,* Michielsen dismissed the matter with the remark that admittedly tobacco yields were higher on second-growth forest land but "*lalang* tobacco" was actually of good quality and in any case the planters themselves were really to blame for the rapid spread of the troublesome grass, which first became a problem in the tobacco fields the early planters abandoned after a single crop. All in all, the conclusion seemed obvious to Resident Michielsen: Article 11 was essential.

But the persistent protests and petitions of the planters finally led to some revision of the model contract, and a new version went into

effect on 3 November 1892. The reference to "waste land" was dropped in favor of a statement that "the sultan and those vassal chiefs who are concerned . . . grant . . . a concession for the operation of an agricultural enterprise". In many respects, the planters won their argument at the expense of the peasants. Whereas the model contract of 1884 had given the peasant the right to use his *jaluran* for one entire calendar year and permitted him to harvest two crops, the revised version gave him the land for the raising of one rice *or* one corn crop. The peasant was free to plant both rice and corn together, but not one after the other.

As to swidden land (*wisselgronden*), the 1892 model stated that land within the concession which was being used by the native population for swidden cultivation must be left at the disposal of the occupants, if so demanded. In case inhabitants of a village outside the concession had their swidden within the concession, the concessionaire was obliged, if so asked, to make land available for each household, the actual number of hectares in such a reserve to be determined for local contracts by the resident. A standard area was not specified because the model contract was to be applicable not only to Siak and its former dependencies in East Sumatra but to all islands other than Java and Madura. According to Bool, Labberton, and other writers, the Resident of East Sumatra fixed the amount at four hectares, rather than four *bouws,* or 2.8 hectares. This seems to me to indicate a belated realization that 4 *bouws* was entirely inadequate, but I must hasten to add that 4 hectares was too. Also, we must remember that such an increase applied only to new concessions written after 1892 and was not retroactive, so that practically all autochthonous people of Langkat, Deli, and Serdang who were living within concessions — and this included almost all of them — had a claim on only 4 *bouws.*

The innovation that even villagers residing outside of a concession must be given land was apparently introduced because the Resident of East Sumatra had become aware that petty rulers, and even some of his own subordinates, showed a tendency to serve the interests of the planters by drawing the boundaries of concessions in such a way that kampongs and swiddens would fall outside the concessions. Under the provisions of the model contract of 1884, this would have deprived them of any right to claim land, even if it meant that they were left without a source of livelihood. This type of treatment was supposedly no longer possible under the terms of the 1892 model contract, but

there are strong indications that peasants found it very difficult to press their claims. In practice, so states Lekkerkerker, only those heads of households who were actually residing and farming within a concession, and who made a firm demand, received the reserve.[15] Since the 1892 model contract stated that an Indonesian could make a claim for swidden land only if he were actually farming, all other individuals who for one reason or another (even for a reason of a temporary nature) had no swidden at the critical date could not ask for land, and this despite the fact that customary law permitted any villager to occupy land even after a temporary period during which he made his living as a trader or fisherman. This seems to have been a violation of Indonesian agrarian rights and of course carried serious implications for the next generation. Let us assume that a fisherman or trader lived in a village lying within the boundaries of a concession which was used for the production of a perennial crop, rather than of tobacco. Since a plantation engaged in the cultivation of perennial crops has no *jaluran,* it became necessary to survey reserve swidden lands for all rightful claimants. Our trader or fisherman could not ask for four hectares according to the model contract of 1892, thus he and his descendants were discriminated against. Should one of his sons wish to become a farmer, he would either have to migrate and look for a possible farm site elsewhere or work as a tenant, if he did not have the money to buy someone else's land in the home village.

Another very important change was made between 1884 and 1892. The earlier model gave agrarian rights to those subjects of the concession-granting ruler who settle in a village within the concession after the signing of the contract. This was no longer possible under the 1892 model contract, which called for a counting of families with agrarian rights at five-year intervals.

Article 4 of the last model contract forbade the leasing to non-Indonesians, i.e. Chinese market-gardeners and livestock producers, of swidden land which had been surveyed and set aside for rightful claimants, unless permission had been obtained from the district officer. The planters, arguing that this did not go far enough, pushed for an article forbidding the transfer of swidden land to other Indonesians, i.e. immigrants from other parts of Indonesia. The planters contended that land within a concession no longer wanted by the original occupant should be returned to the planter.[16] Such a provision was never obtained.

On a number of other points the 1882 model was less favorable

than the one of 1884, so far as the Indonesian peasants were concerned. The *jaluran* no longer had to be located near the kampongs of the rightful claimants, although it was stated that the planter should keep in mind that too great a distance between kampong and *jaluran* would cause hardship. The planters were required to place only one-half of the harvested tobacco area at the disposal of villagers, a change ostensibly made in order to reduce the danger of a rapid spread of alang grass.

Table 8 enables us to compare the various model contracts with one another and to trace the gradual development of a set of rules designed to protect the interests of the East Sumatran peasantry, who had suddenly found themselves surrounded by powerful plantation companies employing tens of thousands of imported laborers, brought in at first from China and later from Java. (See pages 82-83.)

With the steady growth in population, the question of who was a rightful claimant of either *jaluran* or swidden land became increasingly important and caused a rising number of disputes. The model contract of 1878 had defined the term "residents" (*opgezetenen*) as including those who had their own dwelling on land that had been granted to a planter. The latter insisted that this excluded the head of a household who had no dwelling of his own but was sharing a house with someone else. The traditional Karo Batak house, however, is very large, usually providing shelter to several households. Aware of the customary law, the district officers had warned against the narrow interpretation given by the planters and had done their best to protect the agrarian rights of those heads of households who shared a single large house with other households.

The model contracts of 1884 and 1892 no longer limited the group of rightful claimants, or *residents,* but included all those who were cultivating land at the time of the issuance of the concession, together with their descendants. Yet many difficulties arose out of the fact that the model contracts invariably treated all of East Sumatra as if the same agrarian concept prevailed throughout when actually there was considerable tribal variation. The agrarian customs of the Malay near the coast differed from those of the Karo, Simelungun, or Toba Batak. The *krapatan* (court) of Serdang attempted the first codification of the *adat* — the exact date is lost — regarding the question of who possesses agrarian rights. Since this codification greatly extended the list of persons who in the eyes of the judges of Serdang had legitimate claims, the planters refused to accept the more extensive list. Even

this codification applied only to the coastal regions but not to the areas inhabited by non-Moslem Karo or Simelungun Batak.[17]

In 1924 a revised codification issued as the *Rakyat Penunggul* Regulation was made applicable to Langkat and Deli as well as to Serdang and specified anew who should be regarded as a member of the autochthonous population. The planters were unwilling to accept the *Rakyat Penunggul* Regulation as binding but regarded it, at best, as a guide.[18]

The rulers, anxious to gain more subjects, were always willing to grant citizenship rights to Javanese or other immigrants who settled in those part of their states that might be regarded as their domain. Batak *adat,* on the other hand, does not allow immigrants into Batak territory to become citizens with rights equal to those enjoyed by local villagers except through intermarriage, since in a Batak community all land belongs to the ruling *marga.*[19] Members of this *marga* and members of other *margas* related to it by marriage have exclusive right to the land.

In the course of time, differences developed in the degree of agrarian rights and led, in respect to the distribution of *jaluran,* to a distinction between the so-called "A" and "B" groups. Persons in group "A" received a *jaluran* of 6000 square meters and comprised (1) family heads born in a kampong within a concession, or descendants of a person who was living within the concession prior to the establishment of the plantation, (2) family heads who were born outside of the concession but whose father or grandfather lived within the concession prior to the critical date, (3) widowers whose father or grandfather had lived within the concession prior to the critical date, and (4) widows with male offspring whose father or grandfather had lived on the concession. It will be seen that the "A" group consisted of persons descended in the male line from a person who resided on the concession at the time it was granted. Persons in group "B" received 4000 square meters as *jaluran* and included (1) household heads whose father had been born outside of the concession and who had settled in the concession after the date of the grant, (2) household heads who although born in the concession were descended from a person who had migrated to the concession after the date of issuance, and (3) widows with a male child whose father came under (1) or (2). Besides these two groups, the planters set up a "C" group, consisting of persons who had no legal claim but received *jaluran* as a favor.

The settlement pattern of the Karo Batak in the so-called *dusun*

TABLE 8
MAJOR PROVISIONS OF THE MODEL CONTRACTS

Item	1877	1878	1884	1892
Duration of Concession	75 years	Maximum 75 years	Maximum 75 years	Maximum 75 years
Marking of Boundaries	—	—	—	Within 1 year
Disputes to be Settled by	Ruler and vassal chiefs, in consultation with District Officer if so desired	Ruler and vassal chiefs in consultation with District Officer or Resident	(Agrarian Rights of Autochthonous Population:) Native Administration in consultation with District Officer or Resident	(Agrarian Rights of Autochthonous Population:) Resident
Agricultural Land Available to Peasant Population	Land currently in use	Land actually in use plus a reserve which would bring the total to 4 *bouws,* if so desired	Swidden land, if so requested, amounting to 4 *bouws.* Kampong land: minimum 3 times size of the present kampong and who according to native practice are recognized as rightful claimants	Swidden land in use plus reserve, which would bring the total to 4 hectares. Kampong land: minimum 3 times size of the present kampong
Compensation for Fruit Trees	Have to be properly compensated for	Same	Same	Same, plus approval of District Officer if fruit trees found on land actually occupied by peasant

Item	1877	1878	1884	1892
Founding of New Kampongs	—	—	—	With approval of Resident in consultation with Native Administration
Rights to Forest Products	Products may be collected	Products may be collected	Products may be collected including timber plus firewood	Same, but with formal approval of concessionaire
Use of *Jaluran*	—	—	1 year for rice and corn crops	1 harvest of rice *or* corn
Cemetaries	—	—	—	Have to be respected. Land has to be given if expansion is required
Rivers	—	—	Forest belt of 50 meters on both sides must be spared	Forest belt of 50 meters on both sides must be spared; also a circle of 100 meters diameter around springs
Digging of Sand and Clay	—	—	—	Permitted for personal use
Rent	1 guilder per *bouw*	1 guilder per *bouw*	1 guilder per *bouw*	?
Plan of Concession	Boundaries only described by reference to land marks	Same	After 12 years, a map on scale of 1 : 10,000, and survey	After 3 years, a map and survey

parts of the states of Langkat, Deli, and Serdang was basically changed at about the turn of the century under administrative pressure from the first district officers to work among the Karo. The planters and district officers noted that the Karo of the uplands were living in widely scattered small hamlets, which were abandoned whenever the distance between hamlet and swidden became inconveniently large. Both planters and district officers preferred larger and fewer settlements. This was brought about by the laying out of larger Karo Batak kampongs. At first the district officers tried to locate these new kampongs by drawing a circle with a radius of 250 meters around the house of the village headman but, because the house of the headman was almost always located near the bank of a creek or river, the village was thus divided into two parts by the water course. In order to avoid this, it later became customary to measure 20 hectares as kampong reserves. These lands were marked clearly with boundary markers and lines of teak trees along boundaries that were formed by straight lines, except at the water front. These reserves became known as *tanah seratus* (hundred land) because the model contract called for a reserve with a depth of 100 *vadem* (200 meters) around the kampong proper. Two district officers were, in the main, responsible for the fixation of the Karo Batak kampongs: C. J. Westenberg and G. L. J. K. Kok.[20] The latter also insisted that each family living in such a *tanah seratus* complex should plant, among other crops, seventy-five coconut and two hundred betel nut palms (*Areca catechu,* Linn.) on about one hectare of land. This creation of permanent Karo Batak kampongs, surrounded by groves of fruit trees, had serious repercussions. Tobacco planters used the upland estates for only a short period, abandoning them when the best top soils had been washed away and when the market demand for wrapper tobacco declined, due to an increased preference for cigarettes — at the expense of cigar consumption. But the Karo Batak continued to practice swidden cultivation and, rather than relocate their now unaccustomedly large kampongs every few years, confined their operations to a limited radius around their permanent kampongs. This caused erosion and soil exhaustion on land which would have been used less intensively had the old pattern of land use prevailed.

There is a basic difference between linear, lowland settlements stretching along rivers, which can be navigated by sampans (Map XII), and upland settlements of Karo Batak, which are either circular or square in shape and are located a short distance from a creek or river

on a terrace. The lowland settlement may be inhabited by people who call themselves Malay but are really Karo Batak who followed the example of their chiefs by becoming Moslems. The upland Karo Batak kampongs founded by Kok are characterized by an arrangement of the houses around a center square with the entire complex frequently surrounded by a wall, which makes defense somewhat easier.

The period from 1865 to 1895 saw an almost continuous struggle between the planters and the Dutch officials over the terms under which rulers could grant agricultural concessions and the extent to which the agrarian rights of the local population would be safeguarded. Each new restriction was viewed with suspicion and accepted only reluctantly by the planters. When in 1878 the government wanted the old contracts updated so that they would conform with the model, the planters flatly objected, citing the principle of the inviolability of a contract, one which, moreover, had been approved by the resident. They insisted that the great risks taken by the pioneers in the days before government protection had become dependable and the great contributions made by the planters to the economic development of East Sumatra entitled the holders of early concessions to special advantages accruing from the contracts written prior to 1877. This refusal to have new restrictions retroactively applied to old contracts is the reason for striking differences in the economic position of the villagers between older and younger parts of the East Sumatran plantation region.

CHAPTER VI

THE PROBLEMS OF CONVERTING AGRICULTURAL CONCESSIONS INTO LONG LEASES

As the demand for tropical agricultural products rose in the second half of the nineteenth and first three decades of the twentieth century so too did the demand for concessions in East Sumatra.[1] The resultant influx of new capital was rapidly changing the character of economic relations from the antipathetic symbiosis between planter and peasant to what might be called an antipathetic juxtaposition of realigned interest groups. Local rulers, the indigenous population, Netherlands Indies officials, planters, immigrant laborers — all were involved in the spectacular development of plantation agriculture in East Sumatra either to benefit or to suffer from the accompanying social and economic dislocations.

By 1900 attention had begun to focus on two related aspects of the evolving situation, namely, the legal nature of the concessions arranged between planters and the princes of the indirectly ruled states of East Sumatra and the extent to which the granting of large concession areas by these princes had deprived the indigenous population of inherent rights. The question of the legal nature of the East Sumatra concessions had an immediacy for planters trying to finance their operations through the banks or to establish their rights vis-à-vis inheritance, other ownership transfers, and the legal defense of concession agreements.[2] The fact that the concessions had been made by the Indonesian rulers with the approval of the highest Netherlands Indies official concerned, the Resident, did not of itself, so the argument ran, establish a *jus in rem* (*zakelijk recht*). Those arguing that the concessionaire held only a personal right, or *jus personalissima,* pointed out that:

(1) The concession contracts were not concluded in the manner required for the establishment of a *jus in rem.*

(2) The contracting parties were not permitted to establish a *jus in rem* without official arrangements.

(3) Complete or partial transfer of the right was not possible without official approval.

(4) The payment of the *hasil tanah* was not to be considered an integral part of the concession, whereas the *canon* was an integral part of the long lease. (Some of the concession contracts, in fact, did not call for the payment of *hasil tanah.*)

(5) The government regarded the right of the concessionaire as a *jus personalissima,* for which reason no land tax was levied, whereas in the case of a long lease a land tax was collected.

The defenders of the concession as a *jus in rem* countered that:

(1) The duration of the concessions in indirectly ruled territories, as of the leases granted in territories under direct rule, was seventy-five years.

(2) The purpose of the right was in both instances the same: exploitation of "waste land".

(3) As early as 1870 the Dutch authorities had come to the conclusion that the personal right of lease was too uncertain to attract European capital to the Netherlands Indies, all the more so in states where the planter without a *jus in rem* might become the victim of the highhandedness of a petty ruler.

(4) The concessionaire had almost the same number of rights as had a long-lease holder.

But behind this legal discussion, which always avoided resolution in favor of the conversion of all concessions to long leases with their many legal advantages for the planter, loomed the much more complex problem presented by the discrepancy between the concessions and the long leases in their relation to local agrarian rights. This was the period of the new "ethical policy" and there were many critics who saw the concessions as a clever device enabling plantation companies to acquire large blocks of land, and, by their intertwining of agrarian rights, as a source of injustice for the defenseless peasants. These critics felt that it was too much to expect a planter or a plantation company to act against economic self-interest in favor of the Indonesian population. If the princes did not look after their own subjects, how could a foreign planter be expected to show a genuine interest in the welfare of the princes' subjects, particularly if this would be costly? It was true that the Resident had to approve the granting of a concession and had to make certain that the restrictions embodied in the model contracts were imposed upon the planter in the interest of the autochthonous people. But even the best model

contract was still inadequate, in the opinion of critics, since it left too many loopholes which permitted the planter to take unfair advantage of the economically and politically weak colonial population. It was always easier to enforce the letter than the spirit of the law. Although each new model contract had attempted to widen the protection of the population, it was physically impossible for overworked government officials to prevent all manifestations of oppressive power on the part of the planter aristocracy, particularly when the planters were being supported by the local princes and their vassals, the territorial chiefs.

The effect was to make the indigenous population the victim of a complex alignment of interest groups which included their own local princes. And as long as all payments by the planters could be considered private income, the princes had compelling reason to side with the planters and to fulfill their every request for land. No wonder that some princes granted concessions on practically every square kilometer of their territory and even claimed areas actually controlled by inland chiefs. The more powerful princes were encouraged in this by the planters, anxious to acquire as much land as possible, and by the Netherlands Indies government, committed to promoting plantation agriculture and appreciative of the cooperation the princes could offer in administrative matters. But the unprecedented nature of East Sumatra's economic development was a factor in itself. Most of the concession land came under the control of the planters before the population of East Sumatra had had time to adjust to the new economic opportunities. Recovering from the impact of the establishment of colonial control, the local cultivators discovered their freedom to plant the newly introduced crops already gone.

In a belated effort to provide the indigenous people with a spokesman, the officials of the Department of Interior (*Binnenlands Bestuur*) assumed the role of mediator between the planters and rulers on the one hand and the villagers on the other. Although many of the officials sincerely sympathized with the economically and politically weak villagers, their actions generally skirted any direct conflict with the planters who were often able to bring pressure to bear on these officials through powerful friends both in Batavia and in The Hague or through social pressure arising inevitably out of daily contact.

An explosive event in the rising tide of criticism was the publication in 1904 of the pamphlet *De Millioenen uit Deli* by J. van den Brand, one of the most outstanding critics of the planter aristocracy. This

pamphlet turned a harsh light on labor conditions in the colony, shocking the Netherlands public with graphic descriptions of the laborer's lot and contributing substantially to the creation of the Labor Inspection Service for the Outer Islands, mainly for East Sumatra. Van den Brand also presented a scathing exposé of the many malpractices indulged in by rulers, planters and other business people. There was, for example, the sinister pressure on government officials by means of auctions. Government officials were frequently transferred, at which time they would auction off their household goods. But these ostensibly simple auctions masked an elaborate system of bribery. The higher the official and the more critical his assignment in respect to the planters and other businessmen, the better the results of the auction, provided the official had not acquired the reputation of being pro-native and anti-planter or anti-business. At one such auction, an ink stand brought 510 guilders; a desk ruler, 120; a cigar cutter, 350; a globe, 650. The auction held by the retiring Resident of East Sumatra on 7 August 1902 brought him a total of 43,250 guilders.[3] The buyers at such auctions were rulers and members of the aristocracy, planters, leaders of the Chinese community, and European businessmen — all persons who felt themselves threatened by the social, political, and economic philosophy of some government official stationed in East Sumatra.[4]

The powerful position of the planters had several sources, a sometimes overlooked one being the entrenched authority of the pioneer. Nienhuys, it will be recalled, was already there to act as host to the first government officials to arrive in East Sumatra, and for several decades thereafter the Netherlands Indies government permitted the planters to be their own lawyers, policemen, public prosecutors, judges, and diplomats. Many precedents were set in these decades. Even compliance with regulations concerning local agrarian rights was for all practical purposes left to the concessionaires, which amounted to government abdication of responsibility in a largely discretionary area for, as critics of the concession agreements were later to emphasize, the model contracts conformed neither to Dutch civil law nor to local *adat*.

Bool,[5] leading spokesman for the planters, defended their procedure — and accompanying mistakes — as understandable in the confused situation that had obtained when the population was still sparse and the future of plantation agriculture in East Sumatra unassured. Much less defensible in Bool's view was the unconcern of the princes for

the welfare of their own subjects, with the consequent and illogical assignment of this obligation to the planters. Bool insisted that the Netherlands Indies government, not the planters, should have assumed the task of protecting present and future populations from a land scarcity. It is, in fact, hard to justify the government's position in continuing to permit the issuance of plantation rights after the turn of the century, when land was being planted to perennial crops. Even though four hectares were being reserved for each household, the government made no provisions for population increase. Bool saw the government at fault in not setting aside enough land for the indigenous population and then confining the planters to the rest. This method would have avoided the many conflicts that developed between planters and population.

Bool maintained that it was absurd and untenable to compel a concessionaire to place part of his concession at the disposal of the population or to oblige the population to turn to the planters in their search for land, for, after all, the paramount concern of the planters was to make a profit. The population's increasing demands for land was becoming a nightmare for the concessionaire, who was already uncertain how far his rights extended.[6]

But wherever the blame lay there was no gainsaying the bewildering complexity of the rights tangle. A few recognized the dimension contributed by the remarkable growth of plantation agriculture and the great influx of people from the outside into exactly those parts of Sumatra that only a few years before had been among the most unattractive sections of the island. (It is the once most thinly populated parts of Sumatra which have, by now, the highest densities.)

That at least some early government officials were aware of the damage and hardship to the native population caused by the development of plantation agriculture is clearly shown in this passage from a letter written in 1886 by Kroesen, a district officer.[7]

That plantation agriculture could expand without causing shocks and that the population acquiesced in an entirely new situation which *often caused damage or at least hardship,* is due to the fact that the people had the advantage of obtaining their rice fields ready-made for planting.

Van Vollenhoven, the great critic of the Netherlands Indies agrarian policy, refers to the period from 1870 to 1920 as "a half century of injustice" and notes that even after half a century of close contact between Indonesian peasants and Western planters the Indonesians

were anything but acquiescent.[8] Missionaries working in North Tapanuli testified that the Toba Batak never tired of the theme that it would be disastrous if their land, like the land of the Simelungun, were to get into the hands of the great plantation concerns by way of concessions or long leases. There was a great deal of unrest in the Silindung valley and other parts of North Tapanuli immediately following World War I over the influx of land speculators, who applied for hundreds of thousands of hectares of land for tea and other plantation crops. Equating the establishment of plantations with tens of thousands of imported Muslim Javanese laborers, the missionaries zealously helped their Batak Christians to draft resolutions and petitions protesting the granting of either concessions or long leases to planters. The Toba Batak, wiser for the experience of the neighboring Simelungun, took issue with the claim that the government possessed the exclusive right to issue "waste land" to the planters on the basis of the Agrarian Law, arguing the prior claim of their *adat*. The *adat* regarded all land in Tapanuli as property of the *margas*, from whose spokesmen permission had to be obtained by anyone desiring to develop a plantation.[9] The opposition of the Toba Batak together with the missionaries was so effective that no plantations were actually developed in the Toba and Pakpak area, although maps show the boundaries of long leases for which application was made. For some reason — local opposition, lack of capital, drop in prices or demand, or other — these leases were never effectively taken up.[10]

The criticism directed against the agricultural concessions from various quarters finally moved the government into action. By now there was general agreement on the necessity of giving the planters a *jus in rem* on the land, and the best way to do this and at the same time separate very clearly the agrarian rights of the Indonesian population from those of the planters seemed to be completely giving up the device of the agricultural concession and replacing it by that of the long lease (*erfpacht*).

The first action taken was the Royal Decree of 6 May 1915, which stated that the Civil Code of the Netherlands Indies should henceforth be applicable — in effect that planters would in the future acquire real rights (*jus in rem*) to land; agreements in the future would be properly registered. This was followed in 1919 by a special law which introduced the long lease into the indirectly ruled states outside of Java and Madura.[11] As a result of these laws, agricultural concessions could no longer be issued in East Sumatra, except for Langkat, Deli,

and Serdang — states whose rulers had signed the so-called Long Contracts. These had to be revised before the long-lease ordinance could be applied to the three above-mentioned states.

But what was to happen to the hundreds of concessions granted between 1864 and 1919? Here many millions of dollars had been invested. Under what conditions were the planters to operate once their concessions expired? Several years went by without much apparent concern, but in the late 1920s the planters began to press the government for clarification, since they could not make plans regarding upkeep, improvements, or other issues without knowledge of what the future held for them.

In January 1927 the Governor-General instructed the Director of the Department of Interior to examine the question of renewal of long leases in Java and to study whether the agrarian rights of the planters of that island should be either renewed or revised. Noting that the first long leases in Java were not to expire until 1945, the director recommended that the examination of this particular problem be postponed in favor of an immediate study of the problem of the renewal of agricultural concessions in East Sumatra. In light of the early expiration of the oldest concessions there — the first concession was to expire in 1931, another five between 1936 and 1938 — there was not much time left. (The years of expiration after 1938 are given in Tables 9 and 10.) The Department of Interior then received instructions to prepare a preliminary plan for the treatment of expiring agricultural concessions and to determine what changes would be required in the political agreements (Long Contracts) with the rulers of Langkat, Deli and Serdang in order to apply the long-lease ordinance to these states.

Memorandum of Du Marchie Sarvaas

The Inspector of Agrarian Affairs, Du Marchie Sarvaas, submitted a long memorandum on 31 March 1929 which the Governor of East Sumatra then forwarded, in July of the same year, to the Deli Planters Association and to the Association of Rubber Planters of East Sumatra with a request that they study the memorandum and submit their reaction.[12] This request marked the formal opening of the negotiations between the government and the planters over the conversion of agricultural concessions into long leases.

Of two effects his memorandum had on the situation, one was to establish the advisability of limiting initial discussions to the tobacco

TABLE 9
YEAR OF EXPIRATION OF TOBACCO CONCESSIONS IN LANGKAT, DELI, AND SERDANG

Year	Area for which Concession Expired	Percentage of Total Area
1938	5,699	2.2
1942	204	0.1
1944	3,169	1.2
1945	1,190	0.5
1946	2,120	0.8
1947	4,478	1.8
1948	7,409	2.9
1949	3,146	1.2
1950	12,354	4.9
1951	8,821	3.5
1952	616	0.2
1953	4,169	1.6
1954	10,473	4.1
1955	11,435	4.5
1956	27,355	10.8
1957	22,187	8.7
1958	1,419	0.6
1960	38,923	15.3
1961	39,786	15.6
1962	1,417	0.6
1963	10,007	3.9
1964	3,677	1.4
1965	12,402	4.9
1972	600	0.2
1973	1,069	0.4
1974	3,302	1.3
1977	7,041	2.8
1982	7,656	3.0
1984	1,014	0.4
1985	983	0.4
Total	254,321	99.8

Source: van Beukering, *Nota*, 1 June 1939, Appendix 1.

lands, whose cultivation problems differed basically from those of the lands given over to perennial crops and around which had grown the more acute agrarian rights tangle. The other was to reveal how far the two sides — the government and the planters — still had to go before meaningful discussion could begin. Du Marchie Sarvaas, centering his attention on ways to increase the indigenous share in land and

revenue, proposed an over-all reduction of the tobacco concession area by at least 12.5 percent and an upward revision of rental rates. Specifically, his plan called for making an estimated 25,000 *bouws* available either by shortening the rotation by one year or by lengthening the *jaluran* period from half a year to two years. To ensure

TABLE 10 (same source as TABLE 9)

YEAR OF EXPIRATION OF THE CONCESSIONS FOR PERENNIAL CROP PLANTATIONS IN LANGKAT, DELI, AND SERDANG

Year	Area for which Concession Expired	Percentage of Total Area
1938	2,368	0.9
1946	2,200	0.8
1948	1,451	0.5
1949	4,530	1.7
1951	514	0.2
1956	7,323	2.7
1957	4,400	1.7
1958	3,596	1.4
1959	307	0.1
1960	7,250	2.7
1961	58,505	22.1
1962	7,653	2.9
1963	10,768	4.1
1964	5,682	2.1
1965	4,905	1.9
1966	2,774	1.0
1967	263	0.1
1968	276	0.1
1970	14,534	5.5
1971	8,465	3.2
1972	5,232	2.0
1973	11,517	4.3
1974	6,872	2.6
1975	2,446	0.9
1976	3,204	1.2
1979	4,187	1.6
1980	1,244	0.5
1981	10,076	3.8
1982	9,159	3.5
1983	2,723	1.0
1984	6,185	2.5
1985	28,366	10.7
1986	9,979	3.8
1987	2,575	1.0

equitable distribution of the *jaluran*, Du Marchie Sarvaas added the suggestion that the district officers be made responsible for this aspect of the system. As to rentals, his memorandum contained a flat recommendation that long leases thereafter be limited to a period of fifty years with annual rental at 15 guilders per *bouw* and that the *presènt tanah* (a kind of "key money" payment made at the beginning of a long lease) be set at 200 guilders per *bouw*.

The memorandum brought a sharp outcry from the planters, who refused even to consider the proposed changes in rotation practice or in the *jaluran* system. A counterproposal was presented concerning conversion itself, viz. that leases be written for seventy-five years at a rental of 3 guilders per hectare, beginning after expiration of the original concession period, with a *presènt tanah* payment of 10 guilders per hectare less 1.50 guilders per hectare for each ten years remaining of the original concession period at conversion. The planters also demanded a proviso requiring fifteen years' advance notice by the government in the case of non-renewal of a lease and mandatory government purchase of any standing crops and all such permanent improvements as buildings, roads and canals.

From 1930 to 1933 the rental question eclipsed all others in the continuing conversion debate, with the government finally making the first move toward a compromise by accepting the hectare rather than the *bouw* as the basis for its proposed 15 guilders rental. During these same years a tentative effort was made to find out exactly how many peasants, in the event of conversion, could demand compensation.

Memorandum of Bastiaans

A new attempt to find a basis for round-table discussion by government and planter representatives came with the circulation among the appropriate ministries of a memorandum to the governor of East Sumatra dated 5 August 1933 and prepared by the Inspector of Agrarian Affairs, Bastiaans. Although this second study was far more thorough-going than the first, the governor of East Sumatra, apparently influenced by his informal consultations with the planters, pronounced the memorandum unsuitable as a basis for formal talks and, so far as can be determined, never officially forwarded the study to the directors of the planters' organizations.[13]

With attention still centered on future rental and the release of land to indigenous claimants, Bastiaans had dealt at length with these two aspects of the problem. His proposal as to rental called for a sliding

scale of 1.50 guilders a year for each hectare plus 25 percent of the annual profits in excess of 10 percent, beginning at the expiration of the original concession period. As to the land question, Bastiaans flatly opposed letting the planters continue to use a system developed thirty to forty years before and, in his opinion, thirty to forty years behind the times. To establish a clear separation of peasant and planter agrarian rights, Bastiaans proposed an end of the *jaluran* system and the return of no less than 25 percent of the concession area to the peasants as compensation for the loss of *jaluran*.

In specific rebuttal to the memorandum, the governor maintained that a straight annual rental of 5 guilders per hectare was adequate and that to tamper with the prevailing pattern of land use would be to tamper with the *adat* into which the *jaluran* system had by this time become incorporated. Blind insistence on the recognition of agrarian rights emanating from old concession agreements was, the governor felt, unrealistic.

In unwitting emphasis of the arguable nature of the premise on both sides Batavia divided its support, agreeing with the governor on the issue of the future rental and with Inspector Bastiaans on the issue of the amount of land to be released and the closely associated issue of the *jaluran* system. But Bastiaans and the governor themselves agreed on one thing: the need for a special office to investigate agrarian affairs in East Sumatra. So finally in Batavia, in October 1935, eight long years after conversion became an accepted possibility, a temporary office, the Conversion Bureau, was officially opened in Medan for the study and preparation of working plans leading to an agrarian reorganization of the tobacco region. The officials of the newly created Conversion Bureau diligently conducted investigations for many years and wrote numerous reports on their findings, thereby building an invaluable statistical base for future negotiations.

The Politics of Conversion

The conversion problem, however, as many were already aware, did not lend itself to orderly scientific solution. Just beneath the surface raged the crosscurrents of a political tangle which might have given pause to Solomon. The planters had made their position abundantly clear: the legal advantages of the long lease were not going to be won at the expense of certain economic advantages inherent in the early concession agreements, and any conversion plan had to offer an acceptable alternative to continuation of the concessions to expiration.

The trouble was that any conversion plan also had to be acceptable to three other distinct groups — the government, the autochthonous population, and the princes of East Sumatra.

The price of domestic peace included ensuring the acquiescence of the rulers, whose own special interest in conversion centered on the amount of *presènt tanah,* i.e. the lump sum which presumably would be paid at the time the long leases were signed. Here the rulers ran into stiff resistance from the planters, who maintained that by its very nature *presènt tanah* was to be paid only once and, having paid it at the beginning of a concession, they should not be required to pay it a second time. The sultans for their part insisted on payment of this "key money" as a *conditio sine qua non* for obtaining their signature to the new leases. Prolonged discussions regarding this point led to an agreement that 10 guilders per hectare were to be paid for concessions expiring prior to 1 January 1950, 9 guilders for concessions expiring between 1 January 1950 and 31 December 1959, and 8 guilders for concessions expiring after 1 January 1960. Thus were the East Sumatran rulers pacified, for the political agreements had called for giving 75 percent of the money to the ruler himself and 25 percent to his state treasury. It was calculated that the total *presènt tanah* would amount to about 2.4 million guilders, of which the rulers and the vassal chiefs would have received almost 1.8 million guilders — a hint as to why the rulers were never too keen on an extensive reduction of the plantation area (see Table 11).

TABLE 11
ESTIMATE OF *PRESENT TANAH* PAYMENTS AND THEIR DIVISION BETWEEN PRINCES AND STATE TREASURY (in guilders)

Principality	Princes	Public Treasury	Total
Deli	807,677	269,226	1,076,903
Serdang	271,614	90,538	362,152
Langkat	717,163	239,054	956,217
Total	1,796,454	598,818	2,395,272

Source: van Beukering, *Verslag,* 3 March 1939.

The Netherlands Indies government, too, had a great stake in the conversion, the most obvious concern being the precedent established for future negotiations on renewal of those long leases issued after 1870. Other important issues were: the implementation of the law

regarding long leases (*erfpachts-ordonnantie*), calling for protection of the agrarian rights of the subject people; the amount of the legal registration fees; and, above all, the amount of the real estate tax, to which this land would now become subject for the first time.

The only party not directly represented in the negotiations was the autochthonous population. Indonesian members of the *Volksraad* had asked for the inclusion of Indonesian members of this parliamentary body in the negotiations but, to the best of my knowledge, none ever participated. There were no spokesmen for the local peasantry. The presumption was that officials representing the Netherlands Indies government and those representing the sultans of the autonomous states would keep in mind the social and economic interests of the population. It should be observed here that the rights of the people found stronger support from the Netherlands Indies government than from local government.

Memorandum of Bouwes Bavinck, Resident of East Sumatra

Two years after the establishment of the Conversion Bureau in Medan a new attempt to find a basis for negotiations was made by the Resident. In his memorandum of 9 October 1937,[14] notable for its careful review of the historical background, Resident J. Bouwes Bavinck recalled that the concession contracts had charged the planters with the task of looking after the people living within their concession, in particular of setting aside land for swidden culture. The peasants' willingness to accept the convenient alternative of using harvested tobacco land did not relieve the planters of this obligation. In fact, according to some contracts, the peasantry had the right to *jaluran* as well as to swidden land. Bringing his readers up to date, Bavinck went on to describe the mounting land crisis as a steady increase in population and economic incentives offered by the expanding market for smallholder products such as fruits and vegetables led the more forward-looking element among the peasantry to ask for the four *bouws* or four hectares promised each family in the concession agreements. It was deplorable, Bavinck commented, to find the planters not only uninterested in correcting their "oversight" of forty or fifty years earlier but outwardly resentful of these belated claims. The planters for their part bemoaned any change in land use that would turn choice tobacco lands over to the cultivation of crops for the local market.

In any case nobody could yet answer the question of who really

belonged to that category of the population having genuine legal rights. Only the concessions issued after 1892 had been subject to the regulation calling for a population census every five years. On the other plantations, which had not kept records of rightful claimants, the absence of public registers of births and deaths immeasurably complicated the already difficult task of trying to determine family histories. The investigators of the Conversion Bureau had worked out a system for dividing rightful claimants according to hereditary patterns into the three categories "A", "B", and "C" (described in chapter V). Using these categories the Resident recommended that heads of families in the "A" group receive 2.84 hectares, those in groups "B" and "C", 1.42 hectares. Table 12 gives a breakdown of these categories by tobacco companies, and Table 13 summarizes the data on the number of families with and without a valid claim to land compensation. The figures in Table 12 are so low that one cannot help but feel that there must have been many otherwise qualified families who had never been recorded and lacked the necessary information concerning their own family histories.

TABLE 12
NUMBER OF RIGHTFUL CLAIMANTS OF LAND BY CATEGORY AND THE AMOUNT OF LAND OFFERED BY THE MAJOR TOBACCO COMPANIES *

Company	Group "A"	Groups "B" & "C"	Total	Number of Hectares Offered
Deli	3,620	4,931	8,551	29,000
Deli-Batavia	1,418	796	2,214	4,041
Senembah	1,919	1,710	3,629	8,334
Arendsburg	879	406	1,285	1,971
Tjinta Raja	108	11	119	1,816
Total	7,944	7,854	15,798	45,162

* These figures are given by van Beukering in his *Nota*, 1939.

Table 13, based on a report written about a year later, gives a slightly higher number of qualified families but also reveals that for each rural family with a valid claim there were some 5.2 rural families without such rights. It must be borne in mind that these figures include none of the thousands of Javanese families employed on the plantations who, never having been subjects of the princes of Langkat,

Deli, or Serdang, were not included in any investigations of the rural economy within the tobacco areas.

TABLE 13
NUMBER OF RIGHTFUL CLAIMANTS AND NUMBER OF FAMILIES WITHOUT RIGHT OF CLAIM *

Area	Number of Claimants	Number of families without Rights
Lower Deli	1,727	20,163
Upper Deli	5,685	2,394
Lower Serdang	441	13,429
Upper Serdang	2,434	3,976
Lower Langkat	1,215	13,602
Upper Langkat	4,926	11,472
Padang and Bedagei	—	19,353
Total	16,428	84,389

* These figures are given by van Lijnden in his *Monthly Report for May 1940.*

Since some of the land offered by the planters could be brought under irrigation, it was proposed that one *bouw* of potential *sawah* be treated as the equivalent of four *bouws* of unirrigated land. On the basis of this calculation, government officials reasoned that group "A" should be given 0.71 hectare and groups "B" and "C", 0.35 hectare of potential *sawah.* Anyone familiar with Javanese agricultural conditions will at once realize that farms of such size are very small and that even in Java a family which owns less than half a hectare of land can hardly make ends meet. The slightly larger 0.71 hectare of *sawah* certainly did not give more than a very modest subsistence. With this kind of allotment, the government would have created rural economic conditions in the tobacco regions of East Sumatra all too similar to those existing in overpopulated Java. The most serious drawback of this proposal was that it made no provision for future population increase, whereas under the prevailing *jaluran* system all married sons of a recognized household head were permitted to claim their own allocations of harvested tobacco land. This meant of course that instead of one claimant there might be as many as three or four claimants, each of whom could expect the same amount of land. Within a generation or two the local population would have been in serious difficulties had the *jaluran* system been abolished.

Proposals and counterproposals continued. The Resident estimated

that a total of 31,710 hectares would take care of 15,798 families with valid claims if at least a small proportion was given *sawah* rather than unirrigated land. Since by 1939 the tobacco planters had indicated a readiness to release about 46,000 hectares of their concession area, government officials felt confident that the *jaluran* system could soon be abolished, thus fulfilling one important condition of the long-lease ordinance. Further examination of the land being offered revealed, however, that some was so far away from any kampong that new settlements would have been necessary, that other land was too steep to be safe for peasant farming, and that some, at the time at least, remained unsuited for farming due to the high salt content of the soil. It was clear that the planters were proposing to release land of no value whatsoever to themselves, or to the peasants. On paper the offer looked impressive, but only the lawyers were satisfied, not the agricultural specialists.

Undeterred by the planters' maneuvering, Resident Bavinck continued to press for an end to the *jaluran* system which, as argued in his memorandum, was corrupting the people:

> Seen from the point of view of the education and vitality of the people, one cannot but find that the *jaluran* system, under which fine, harvested, heavily fertilized tobacco fields are turned over to the population . . . does not contribute to the development of industriousness and will power, which all people require. A system of this type, in which the women do most of the work and in which one obtains maximum yields with a minimum of effort, cannot lead to good results in the long run. This is already apparent: the *jaluran* system has been in use for several decades; the rulers, who have seen a little more than their immediate environment and have found out how hard labor can really make something out of a people, admit that this agricultural system has not made a strong, energetic people out of their subjects — people capable of weathering economic and other setbacks — and that from an educational point of view it is really necessary that the people learn how to work and learn to appreciate the yields of agricultural products which they now obtain almost without any effort. It is evident that the people will only most reluctantly give up this system, which they consider by now to be the only one which will bring them into a state of Grace. They have already protested against the plan of abolishing the *jaluran* system, and some have gone so far as to declare that they prefer to be without land rather than to have to work in the future and that they prefer to remain dependent on the Western planter rather than to become independent peasants. These and similar comments show that the conversion will possibly come just in time to save these people from moral ruin.[15]

This expression of moralizing paternalism gives one the definite impression that the majority of the peasants of East Sumatra were in favor of the continuation of the convenient *jaluran* system. But by this time the planters, if for their own reasons, were ready to abandon the system. Their former opposition, vigorously expressed as late as 1930, had stemmed from a fear that the settlement of land claims would entail release of high-quality land in the areas lying between the coastal swamps and the eroded uplands. With the realization that their uneconomic peripheral lands might be the only lands involved — and their rights over the choice retained area would henceforth become inviolable thereafter — the planters swung around to seeking abolition of the system. Seeing in Bavinck's moralizing argument the ingredients of *entente,* the planters readily assented to the possible use of his memorandum as the basis for negotiations.

Tentative approval in East Sumatra did not prevent a very critical reception of Bavinck's memorandum in Batavia, where the dual rule assumed by the government produced a serious inner conflict at the policy level. The desire to help the "weak and badly demoralized people" to become stronger and more self-reliant and to free them from the planters' economic stranglehold was proving incompatible, in practice, with the desire to protect the economic interests of the planters and, by extension, the economic health of the state as a whole. The planters were not averse to exploiting their favored position, for example, to convince local officials of the Department of Interior that the "lazy" Karo and Malay would neglect these highly productive soils, or cause serious exhaustion, or, still worse, turn these beautiful lands over to Chinese truck farmers and hog raisers and Javanese sharecroppers. The official verdict of the Resident regarding the coastal Malay was that they are not real farmers but fisherman, traders, and horse-cart drivers: "The people must learn once more how to work and how to cultivate land intensively. They must be brought out of the physical impasse in which they find themselves as a result of the degenerating *jaluran* system and they must become real farmers if they wish to retain the agricultural incomes which they now enjoy thanks to *jaluran.*"

Memorandum of the Director of the Department of Interior

More than a year passed between the rejection of the Bouwes Bavinck memorandum and the presentation of a new one on 28 December 1938 by the director of the Department of Interior.[16] Quite possibly

the delay covered extensive analysis by the Department of Economic Affairs of the Bavinck proposals, for the director of the Department of Interior revealed a complete familiarity with both the content and the intent of the earlier memorandum as well as with the realities of the tobacco planters' situation. Though willing to agree with Bavinck on such questions as the amount of rental and the duration of the long leases, the director criticized the over-all approach as a product of the planters' callous self-interest. Holding up specific inadequacies, the director called for a thorough investigation of the agricultural suitability of the land being offered by the planters and so neatly justified in their statistics as sufficient to meet all legal claims.

Nor was the director about to acquiesce in their statistics as to the total land area available for release. The planters controlled 255,000 hectares of tobacco land and planned to retain 209,000 according to the Bavinck memorandum. But in the halcyon pre-depression period the planters, as the record showed, used an average 17,750 hectares each year (less, about 15,000 hectares, in the post-depression years) which under a rotation of eight years added up to a maximum of only 120,000 hectares of cultivable land needed by the tobacco industry. Should it be possible to reduce the rotation from eight to seven years, by eliminating the *jaluran* system, the land needs of the tobacco planters would be still smaller, and, even allowing for roads, emplacements, and other common non-agricultural facilities, would not come near the 209,000 hectares of the Bavinck proposals.

The director was struck by the fact that under this plan the tobacco industry would be able to continue its operations without a single important change, while the peasants with agrarian rights would be forced to make their living on land allotments as small as 0.35 hectares of *sawah* — and some 85,000 rural families were not even to receive these dwarf farms. Furthermore, by releasing land that was, in general, unsuited for the industry, the planters would reduce the area subject to rental (gross acreage) without reducing the land suitable for tobacco production (net acreage). Such drastic, in the eyes of the planters, measures as reduction of rotation, permission of *jaluran* use for one year instead of half a year, or reduction of the tobacco acreage had all been ruled out by Bouwes Bavinck as unnecessary; the director reiterated the need for abolition of the *jaluran* system and, with direct reference to the idea that the autochtonous people did not deserve good land, proposed that all fields to be released for peasant agriculture either be certified as suitable for agriculture or made suitable at the

expense of the planters, and not the state treasury or the people.

This critical examination must have come as a severe blow to the planters, although anyone who had not been subjected to intense indoctrination during and outside office hours could not have helped but raise the same type of questions.

Enter the Agricultural Experts

For almost ten years, the conversion problem was the domain of legal experts, who studied the old concession agreements, the model contracts, the agrarian legislation, and the *adat* but who accepted the planters' view on technical agricultural aspects of the problem. In 1939 the Department of Economic Affairs, headed by Dr. H. van Mook, entered the scene, widened the discussions, and raised some very important questions on behalf of the autochthonous population. The first step was to assign Ir. J. A. van Beukering to study the problem of agrarian reorganization and conversion. Van Beukering, whose intensive studies of swidden agriculture had especially qualified him to appraise the problems of East Sumatra, began by reviewing the memoranda prepared by his lawyer colleagues of the Department of Interior [17] and then proceeded to present his own views and recommendations in *Nota: nopens de Conversie,* dated 1 June 1939.[18]

I consider this document to be of great significance. Van Beukering made the point that the lawyers' approach was inadequate and that one should start with the current agricultural practices of the two parties, the planters and the peasants, and then study what changes might possibly be made in order to bring about a solution of the problem. Being aware of the impossibility of practicing swidden agriculture on two to four *bouws,* or even on four hectares, he stressed that the peasantry of East Sumatra would have to change over to intensive permanent-field agriculture on either irrigated or unirrigated land. But whereas a shifting cultivator could have his land at a considerable distance from his home, a permanent-field cultivator could not afford to be too far away from his land, which required his daily attention. This meant that the planters could not expect to release mainly coastal or upland areas to claimants most of whom lived in large kampongs in the intermediate belt.

Van Beukering refused to approach the problem by trying to find out how much the planters should release in order to satisfy the legal requirements, which in the first place were based on a lack of understanding of shifting agriculture. Instead he asked how much land the

government could safely release to the planters, taking into consideration the legitimate social and economic interests of the people and keeping in mind that the population was bound to increase during the period that the land would be used by the planters exclusively under the long-lease system.

The three states of Langkat, Deli, and Serdang — to which the tobacco industry was limited by 1939 — have a total area of about 1,100,000 hectares. Of this amount, the plantations held 520,000 hectares, leaving an area of about 580,000 hectares in the public domain or the hands of Indonesians. A considerable part of these 580,000 hectares was covered by forest reserves or was either unsuited for agriculture — without a high capital investment — or for one reason or another not available for agricultural use. Of the 520,000 hectares representing the planters' domain, 255,000 hectares belonged to tobacco estates and 265,000 hectares to estates engaged in the cultivation of perennial crops. Table 14 gives the percentage of the land area in the three states held by estates or set aside as forest reserve and "free domain".

TABLE 14

PERCENTAGE OF AREA IN ESTATES, FOREST RESERVES, AND "FREE DOMAIN" *

State	Percent in Estates of All Types	Percent in Forest Reserve	Percent in "Free Domain"
Deli	68	9	23
Serdang	53	8	39
Langkat	38	38	24

* Van Lijnden, *Monthly Report*, April 1940.

Still more revealing are some statistical data from the census of 1930, which bring out the uneven distribution of the plantations over the three states. In the Deli districts of Upper Deli, Padang, and Bedagei, about 74 percent of the land came under the control of plantations; in Lower Deli as much as 84 percent; in Serdang 50 percent; in Upper Langkat about 25 percent; and in Lower Langkat only 1.75 percent. Van Beukering concluded that the tobacco industry would not require more than 120,000 hectares of its total of 255,000 hectares to carry on and that the perennial crop estates would not require more than 150,000 hectares and could therefore return about 100,000 hectares (see Table 15). Although his *Nota* did not state so specifically, one gains the impression that he was not in favor of a

large-scale expansion of the perennial-crop acreage by plantations on account of the very great increase of the rural population, which had no other source of income except occasional labor on estates. The perennial-crop estates, on the other hand, depended primarily on imported Javanese laborers.

TABLE 15

LAND OF LANGKAT, DELI, AND SERDANG BY MAJOR TYPES OF LAND USE *

Types of Land Use	Number of Hectares	
Forest Reservations	283,300	
Tobacco Concessions	255,000	
Tobacco Area not Required		135,000
Perennial Crop Concessions	265,000	
Area not used		105,000
Area Available for Autochthonous Population	314,300	
Area which can be made available for Population		240,000
Total	1,117,600	

* Van Beukering, *Nota,* 1 June 1939; also given by Haan, *Reisrapport* No. 6, p. 2.

It has been estimated that the Indonesian population of all East Sumatran states increased from 90,000 in 1880 to almost 1.5 million in 1930. The census of 1930 reported the total population of Langkat, Deli, and Serdang (excluding Westerners) to be some 784,000, divided among 650,000 Indonesians, 119,000 Chinese, and 15,000 other Orientals. Since 217,000 were living on plantations and 95,000 in urban settlements, we can estimate that the rural population not depending exclusively on plantation agriculture for a livelihood accounted for 472,000, or close to half a million. This striking population increase raised the question whether it was justifiable to give the planters exclusive rights for so long a period as seventy-five years, unless either alternate sources of livelihood could be created for that part of the population that would no longer find room on the land or new pioneering areas could be located outside of Langkat, Deli and Serdang to accommodate the overflow.

Van Beukering also analyzed the tobacco industry, its structure, its productivity, and its contributions to society as a whole. One important finding was that the demand for Deli wrapper tobacco had

been declining steadily since 1930 because Germany and the United States, two of the leading customers, had reduced their purchases of this product (see Table 16). In the 1930s, the United States was purchasing only about 5 percent of the crop, compared with an average of 13 percent in the years from 1919 to 1930, a significant factor being expansion of shade-grown tobacco production, particularly in Connecticut and Massachusetts.

The East Sumatran tobacco industry was always a highly capital-intensive and above all a highly, if not the most, labor-intensive agricultural industry. For the 1926 crop the industry paid, in wages alone, 1,273 guilders per hectare of cultivated land; in the crop year 1937 this had been reduced to 891 guilders per hectare, in 1939 to 873 guilders. The industry employed 4.8 laborers per hectare in 1926 and 5.7 laborers per hectare in 1937. Presumably not all of the laborers were employed all year round. Women and children, for example, worked only for brief periods removing caterpillars, and women again for part of the year as graders. Even taking the last factors into account, however, the labor-intensity of the industry remains remarkably high (see Table 17).

In addition to the wages paid by the industry to its regular labor force were the substantial payments to persons in the community for services other than the cultivation and grading of tobacco, such as forest clearing and the building of tobacco barns. To these outlays we must add rental, taxes, transportation costs, and all other expenditures made by the industry in Sumatra in order to get the product to the market.[19] The considerable size of such payments (see the breakdown in Table 18) was not lost on even those men in the Department of Economic Affairs whose official concern with the well-being of the peasant sector of the Indonesian economy inclined them to be critical of the plantation sector. The inescapable fact was that the tobacco industry provided employment for a very substantial number of laborers. On the other hand, van Beukering did not believe that the tobacco industry required more than a gross area of 120,000 hectares, even allowing about 12,000 hectares for roads, emplacements, and other nonproductive purposes, in order to carry on its traditional agricultural system with henceforth a fallow period of seven years. Furthermore, given the much higher gross income for society from plantation agriculture over peasant agriculture, the issuance of 120,000 hectares in long leases to the tobacco industry was in his opinion defensible in socio-economic terms.

TABLE 16

MARKETING OF DELI WRAPPER TOBACCO BY MAJOR CONSUMER COUNTRIES (in number of bales)

Year	Germany	Belgium and Luxemburg	Denmark	U.S.A.	Netherlands	Others	Total
1932	107,961	6,705	9,154	12,577	27,500	19,295	183,192
1933	92,641	5,769	10,077	10,987	24,846	19,192	163,512
1934	100,948	7,692	12,564	11,423	23,577	18,398	174,602
1935	71,682	6,898	8,872	12,551	21,334	16,518	137,855
1936	72,243	6,308	10,141	14,231	18,462	16,147	137,532
1937	78,321	5,115	9,397	7,513	15,179	15,527	131,052

Source: van Beukering, *Nota,* 1 June 1939. Table is given in text.

TABLE 17

PLANTED ACREAGE, VALUE OF CROPS, AMOUNTS PAID FOR VARIOUS PURPOSES, AND LABOR FORCE OF TOBACCO INDUSTRY

1	2	3	4	5	6	7	8	9	10
Harvest Year	Number of Hectares Planted	Value of Crop in in 1,000 Guilders	Amount Paid Out in 1,000 Guilders	4 as percent of 3	Amount Paid in Wages in 1,000 Guilders	6 as percent of 3	Wages Plus Perquisites	8 as percent of 3	Number of Workers Employed (December 31)
1926	19,088	72,600	44,400	61.2	24,300	33.5	27,900	38.4	93,000
1927	19,706	80,500	46,500	57.8	26,400	32.8	30,500	37.9	96,000
1928	20,588	71,600	47,900	66.9	28,000	39.1	31,400	43.9	98,000
1929	20,775	51,200	50,200	98.0	29,400	57.4	33,000	64.5	107,000
1930	20,066	35,900	42,500	118.4	26,700	74.4	30,000	83.6	104,000
1931	19,294	35,000	32,400	92.6	21,400	61.1	22,800	65.1	86,000
1932	16,964	26,900	23,100	85.9	13,900	51.7	15,600	58.0	63,000
1933	11,569	28,600	16,300	57.0	10,400	36.4	11,600	40.6	61,000
1934	11,433	25,500	15,500	60.8	10,000	39.2	11,100	43.5	64,000
1935	11,518	30,600	15,500	50.7	10,100	33.0	11,100	36.3	66,000
1936	12,415	30,500	15,700	51.5	10,200	33.4	11,200	36.7	68,000
1937	13,013	30,400	19,700	64.8	11,600	38.2	12,500	41.1	74,000

Source: Van Beukering, *Nota*, 1 June 1939. Table is given in text.

TABLE 18

PAYMENTS MADE BY THE TOBACCO INDUSTRY THAT ARE OF SOCIAL BENEFIT

	1926	1928	1930	1932	1934	1936	1938
Salaries of Europeans	4,750,000	4,750,000	4,750,000	3,475,000	2,305,000	2,254,196	2,452,653
Wages for Indonesians	24,285,274	28,052,945	26,657,155	13,850,951	10,026,537	10,189,693	11,510,755
Supplies	3,167,516	4,753,382	2,795,258	765,373	689,770	703,822	943,344
Rental, etc.	4,895,585	543,725	555,620	488,580	456,792	459,704	469,780
Taxes in N.E.I.	6,050,021	3,848,112	2,753,435	1,672,453	505,529	690,943	1,676,874
Medical Care, Value of rice subsidy, housing	3,580,045	3,393,205	2,367,595	1,754,707	1,108,226	1,035,141	793,694
Pensions	446,259	510,399	504,953	451,732	294,909	203,656	272,915
Immigration and Repatriation Costs	1,562,054	1,940,250	1,119,674	620,802	96,355	126,428	157,625
Contributions of a non-obligatory nature	39,000	62,000	41,000	60,623	54,449	20,920	10,170
Total	44,369,754	47,854,018	42,544,690	23,140,221	15,537,567	15,746,503	18,287,810
Area under tobacco (ha)	19,088	20,588	20,066	16,964	11,433	12,415	13,228
Social income per planted hectare (in guilders)	2,324	2,324	2,120	1,364	1,359	1,268	1,383

Source: Van Beukering, *Nota*, 1 June 1939. Table is given in text.

Van Beukering was aware, however, that by the time the 75-year leases would expire the population would have increased to such a degree that only an average of one hectare of cultivable land would be available per family, compared to the approximately three hectares per family available in the three states of Langkat, Deli and Serdang in 1939.

Although the conversion problem of the plantations engaged in the cultivation of perennial crops had received little attention in previous memoranda, van Beukering examined this too, if very briefly. Although the problem was less urgent in that most such concessions would expire somewhat later than the tobacco concessions, the government had reason to be specially interested. Of some 650,000 hectares in concessions belonging to perennial-crop plantations in East Sumatra, only 342,000 hectares, or about 52 percent, were actually planted in rubber, oil palm, sisal, tea, coconuts or other perennial crops, which meant that in case of conversion of these concessions considerable acreages might become available to the government for redistribution to the local population.

The Question of Agricultural Potential

Experiments for measuring the true agricultural value of the land being offered by the planters — tests to determine fertility, water control requirements, suitability for various crops, and optimum use in terms of market conditions — were just getting under way when, in 1940, I had occasion to accompany Baron van Lijnden, head of the Conversion Bureau, on a round of inspection trips to experimental plots both in the coastal belt and in the interior. I was soon aware that Baron van Lijnden regarded the proposed family allotments as too small for a continuation of swidden cultivation or even of a modified form of swidden cultivation in which some perennial crops are also planted. Nor did van Lijnden see four *bouws* of land as adequate compensation to the people for withdrawing their right to use *jaluran.* Given the political and economic realities of the situation, however, the only practical solution seemed to be an enforced change in the agricultural pattern among the peasants from swidden to intensive permanent-field cultivation. Here loomed a real obstacle. To implement such a program with any hope of success would have required far more data than van Lijnden could possibly have assembled in the two years the Conversion Bureau had been authorized for experiments. For potential *sawah* a short period of experimentation might have

sufficed; for land unsuited to *sawah* cultivation ten years would have been the minimum period for producing meaningful data.

At the time of my visit, van Lijnden had already come to the conclusion that the plan to make allotments of equal size, without reference to quality of soil or slope of land, was unsound from an agricultural point of view and should be abandoned despite the legal arguments presented by lawyers.[20] In several of his monthly reports, van Lijnden urged consideration of larger farm units, particularly in the uplands. His conviction was that four hectares was the minimum practical size in the uplands and that such a farm would be feasible if one and a half hectares were planted with a perennial crop such as coffee and the rest used for shifting agriculture with a five-year rotation, allowing an annual *ladang* of half a hectare.

The growing consensus among government officials regarding this and related aspects of the conversion problem is evident in the memorandum of the Director of Economic Affairs, the last of the prewar documents I was able to study.[21] There was reiteration of the position that the Bouwes Bavinck proposals were unacceptable in light of the 75-year period of validity the new contracts would have. Once validated legally, any mistakes would be exceedingly difficult to correct. One of the most significant points in the memorandum was that the land to be transferred would have to be in such condition that the development of permanent-field agriculture could be expected on the land within a reasonably brief period. This would be possible if the land were converted into irrigated — or rain — *sawah* or could be planted with perennial crops. In either case more research should be undertaken in order to determine the proper size of the future farms and the policy of legalistic insistence on uniform distribution of four, respectively two, *bouws* per family abandoned once and for all. Only in this way, the director emphasized, could a lasting agricultural system with adequate yields be developed that would fully compensate the people for the loss of the valuable *jaluran.*

It is worth noting here that the work of the agricultural experts in the prewar years would have been immeasurably easier had the tobacco companies made their records and their data regarding the land and its productivity available. The companies were in possession of detailed soils maps; their records showed the productivity of every acre of tobacco land and the average value of the tobacco raised on this land. They knew also which estates were marginal and which highly profitable. Their maps showed which lands tended to have a

high percentage of diseased tobacco plants and which lands were relatively free of mosaic or other diseases. However, the companies classified all of these data as secret material, unavailable to any outsider and especially to any government officials working in the interest of the autochthonous population.

This was all the more deplorable because of the scope and quality of much of this private research. In 1938, for example, the Deli Planters Association hired an irrigation engineer and charged him with investigations of irrigation possibilities within the tobacco estates. In the course of about two and a half years, Ir. J. G. Frowein prepared a great number of detailed reports regarding irrigation possibilities and the costs of developing such irrigation projects. One of his many reports deals with land of the tobacco plantation of Bulu Cina of the Deli Company, a concession obtained on 24 December 1882 and including 8,642 hectares.[22] The Deli Company was planning to release some 3,000 hectares nearest to the coast. Several hundred hectares of this land had never been planted with tobacco, being considered too low and therefore too saline for tobacco.[23] But the land could definitely be used for certain varieties of rice that tolerate some sodium chloride content, as do other crops planted by peasants in coastal lowlands.

Although similar land had been viewed with suspicion by government officials, Frowein ordered the cutting of no less than some 42 kilometers of traces at regular intervals. These traces facilitated detailed surveying and examination of this land but, above all, made it possible to plot the elevation above sea level of the whole complex. With this data, Frowein prepared a preliminary plan for the construction of drainage canals and the laying out of an irrigation system, the irrigation water to be taken from the Belawan and Diski rivers. This system posed no major technical problems and could have been constructed with a minimum of expense. And so too the drainage system. Complete control over the water would have permitted the people to irrigate and drain their land in accordance with the requirements of their crops. Frowein also pointed out that because the Belawan river carries silt of high fertilizing value the crops would not only benefit from the water but also from the silt carried by the water into the fields. According to his estimates, the whole 3,000 hectares being offered by the Deli Company could have been prepared for permanent occupancy by an investment of about 270,000 guilders, entailing a per hectare cost for the new *sawah* land of 90 guilders — a very low price indeed and much lower than the price being paid

at the time in Java for land reclamation of a similar nature.

Another of Frowein's reports deals with the possibility of irrigating some 4,000 hectares of land belonging to the concession in Lingga, Rumah Kinangkong, Rimbun, and Namu Tumbis. The concessions of Rumah Kinangkong and Rimbun lie in Upper Deli, Lingga and Namu Tumbis in Upper Langkat. The land slopes from about 500 meters in the south to about 140 meters in the north and Frowein outlined a plan for irrigating the area with water from the Bingei river. On account of the gradual slope, it was estimated that the water could have been distributed at a cost of 125 guilders per hectare in 1941, a price also comparing favorably with those in other parts of the Indies before the war. (Cf. Map XIII.)

The investigations of Frowein showed that Langkat, Deli and Serdang had extensive areas which could be brought under irrigation at reasonable cost. Some of these areas lie near the coast and require mainly drainage, diking, and protection against sea water. Others lie in the interior, where natural slopes make it possible to distribute water in projects stretching in long, narrow bands from elevations of around 500 meters down to elevations of around 200 meters or less. The rivers coming from the Karo plateau or from the higher mountains of Upper Langkat and Deli carry plenty of water during the months when water is needed. This was determined by daily measurements and supported by rainfall data which had been collected over many years.

Pilot Projects of Sawah Cultivation in the Coastal Belt

Sisir Gunting

Because of the short supply and mounting cost of rice during World War I, East Sumatra authorities began to look for ways to expand local production. Their search for suitable land had already centered on the coastal areas, most other land being occupied by plantations, when in 1917 the forester of Deli called the attention of the governor of East Sumatra to the island of Sisir Gunting. Lying immediately to the north and west of the harbor town of Belawan, the island was bounded by the Belawan and Karanggading rivers, a short waterway between these two rivers, and the Strait of Malacca. Of its total area of roughly 10,800 hectares, about 5,300 was classified as forest reserve and mostly covered by mangroves and nipa, the latter having been planted at the instigation of the Orang Kaya of Hamperanperak when

the demand for nipa *atap* was at its peak. The governor authorized the forester to start an agricultural colony on an area of about 3,000 hectares that he considered suitable for the cultivation of wet rice. All colonists, most of whom were Banjarese from neighboring plantations to the south, received two hectares of land, one fourth for the development of a compound (*pekarangan*) and three-fourths for rice cultivation. A further stipulation was that the land be brought under cultivation in two years.

Any doubts about the feasibility of the project were dispelled by the first rice harvest, which was excellent and which attracted additional settlers. Most of the colonists continued to work as builders of tobacco drying sheds for the plantations and were therefore not interested in the production of a dry-season crop. For the next three years Sisir Gunting flourished. At the beginning of 1920 there were already some 500 families on the island and plans called for an extension of the colony to include another 500 families. The government's total cost for the project up to 1920 had been only about 8,000 guilders.

But rice imports began to rise after 1920 and, the shortage over, interest in Sisir Gunting faded both among government officials and among the Banjarese colonists. Little happened on the island until 1924 when the Public Works Department launched a program for expansion and improvement of the irrigation systems. During 1924 and 1925 a modest 25,000 guilders was spent on dikes, drainage canals, and automatic floodgates designed to keep salt water out at high tide and permit drainage of excess fresh water at low tide. The government authorities expected the colonists to keep these gates and canals in repair, but by 1926 it had already become apparent that the colonists were not doing so and it became necessary to assign a foreman of the Irrigation Department and six laborers to Sisir Gunting for the maintenance of the irrigation works.

Conditions on the island remained about the same during the 1920s. The colonists were spread among three kampongs — Sisir Gunting, Paluh Kurau, and Pematang Serai — of which Paluh Kurau was by far the largest (see Table 19). Two kampongs, Sisir Gunting and Paluh Kurau, were inhabited exclusively by Banjarese; the third, Pematang Serai, had mainly Javanese ex-laborers who had chosen to remain in East Sumatra after completion of their contracts. The introduction of water charges in 1928 apparently discouraged some colonists and between 1929 and 1936 government officials tended

to view the whole project with a combination of disinterest and pessimism. The atmosphere changed noticeably in 1937 following a report to the assistant resident of Deli and Serdang by the chief of the Conversion Bureau on a tour of the island early in the year. His report,[24] exuding confidence and optimism regarding the agricultural potential of the coastal lands and fully supported by his findings on Sisir Gunting, pointed to a steady increase in the population from the flow of new settlers and insisted that the project's only real weakness was a lack of technical guidance for the colonists, particularly as to irrigation and drainage. The solution in his opinion would be to appoint an Indonesian *mantri* (foreman) with enough experience in these matters to be able to carry out the government programs outlined by his superiors. According to the Conversion Bureau chief, Sisir Gunting held great promise for the eventual development of a continuous belt of irrigated riceland running from Langkat through Deli and Serdang on to the south, an area that could very well become a rice granary for East Sumatra.

The report stimulated interest in Sisir Gunting for a while. I found several references to the project in subsequent Conversion Bureau reports, for example, in van Lijnden's report of May 1940 which noted that the local irrigation service was improving the drainage, that the average yield per hectare amounted to 22.50 quintals of rough rice or 13.5 quintals of polished rice, and that the agricultural extension service was placing an Indonesian *mantri* on Sisir Gunting to organize a campaign against field mice and rats. There had been heavy damage from rodents and this eradication campaign almost doubled the yield.

But conditions had deteriorated seriously by October 1948 when Sisir Gunting was the subject of a detailed survey. The kampong of Sisir Gunting had been completely deserted, Paluh Kurau and Pematang Serai nearly so; only 54 hectares of *sawah* remained of the 1.825 hectares in 1941; the floodgates were in a state of disrepair; the dikes had been damaged by crabs; salt water was once more penetrating the island at high tide. It did not take an astute observer to notice that large areas converted into *sawah* between World Wars I and II or planted with coconut palms were being taken over again by stands of *Nipa fruticans.*

There had been an even further decline in the population by the time of my visit to the island in January 1956, though statistical data seemed to be unavailable. I was told that malaria had caused heavy loss of life but that most families who had moved away were living

as squatters on tobacco estates to the south of the island. Everywhere the signs of once flourishing communities were succumbing to rising decay, but in vain did I look for any indication of efforts to stop the process.

Whatever the present state of affairs on Sisir Gunting, the experiment certainly demonstrated the potential value of the young alluvial soils of the coastal region of East Sumatra for the cultivation of wet rice. On the debit side, the project revealed the apathy of the autochthonous population toward the development of irrigated farmland so long as their share of the kampong land in Hamperanperak and other kampongs along the Belawan river continued to be available, together with the right to use harvested tobacco land. It further brought out the fact that the spirit of self-help, the spirit of *gotong-royong,* is not as strongly developed as had been assumed. Otherwise the Sisir Gunting colony might not have withered the moment government supervision and prodding stopped.

TABLE 19

NUMBER OF FAMILIES RESIDING IN THE SISIR GUNTING COLONIZATION PROJECT

Kampong	1927	1928	1929	1940	1948
Sisir Gunting	± 420	597	560	n.a.	n.a.
Paluh Kurau	± 1180	1194	1126	n.a.	173
Pematang Serai	± 450	522	514	n.a.	162
Total	± 2050	2313	2200	3000	335

Source: Figures for 1927, 1928 and 1929 were given by the District Officer of Labuan Deli in a report, *Landbouw sawah kolonisatie Sisir Gunting,* dated December 1929. Figures for 1940 and 1948 are in a report by Hafiz Haberhan, dated 1 November 1948.

Percut

The tobacco estate Saentis of the former Arendsburg Company extended well into swampy coastal areas on both sides of the Percut river. To improve the drainage there the company constructed a large drainage canal in 1923 which carried the water of the Percut river in a straight line into the Strait of Malacca, as well as two smaller canals to the east of the main Percut canal. These minor canals had automatic floodgates to keep out salt water and to permit the gradual washing out of the salt remaining in the soil. Although the northern-

most section of the estate proved unsuitable for tobacco cultivation even after the costly construction of dikes and drainage canals, the rest of the estate benefited greatly from these investments so that the company, reassessing its land resources, decided to release the so-called Sungei Merah concession to the west of the river together with the northern part (335 hectares) of the Percut concession to the east.

The Kejuran of Percut offered potential riceland within the former Sungei Merah concession to Javanese ex-laborers living in Percut and in a short time about one hundred families applied. Each family received 0.75 hectares, with the understanding that all the families would work together to build the necessary drainage canals and footpaths and to maintain the drainage canals across the land which had been built by the estates of Sampali and Saentis. On higher lands (*pematang,* or old beach terraces) the Javanese farmers planted coconuts, bananas, and other fruit trees; the low-lying land was used for wet-rice cultivation during the rainy season and for the cultivation of peanuts, corn, and vegetables during the dry season. The Javanese farmers supplemented their income by working as occasional laborers on the tobacco plantations of Sampali and Saentis.

In the 1930s an irrigation canal was built to take water from the Percut canal at a point about 20 kilometers from Medan in kampong Percut eastward close to the Sungei Tuan (cf. Map XIII). This canal crossed two drainage canals of Saentis and, shortly before the outbreak of World War II, irrigated an area of 160 hectares. It was understood too that this irrigation project could easily be expanded to bring an additional 800 or so hectares under irrigation. I had the opportunity to see this pilot project in 1940 while accompanying Baron van Lijnden, who had placed some 65 families in this project, each with one hectare of irrigated land. I noticed, in particular, that the rice had been transplanted in straight rows in Japanese fashion, which permitted the use of a weeding implement (*landak*) developed in Japan.

Revisiting Saentis and the Percut irrigation complex on two occasions in 1955, I was once again struck by the complete abandonment of a promising prewar project. The irrigation canal was still functioning up to where the canal crossed the second drainage canal of Saentis, but here the cement conduit that carried the irrigation water across the drainage canal had fallen into the canal and the irrigation water, now discharged into the drainage canal, was being carried out to the sea. This meant that the prewar irrigation project was not receiving

a drop of irrigation water from the Percut canal. The land had already been lying idle for several years and had reverted to second-growth forest. Ironically, the laborers who had maintained the canal were still being employed and were keeping the grass cut along the banks of the dry and useless irrigation canal. The problem, of course, was that the laborers lacked equipment with which to lift the conduit out of the drainage canal, but for want of a solution to this problem at least one thousand hectares between the Percut and Tuan rivers that could easily have been brought back under irrigation had been lying completely idle for years.

An Emergency Food Production Program

East Sumatra, though world-famous as a producer of agricultural export products, remained the greatest food-deficit region of the Indies. During the 1930s East Sumatra produced a yearly average of only about 180,000 tons of rice (or its equivalent in such foodstuffs as maize, sweet potatoes, and cassava), whereas the population required approximately twice that amount of food. Local food production did not, in fact, cover even the requirements of the autochthonous rural population. Many villagers, particularly those in the tobacco belt of Langkat, Deli, and Serdang, lacked sufficient cultivable land to supply their own rice requirements. The townspeople and the large estate population, for their part, depended entirely upon imported rice.

Realizing the vulnerability of the area to any interruption of the maritime flow of foodstuffs, the Netherlands Indies government took a series of emergency measures between September 1939 and December 1941 to assure an adequate food supply for the population of East Sumatra in the event of a conflict in the Pacific. The first of these, the Compulsory Cultivation Ordinance,[25] called for an intensification of food production by peasants and compelled planters to take down their "No Trespassing" signs and in other ways facilitate the cultivation of some of their lands for subsistence purposes. Upon request of the local government authorities, plantations were required to release land either temporarily lying fallow or being held in reserve for future expansion. Plantation laborers and even land-needy peasants living outside the plantations were to be encouraged to plant food crops such as rice, maize, and cassava on the released land. Although this ordinance was designed as a temporary measure, to be revoked as soon as circumstances would permit, it established a significant precedent by opening plantation areas to cultivators — who later proved un-

willing to return the land, especially any land they themselves had cleared of jungle growth.

By another emergency order the planters were furthermore required to store adequate rice stocks to cover the requirements of their laborers and dependents for six months, the asumption being that after six months local food production would equal the normal deficit. Since maize is best suited for an emergency food campaign, the plantations were additionally required to store seed maize to be planted immediately in the event of an outbreak of war involving the Netherlands Indies.

In 1939 the tobacco industry released 13,500 hectares of fallow land, of which 3,500 hectares had produced a tobacco crop in 1939 and the other 10,000 hectares had last been cultivated in 1938. Shortly after Pearl Harbor the tobacco industry released another 26,000 hectares, so that by 1942 a total of 40,000 hectares, or roughly one-sixth of the land belonging to tobacco estates, was being used for food production.[26]

The perennial-crop plantations released 37,500 hectares in 1939, some 3,500 hectares of which were cleared and planted under the supervision and at the expense of the plantations. Most of the rest was divided into small parcels to be cleared and cultivated by individual farmers living in neighboring villages.

Status of the Conversion Question at the Outbreak of World War II

The Sisir Gunting and Percut river projects were the largest, but van Lijnden was conducting a number of smaller experiments in both coastal areas and the interior when the Japanese invaded East Sumatra in March 1942. Unfortunately his final report had not yet been prepared and many of the data collected by his three assistant agricultural officers and himself were apparently lost in the course of the war.[27]

As to conversion negotiations in the immediate prewar period, attention centered on the validity of the distinction between "A" and "B" claimants. Van Lijnden had come to the conclusion that from neither a socio-economic nor an agricultural viewpoint did the distinction contribute to a solution of the land problem. The "B" category, which all but precluded making a living as a cultivator, should be abolished and all claimants treated equally. Van Lijnden's radical proposal led to a series of meetings in February 1941 between government officials and, separately, the planters and the sultans. At the

first (12 February) the Deli Planters Association predictably and strenuously objected to the idea. Assistant Resident J. Gerritsen, who was also chief of the Conversion Bureau, next met (17 February) with the Sultan of Langkat at his palace. Asked what the planters' reaction was and if the planters were willing to release the greater amount of land implied in such a change, Gerritsen blandly assured the sultan that the matter had been brought to the attention of the Deli Planters Association. At a third meeting in Medan (26 February) the Sultan of Deli was asked whether the *adat* made any distinction between the people classed in the "A" and "B" categories. His reply, seconded by Tengku Mahkota T. Otteman, was that no such distinction had existed until 1932 when the drastic cutback in tobacco cultivation, because of the depression, had created a *jaluran* shortage which the planters handled by introducing this arbitrary division of claimants.[28]

The planters resented this maneuvering by government officials to unify the sultans in their support of the proposal, but new obstacles to conversion agreement would mean new delays and the planters had no interest in rushing the signing of leases as this was to be accompanied by large initial payments to the sultans. For this very reason the sultans for their part were eager to conclude the conversion negotiations, which by now had dragged on for fourteen years. But the outbreak of war disrupted all negotiations as well as the lives of everyone concerned — planters, sultans, government officials, peasants — and, as time would prove, marked the end of an era in East Sumatra's history.

CHAPTER VII

THE WHITE MAN'S DEPARTURE AND HIS LEGACY

Japanese forces invaded North Sumatra on 12 March 1942, landing at two points in East Sumatra, Pantai Cermin near Medan and Labuan Ruku near Tanjung Balei as well as at Langsa in Aceh. The first Japanese units reached Medan the next day, and about two weeks later, on 29 March, the commanding officer of the Dutch forces in North Sumatra surrendered at Kota Cané, in the Alas valley of Aceh.

Dutch and other foreign civilians from nations at war with Japan were interned, except for a few planters retained by the military authorities until late 1943 as wartime administrators. By May, Colonel Namura, military commander of East Sumatra, had called on a small group of leading plantation administrators for reports on their various industries, to be used by the Japanese in planning the management of the plantations during the occupation period.[1] Responsibility for administering all enemy-alien estates was delegated to *Noyen Renggo Kai,* a company set up in mid-1942 for this specific purpose by a group of large Japanese firms. It had headquarters in Medan, where a small Japanese staff was assisted by Western advisers. Contactmen, appointed from among the former plantation operators, served as its links with the plantations.

Toward the end of 1942, *Noyen Renggo Kai* was replaced by a new administrative organization, *Shonan Gomu Kumiai,* with headquarters in Singapore, and soon thereafter the Western contactmen were displaced by Japanese "group managers", each responsible for several plantations.

An initial curtailment of commercial export-crop production was followed by complete stoppage as markets dwindled and increased sub-marine activity disrupted shipping. The plantations might then have been broken up and their labor forces allowed to disperse but for the persuasive arguments of the Western advisors. In view of the large investment the labor force represented, the Western planters urged the Japanese not to disturb the relationship between plantation

management and laborers.[2] Thus, although new crops such as castor beans, cotton, and ramie were introduced, the plantations were maintained as operational units. The Western advisory group was also successful in persuading the Japanese to continue maintenance on perennial-crop plantations, such as those devoted to rubber, oilpalms and tea.

Faced with the local food situation, the Japanese military authorities adopted and even greatly expanded the emergency food production program set up the year before by the Dutch. (Whereas Dutch authorities had called on the tobacco estates to release 40,000 hectares of land, the Japanese ordered the release of 160,000 hectares.) The most intensive efforts centered on the tobacco estates of Langkat, Deli and Serdang, both because these possessed the best soils in East Sumatra and the clearing of their relatively young second-growth forest entailed little labor and because these three sultanates had higher population densities and therefore greater food deficits than had the other regions of East Sumatra.

As long as even a few Europeans remained on the plantations, ways were found to preserve at least some of the choicest soils, but after the internment of the last Europeans in late 1943 the tobacco land was turned over to year-round use, not only for rice, maize and other food crops but also for fibers, castor beans and other industrial crops of interest to the Japanese. This, of course, destroyed the carefully maintained field-rotation system and caused heavy soil losses on all but those estates on the level land near the coast. A large number of the most productive tobacco estates, especially those close to the main highways or such large towns as Medan and Binjei, were completely taken over by Javanese laborers, local villagers and townspeople, all with the approval of the Japanese occupation authorities. In many instances the Javanese and local peasants, again with the knowledge and approval of the Japanese, brought the land under irrigation by deliberately destroying the extensive and costly drainage systems constructed by the planters.

Although a high percentage of the tobacco land was eventually converted to other uses, the Japanese did not immediately halt tobacco production. A tobacco crop standing in the fields at the time of the invasion was in due course harvested and processed.[3] The 1942 tobacco crop amounted to 34,000 bales. A 1943 crop produced no less than 40,000 bales. Cutting back in 1944, the Japanese authorized only the Deli Tua Estate to plant tobacco and then only 100 hectares; though

by this time all the European planters had been interned, about 1,000 bales of tobacco were properly fermented, graded and packed. During the years 1945 and 1946, however, no wrapper tobacco was planted on the estates of East Sumatra.[4]

Unlike the tobacco plantations, where at least 90 percent of the land had normally been left under bush fallow, the estates devoted to perennial tree crops had no land easily convertible to food production and were forced either to clear heavy forest from undeveloped reserves or to cut down producing stands. A logical approach lay in first cutting down old or inferior stands that were already due for replanting, and this was the pattern up to the departure of the last Westerners.[5] As the war progressed, clearing extended in some instances to stands of young rubber trees five years old or less and therefore just coming into production. It was of course easier to uproot young trees, and the great economic loss dismayed only the "imperialist" plantation owners.

Detailed statistical data furnished by the Japanese at the end of the war clearly indicate the extent to which plantation perennial-crop acreage was commandeered for food production. Most serious was the damage in the tea industry, which lost no less than one-third of its acreage, while the rubber industry lost 12 percent and the oilpalm industry 16 percent. The data in Table 20 do not show how much acreage represented the release of forest reserves, but the aggregate probably exceeded the acreage of commercial stands destroyed.[5]

TABLE 20

WARTIME CHANGES IN THE RUBBER, OIL-PALM, AND TEA INDUSTRIES OF EAST SUMATRA

Industry	Planted Area as of January 1, 1942 in hectares	Area Cleared during Japanese Occupation in hectares	Percentage of Planted Area Cleared	Area Planted during Japanese Occupation in hectares
Rubber	258,959	31,932	12	1,802
Oilpalm	87,247	13,626	16	1,526
Tea	21,464	7,075	33	n.a.

Source: Unpublished Dutch report of November 1945, based on information furnished by Japanese authorities after their surrender.

The land designated for food production was parceled into lots of 0.6 hectares each for issuance to landless cultivators. The lots were

registered and land-loan agreements signed, such agreements being valid for two years with a provision for their extension for an additional two years. Thousands of landless laborers formerly dependent upon the food rations which formed a part of their wages were suddenly able to grow their own food. Many left the plantation barracks, built simple houses on their newly acquired lots, and began to develop small garden plots by planting fruit trees, bushes and hedgerows.

Perhaps concern over both the food shortage in East Sumatra and a drift of people into the towns led the Japanese to order a population registration on 10 March 1943. The last prewar census had been held in 1930. The wartime registration may not have had the same reliability as the census of 1930, but in all probability it was more dependable than postwar estimates (see Table 21). It is of especial significance since it is the last population count which breaks down the Indonesian element by ethnic group, thus revealing the comparative strength of Javanese, Batak, and Malay in East Sumatra (see Table 22). While the population as a whole had increased by 24 percent, the Javanese had increased by 32.6 percent, the Batak by 39.8, and the Malay by only 15.5 percent between 1930 and 1943.

TABLE 21

POPULATION OF EAST SUMATRA ACCORDING TO CENSUS OF 1930 AND JAPANESE DATA FOR 10 MARCH, 1943

	Population in 1930	Population on 10 March, 1943	Population Density per Sq. Km., 1943
Langkat	254,000	279,000	44.5
Deli and Serdang	460,000	545,000	113.0
Simelungun and Karo	370,000	480,000	74.6
Asahan	338,000	448,000	31.6
Town of Medan	76,000	108,000	7,240.0
Total	1,498,000	1,860,000	58.6

Source: Unpublished Dutch report of November 1945, based on information furnished by Japanese authorities after their surrender.

The only other wartime population data collected by Japanese occupation authorities concern laborers and their dependants living on the plantations (see Table 23). These data are in terms of "full consumers", an administrative device under the Dutch labor laws that had required the planters to furnish rice and other rations to the laborers and their dependents. In prewar days the standard monthly

TABLE 22
POPULATION OF EAST SUMATRA BY MAJOR ETHNIC GROUPS

Ethnic group	1930	1943	Percent
Javanese	641,000	850,000	32.6
Batak	336,000	470,000	39.8
Malay	225,000	260,000	15.5
Chinese	158,000	280,000	77.2
Others	138,000	—	—
Total	1,498,000	1,860,000	24.6

Source: Unpublished Dutch report of November 1945, based on information furnished by Japanese authorities after their surrender.

TABLE 23
ESTATE POPULATION IN 1942 AND 1945, EXPRESSED IN TERMS OF "FULL CONSUMERS"

Estates	Number of "Full Consumers" 1942	1945	1945 as Percent of 1942
Perennial-Crop Estates	257,060	195,800	76
Tobacco Estates	81,650	92,100	112
Total	338,710	287,900	85

Source: Unpublished Dutch report of November 1945, based on information furnished by Japanese authorities after their surrender.

rice ration of a man was 20 kilograms, of a woman 16 kilograms, and of a child under thirteen years 10 kilograms. On the basis of these rations a man was rated one full consumer, a woman counted as 0.8 of a consumer, and each child as 0.5 of a consumer. On 1 January 1942 there were the equivalent of 338,710 full consumers on the plantations, but by mid-year 1945, according to unverified Japanese reports, their number had declined by 15 percent and amounted to approximately 288,000. Due to the concentration of emergency agricultural programs on land of the tobacco plantations, the number of full consumers on the tobacco estates, however, had increased by 12 percent, while that on perennial-crop estates had decreased by 24 percent.

East Sumatran plantations suffered an overall population reduction of 15 percent, due in part to the drafting of plantation laborers for construction projects serving the Japanese war effort. Loss of life among the Javanese transferred from plantations was exceptionally

heavy because of inadequate food and medical care. Laborers remaining on the plantations also suffered from a lack of medical supplies, of course, but were better off in the matter of food.

Throughout the occupation Japanese propagandists missed no opportunity to undermine the prestige of the Westerners, and in East Sumatra the planters were singled out as their special target. This reportedly proved an especially effective tactic among Batak clerks and Javanese foremen, who, in effect, ran the plantations during the period from October 1943 to the middle of 1947. In the political arena, the Japanese shrewdly matched their propaganda to administrative realignments. When, for strategic reasons, Sumatra was separated from the rest of Indonesia and joined with the other coast of the Strait of Malacca as one administrative unit under the jurisdiction of the military authorities in Singapore,[6] the Japanese stressed the historical and ethnic ties between Sumatra and Malaya. In 1944, when the Japanese created a separate military administration for Sumatra with headquarters in Bukit Tinggi, West Sumatra, the propagandists switched to an appeal to local pride, capitalizing on Sumatran desire for autonomy and criticizing the Dutch for having made Sumatra serve the interests of Java. In January 1945, policy-making positions were opened to Sumatrans and three months later the Japanese established the Sumatran Central Advisory Council.[7] These wartime measures contributed greatly to a strengthening of the political consciousness of the Sumatrans and opened posts of responsibility to Sumatrans that in the past had been inaccessible to them.

East Sumatra and Indonesian Independence

Representing Sumatra on the Indonesian Independence Preparatory Committee (*Panitia Persiapan Kemerdekaan Indonesia*) were three political leaders from East Sumatra: Dr. Mohd Amir, Attorney Tengku Mohd Hassan, and Attorney Abdul Abas. On 19 August 1945, two days after the Declaration of Independence, the Committee issued a decree by which Sumatra was established as one of the eight provinces of Indonesia and President Sukarno, who had been elected to office the day before by the Committee, appointed Tengku Hassan as first governor of Sumatra. The three Sumatran delegates had been hoping for autonomy in both internal and external affairs but settled for the status of a province within the Republic after discussion with other delegates. During the course of these discussions Tengku Hassan insisted that the first cabinet of the Republic be Indonesian rather

than exclusively Javanese.[8] The first cabinet, indeed, included two Sumatrans, Amir Sjarifuddin as Minister of Information and Dr. Mohd Amir as Minister of State (without portfolio).

On their way home from Jakarta the Sumatran delegates visited the major towns in South and Central Sumatra to notify local political leaders personally of the Declaration of Independence and the founding of the Republic of Indonesia and to urge the creation of committees in support of the Republic. A committee for the whole of Sumatra (*Komite Nasional Indonesia: Sumatra*) was established in Bukit Tinggi under the leadership of Dr. Gindo Siregar.

When they arrived in Medan Dr. Amir and Tengku Hassan established a National Indonesian Committee for East Sumatra. Although this was opposed, without success, by the princes and their supporters out of concern over their own political future, it received very strong support from youth groups.

In East Sumatra, as in Java, youth groups were to play a vital role in the ensuing struggle to defend the Republic. The Japanese must be given credit for the training and indoctrination of Indonesian youth with a highly militant nationalism coupled with strongly emotional anti-Western sentiments. An important source of indoctrination were the youth training centers (*Seinen Renei Sho*), which the Japanese created to provide military and political training along with a short-term course in the Japanese language. In East Sumatra they operated two such centers, one at Medan and the other at Nagahuta near Brastagi in the Karo highlands.[9] The graduates of these centers could choose either to join the *Gyugun* organization of the Japanese Army or to enter the civil administration. A high percentage of the Medan graduates became *Gyugun* officers and thus received additional military training.

Political events in East Sumatra during the immediate postwar period were greatly influenced by the activities of a group of graduates of the Medan center who were living in a dormitory on 6 Fuji Street (now Jalan Jakarta) in Medan at the time of the Japaneses surrender. With word of the establishment of the Republic of Indonesia this group called on the youth of East Sumatra to join the PRI (*Pemuda Republik Indonesia,* or Youth of the Indonesian Republic) and fight for their country's cause. The nuclear group of the PRI included a number of particularly energetic former *Gyugun* officers who soon became the organizers and commanding officers of the TRI (*Tentara Republik Indonesia,* or Army of the Indonesian Republic). Later the

name was changed to TNI (*Tentara Negara Indonesia*) in East Sumatra, while PRI was renamed *Pesindo* (*Pemuda Sosialis Indonesia*, or Indonesian Socialist Youth).

The first clashes between Republican youth and opponents of the Republic are reported to have been caused by Ambonese soldiers in Medan who forced the *Pemudas* to take off their red and white armbands and insignia. The *Pemudas,* armed with weapons obtained from the Japanese, fought back. There was a long-standing animosity between Ambonese soldiers, who constituted the majority of the Dutch colonial army, and Indonesian nationalists.

The Arrival of Allied Forces in East Sumatra

At the Quebec Conference in August 1943 the Allies, like the Japanese, paid little attention to the international boundary between Malaya and Sumatra in their division of military responsibility for Southeast Asia. As specified by the Combined Chiefs of Staff, the South East Asia Command (SEAC) under Admiral Mountbatten embraced Sumatra together with Malaya, Burma, Thailand, Indochina, and Hong Kong. The remainder of the Netherlands East Indies was placed under General MacArthur's South West Pacific Area Command (SWPAC). This decision forced the Dutch, already handicapped by an extreme shortage of personnel, to divide their small staff between Ceylon and Australia, the two command headquarters.

Even greater operational difficulties confronted the Dutch following the 1945 change in the delimitation of the military command areas. With most of their personnel concentrated in Australia, the Dutch were caught unprepared when on 15 August 1945 the Combined Chiefs of Staff transferred all of the Netherlands East Indies to Mountbatten's SEAC. The last-minute change caught Mountbatten's staff just as ill prepared. As it turned out, SEAC found that it could not handle the occupation of the whole Netherlands Indies and had to ask Australia for help. This meant further complications for the Dutch, who now had to establish lines of communication with the Australian military command responsible for the occupation of Borneo, Celebes, the Moluccas, and the Lesser Sunda Islands except for Bali and Lombok.[10] Since SEAC had very limited forces at its disposal, it established an order of priority that called for the occupation of Malaya, Singapore, and Saigon ahead of any port city in the Netherlands Indies. SEAC set up a separate subordinate command for the Allied Forces in the Netherlands East Indies (AFNEI) headed by

Lieutenant General Sir Philip Christison. The troops that SEAC sent to Indonesia were mainly British Indians, so that New Delhi too became involved in the Indonesian issues.

It was not until almost the end of September 1945 that an advance party of British AFNEI officers arrived in Medan to begin implementation of the instructions to the SEAC from the Combined Chiefs of Staff: to release and evacuate Allied civilian internees and prisoners of war; to accept the surrender of the Japanese armed forces and arrange for their disarming and repatriation, and, finally, to maintain law and order pending the transfer of civil affairs to the Dutch. The instructions had been written with no heed for the political developments that were to bring the establishment of the Republic of Indonesia. To the utter consternation of Dutch authorities, the Chiefs of Staff in London and SEAC, toward the end of September, taking cognizance of actual conditions in Java and Sumatra, decided to reduce the Allied program in the islands to a minimum and to take into consideration the existence of the Republic of Indonesia. This explains why Sir Philip Christison upon arrival in Jakarta called on the Republican leadership for aid in implementing his assignment and recognized Republican authority and responsibility for the administration of territories outside the bridgeheads to be occupied by AFNEI. It constituted *de facto* recognition of the Republic of Indonesia and a drastic departure from the Civil Affairs Agreement of 24 August 1945 between the British and Dutch governments.[11]

On 10 October 1945 units of the 26th Indian Division under the command of Major General R. C. O. Hedley landed in Belawan and moved into Medan. At about the same time other units went ashore in Palembang and Padang. But in each case the AFNEI command committed only enough troops to maintain a small bridgehead. This left the Republicans practically in control of Sumatra with ample time to consolidate their hold on the island. In fact, the 26th Indian Division did not at first occupy even all of Medan but divided the city into an Allied and a Republican sector. After a brief period of generally amicable relations between the British Indians and the Republican authorities, however, the Indonesians began making random attacks on Allied units in the realization that the British Indian troops represented a vanguard for Dutch units. To prevent further clashes and improve security for the civilian population of Medan, General Hedley abolished the Republican sector and pushed the demarcation line to the outskirts of the city. This was done during September and

October 1946, so that by 14 October 1946, the date of a cease-fire agreement, all of Medan was controlled by AFNEI. According to statistics compiled by Dootjes for the period 10 October 1945 to 10 October 1946,[12] the 26th Indian Division suffered 276 casualties (8 officers and 39 enlisted men killed, the remainder wounded) and a total of 65,000 Japanese were evacuated from Sumatra leaving 4,000 still to be repatriated. The first Dutch units arrived in Medan on 25 October 1946, and on 18 November General Hedley transferred command of Medan to Colonel Scholten, the ranking officer of the Dutch military forces in Sumatra. Just before the end of the month the 26th Indian Division left Medan. During their final march through the streets of the city one unit was seen carrying the red and white flag of the Republic.[13]

Events in East Sumatra outside of Medan

Indonesians in Sumatra, as in Java, took advantage of the general confusion during the first few weeks after the Japanese surrender, the temporary disorientations caused by the transfer of the Netherlands Indies to Admiral Mountbatten's SEA Command, the long delay in the arrival of AFNEI, and the inability of the Dutch to muster and transport to the Indies an adequate military force to organize their own administrative apparatus as well as a defense force. In September 1945 East Sumatran youth who had belonged to such Japanese-sponsored military and semimilitary organizations as *Heiho, Peta, Seinendan, Gakutotai,* and *Barisan Pelopor* rallied around the PRI, forming military units and obtaining considerable quantities of arms, ammunition, and other military equipment from the Japanese, initially with the connivance of some Japanese officers and after the latter part of October 1945 through armed raids on Japanese camps and posts.

A month later the *Pesindo* of East Sumatra apparently broke up when the leaders of the Republic announced abandonment of the one-party system. A number of new parties sprang up, each with its own youth organizations, and a former *Pesindo* member found himself welcome in any of these. His choice ranged over such organizations as *Napindo,* affiliated with PNI (*Partai Nasionalis Indonesia,* or Indonesian Nationalist Party), *Pesindo* of PSI (*Partai Sosialis Indonesia*), *Barisan Merah* of PKI (*Partai Kommunis Indonesia,* or Indonesian Communist Party), and GPII (*Gerakan Pemuda Islam Indonesia,* or Indonesian Islamic Youth Movement) affiliated with *Masyumi* (*Majelis Syuro Muslimin Indonesia,* or Consultative Council of Indonesian

Moslems). Official encouragement of a multiparty system, the great heterogeneity of wartime organizations, and the lack of a strong centrally controlled military body conspired to produce an all but unmanagable mass of military and semimilitary organizations, as the Republican government learned belatedly during events in East Sumatra in 1946 and 1947. Military leaders had their own views as to what action should be taken, paying little attention to the policy pursued by the government. In early 1946, East Sumatra had three types of fighting units: the Gadjah II Division of TRI, i.e. the regular army, with headquarters at Pematang Siantar; military youth groups such as *Hizbullah* and *Sabilillah* (formed by the GPII of *Masyumi*), *Pesindo* (of PSI), and *Napindo* (of PNI); and the very active *Laskar Rakyat* (People's Army) units which were rather loosely organized and which operated independently in the home regions of their members. Among the latter was the Karo region's *Harimau Liar* (Wild Tiger), which included a number of Karo youths who had been trained at Nagahuta.

All these armed units received assistance in one form or another from Japanese deserters. The latter, whose number van Mook [14] estimated to be about two thousand, ranged from former officers to lowly enlisted men, but as deserters mostly fell into one of two classes: those who had married Indonesian women and those who feared Allied investigation of their wartime activities. Their assistance to Indonesian army units was as varied as their personal backgrounds: some twenty former officers living in East Sumatra trained TRI officer candidates in Brastagi; Japanese technicians became involved in the production of grenades, land mines, and other ammunition and in the repair and maintenance of arms and equipment; [15] and Inoue, former *Kempetai* captain, gained notoriety as mastermind of the *Harimau Liar* and other *Laskar Rakyat* units operating in East Sumatra.

Although the TRI divisions, the youth groups, and the *Laskar Rakyat* units shared many features, there were growing distinctions. The TRI, which on the whole supported Governor Hassan, was at first not as well equipped as the others but soon proved to be the best disciplined and the most responsible. This was particularly evident during the Social Revolution, which swept through East Sumatra in early March 1946.

Signs of trouble had begun to appear a few months before with the formation by extremist elements from both left and right of an East Sumatran branch of *Persatuan Perjuangan* (Fighting Front), the Java

organization of Tan Malaka, a revolutionary nationalist of long standing.[16] Like their counterparts in Java, the PP leaders in East Sumatra took an uncompromising revolutionary stand — calling for the nationalization of all plantations and other foreign property, opposing any negotiations with the British or the Dutch, and accusing the princes of East Sumatra of collusion for the return of the Netherlands Indies government and the Western planters. The last turned out to be the most explosive issue when the word spread that the sultans and other princes were in contact with the Dutch and were prepared to collaborate with them in the hope of being reinstated in their former positions. The PP leaders set off the Social Revolution, a general massacre of the East Sumatran aristocracy and of selected Republican officials and their families. Very few members of the aristocracy escaped death, the most notable exceptions being those living in the British sector of Medan at the time and the small number who had been interned by the TRI, including the Sultan of Langkat, the Sultan of Asahan, the Crown Prince of Serdang, and their immediate families. For the most part the *Laskar Rakyat* and other irregular units loosed by the PP leadership roamed unchecked through Langkat, Asahan, Labuan Batu, and other parts, killing and looting everywhere. The TRI was able to do little more than try to contain the unruly bands.[17]

The Plantations during 1946 and 1947

Throughout the year 1946 and the first half of 1947 the managers of the great plantation concerns had no access to their estates but, along with Dutch civil and military authorities, were confined to Medan within the tight ring which the Indonesian forces maintained around the bridgehead. The conditions in the bridgehead worsened after the withdrawal of the British forces in November 1946. There were times when the Indonesians even cut off the water supply and prevented the entrance of any foodstuffs from the hinterland into the city, thereby causing considerable hardship among the civilian population of Medan. Acrimonious charges were constantly exchanged between Dutch and Indonesians, each side accusing the other of violations of the cease-fire agreement of 14 October 1946; of the demarcation line of Medan agreed upon on 7 December 1946 during a visit of the two Republican members of the cabinet, Amir Sjarifuddin and Dr. A. K. Gani, to Sumatra; [18] and of the Linggarjati Agreement. The difficulties were, in part, due to the opposition of East Sumatran military groups, particularly those under the influence of *Persatuan Perjuangan,* to the

Linggarjati Agreement. The followers of PP objected especially to the provision calling for the return of the plantations to their owners, favoring instead the nationalization of all plantations.

During this period the plantations played a vital role in the Indonesian struggle for independence. They were controlled by the TRI and other military groups, which sold rubber and other plantation products in Malaya, either directly or with the help of Chinese middlemen. These sales furnished badly needed funds for Governor Hassan's administration and enabled the military commanders to organize, equip and maintain their units. Dutch authorities were strongly opposed to this trade, which they regarded as smuggling. In late January 1947 they set up a naval blockade by which they attempted to prevent the exportation of plantation products from Republican territory. The navy treated as contraband all commodities which could have originated on plantations, assuming that such products had been produced prior to the capitulation in March 1942. The Republicans for their part regarded the blockade as a violation of the spirit of the Linggarjati Agreement.

Negotiations between Dutch and Indonesian over the implementation of the Linggarjati Agreement finally broke down in July of 1947. Enumerating Dutch grievances in his memorandum of 20 July, Dr. van Mook called especial attention to the situation at Medan:

> The isolation of certain cities, such as Medan, from the surrounding Republican territory, as a result of which important population groups and especially the Chinese were threatened with famine, has not been lifted, in spite of the promise and statement from the Republican side that orders would be given within a week and indeed have been given.[19]

According to a radio address by Prime Minister Amir Sjarifuddin on 16 July 1947, the Republican government had ordered East Sumatran authorities to end the food blockade of Medan, but Dr. van Mook's statement indicates that the orders were ignored.[20]

On 21 July, Dutch troops in Sumatra and Java began their first full-scale military campaign against the Republic. In East Sumatra Dutch planes dropped leaflets with Malay, Batak, and Acehnese texts claiming that the Dutch were coming not as enemies but to restore law and order; the civilian population was urged not to flee but to remain indoors. Well-equipped armored columns pushed out from the bridgehead of Medan with the intent of bringing the valuable plantation belt of East Sumatra under their control and thus clearing the way for the

planters, who no less than twenty-two months after the Japanese surrender were still waiting impatiently for an opportunity to return to their plantations.

When at midnight between August 4 and 5 a cease-fire order brought the military action to a halt, the armored columns had reached the Wampu river in the north, the Asahan river in the south, and the shores of Lake Toba in the west. But although the Dutch were in possession of the important towns and could use the main roads in the daytime, they could by no means claim control over the countryside, where Indonesian fighting forces, avoiding direct combat with the heavily armored Dutch units, engaged in guerrilla warfare.

On 29 August 1947 the Dutch summarily proclaimed themselves masters of East Sumatra's plantation belt, except for relatively minor sections in Northern Langkat and south of the Asahan river, unilaterally establishing the "Van Mook Line of Demarcation" in Java and Sumatra that, according to Dutch claims, marked the positions reached by their troops at the time of the cease-fire order and included most of the plantation belt. Only relatively minor sections in northern Langkat and south of the Asahan river remained outside the line. In actuality, however, the Van Mook Line included areas still held by Indonesians. Despite the cease-fire order, military operations continued within the line of demarcation, being labeled "mopping-up operations" by the Dutch.

The military authorities permitted the return of the planters to their estates as soon as Indonesian fighting units had been driven away. For many months, however, the planters were forced to maintain special security guards to protect the estates against hit-and-run attacks by Indonesian guerrillas. By the end of December 1947, some 40 out of 43 prewar tobacco estates, 14 out of 26 oilpalm, 108 out of 177 rubber, and 13 out of 16 tea estates were released by the Dutch military authorities — although not all of them were yet back in operation, either because of heavy damage to factories or because of a lack of labor.

The planters were soon to learn that East Sumatra had undergone important changes during the five years of Japanese and Republican control. The old social order was destroyed; the power of the planters was greatly weakened; and estate laborers as well as the population outside the plantations were organized into labor unions, peasant organizations, and political parties, all prepared to challenge the rights of the planters.

CHAPTER VIII

EPILOGUE

In all likelihood no part of the tropics experienced as rapid a growth of plantation agriculture or gained as flourishing a prosperity as East Sumatra.

It was an uncanny stroke of luck that Jacobus Nienhuys, who had been sent out from the Netherlands to develop tobacco-growing in Java, stepped ashore on the banks of the Deli River not realizing that the soil under his feet was unparalleled in fertility and ideally suited to the raising of wrapper tobacco. Once the great value of the wrapper tobacco raised on the soil of Deli and the neighboring territory of Langkat was recognized, fortune-seeking planters flocked to East Sumatra. The local rulers, greedy for wealth and without concern for the welfare of their subjects, grandly issued concessions to all comers — initially for 90 years and later for 75. In a dramatic expansion the number of tobacco plantations grew from twenty-two in 1872 to forty-nine in 1880, and to one hundred and forty-eight by 1888 (Table 3).

In wealth and splendor the East Sumatran petty princes had never ranked with Javanese royalty, whose *kratons* were large enough to provide living quarters for a large staff and numerous officials, and included spacious halls where gracious dancers and superb *gamelan* orchestras performed in the evenings. The typical East-Sumatran sultan lived in a house which in both design and building material was very much like the houses of the common people: a structure built of wooden planks and roofed with nipa shingles. It was simply larger. With the advent of the plantation companies, the East-Sumatran rulers suddenly were able to build spacious residences and large palaces. To my mind come the residences of the sultans of Langkat and Asahan and the palace of the Sultan of Deli. The companies presented the rulers with expensive gifts, attractive furniture, vases, expensive table services, and other ornamentation for the public rooms. During my visit to his palace, the Sultan of Deli identified the companies as donors of expensive show-

pieces in the great hall. Sultans, their sons, and other members of their families were subsidized for trips to Europe, especially the Netherlands, where they were royally entertained.

Gradually over the years the home government in the Netherlands as well as the colonial government in Batavia came to realize that the early concessions, negotiated between the petty rulers and the planters without the participation of an arbitrator representing the economic and legal interests of the sultan's subjects, were grossly unfair to the common people. A series of model contracts were drawn up, but the planters objected violently to the idea of revising the early concessions. In view of the fact that the government drafted the model contracts in order to pacify the growing discontent of the peasantry, it is indeed strange that the planters won their argument and prevented the revision of the early concessions.

In their frustration, the peasants not infrequently set fire to the drying sheds filled with harvested tobacco leaves. Apparently the chief source of their discontent was the inadequate amount of land left at the disposal of the rural population.

The peasants were not, however, the only disgruntled element to take violent action. Another group with serious complaints was the Karo Batak vassals of the Sultan of Deli, who objected to the highhandedness of the Sultan in leasing land in the interior, the *dusun* area of the Karo Batak, without giving the latter their due share of the money which the planters paid for land not belonging to the Sultan. The dissatisfied Karo mobilized the men under their command and attacked the headquarters of plantations located in Karo *dusun* territory. Batavia sent troops from Java, suppressed the revolt, and subsequently investigated the reasons for the Karo Batak uprising. As the inquiry revealed unjust action on the part of the Sultan, the Dutch insisted that the Karo Batak chiefs receive their due share of the payments.

To present a stronger front in their negotiations with the central government as well as with the East Coast rulers, the tobacco planters banded together in an association.

Although the Deli Planters Association could not always depend on the support of the central government or its local officials, the connivence of the Sumatran rulers and agreement among the planters on tactics promised success. Supported by the petty rulers, the planters outlawed the planting of tobacco by local peasants or by former Chinese laborers, in order to prevent theft of plantation tobacco. It would have been impossible to prove the theft if the peasants were to have their

own tobacco fields. In order to reinforce the ban on peasant-grown tobacco, the planters agreed not to buy non-plantation tobacco and not to sell their own tobacco in East Sumatra; instead, all tobacco would be shipped to the Netherlands to be sold at auction.

The planters ran into considerable difficulty in coping with the desertation of laborers recruited from overseas.

As early as 1908 the Deli Planters Association recommended the introduction of fingerprinting and a comprehensive system of identity cards not only for laborers on plantations but also for the free subjects of the local rulers and for Chinese who no longer had an obligation to any planter. In this instance the local rulers joined the central government in opposing the planters, who had to drop the proposal.

The second problem facing the plantation managers was the attacks on staff members by estate laborers. Daily contact between laborers and the European assistants led not infrequently to the development of deep-seated resentment on the part of a laborer to physical or vocal abuse by the assistant. The Javanese or Chinese laborer might not be able to understand the assistant's broken Malay, or the laborer might not see the validity of the reprimand. Each clash increased the tension between assistant and laborer to such a level that a mere minor incident would so infuriate the laborer that in blind fury he would grab his knife and seriously wound or kill the assistant. In an effort to reduce the chances of such attacks on assistants, the Association not only put out a booklet giving the assistents the "does and don'ts" in the handling of laborers but forbade the carrying of knives or other weapons by laborers during working hours.

There was great interest in the Indies on the part of the public in the Netherlands, as many persons had relatives in the colony, while others held shares in companies there. It is therefore not surprising that in 1902 the Netherlands public was deeply shocked by the account of Attorney J. van den Brand of the atrocious treatment of laborers on many plantations.[1] The author was a lawyer practicing in Medan. The charges were so serious and the author so respected that it was impossible for the central government to ignore them. An investigator, Judge J. L. T. Rhemrev, was sent to East Sumatra to investigate Attorney van den Brand's charges. Judge Rhemrev's report confirmed van den Brand's accusations. To the best of my knowledge, however, the report was never released, nor has any scholar been given access to it. My own interpretation for this is that the report would have been even more shocking than van den Brand's book. The latter was discussed

in Parliament. The Minister of Colonies, J. T. Kremer of the Deli Company, had to answer the questions, for which he was indeed qualified, as he had held a leading position in Medan until 1883. As his answer shows, he was in an extremely embarrassing situation. Kremer maintained that during Kremer's own residence in Medan van den Brand would not have had grounds to accuse the planters the way he did in 1902. Kremer's rather lame explanation was that the tropical climate must have caused a moral breakdown after his departure. One could ask whether the climate had changed after J. T. Kremer's return to the Netherlands.

The immediate outcome of van de Brand's charges and their verification by Judge J. L. T. Rhemrev was the establishment of the Labor Inspection Service of the Outer Provinces, charged with the task of making certain that the planters would not abuse their laborers but would provide them with all the facilities called for by law.

It was obviously in the financial interest of the planters that an indentured laborer not return to the country of his origin, but renew his contract. The usual reason for renewal of the contract was the loss of the worker's savings during a carnival organized by the company at the end of the agricultural year.

The Netherlands Indies Government had repeatedly attempted to abolish the indentured labor system, but was opposed strongly by the planters, especially the tobacco planters. It was, finally, the United States Senate that defeated the tobacco planters on this issue. In 1931 the Senate wrote a new tariff law banning the importation of products which had been produced by convict labor. The Blaine Amendment widened the ban by outlawing importation of agricultural commodities produced by indentured labor, if they competed with domestic products. This affected Sumatran wrapper tobacco but, hypocritically, not such commodities as rubber, palm oil, sisal, or tea, as these did not compete with American products. Confronted by this unexpected barrier, the Deli Planters Association abolished the indentured labor system and penal sanction on all affiliated tobacco estates.

Now that the tobacco planters, the most ardent defenders of the indentured labor system, no longer made use of it, the government proceeded gradually to abolish the system on all other estates. The law set no terminal date for completion of the abolition; the invasion of the Indies by the Japanese did away with the last labor contracts.

As tenaciously as they defended the indentured labor system, the tobacco planters persistently maintained that only Chinese could serve

as tobacco growers. But in 1930 the central government challenged the tobacco planter aristocracy by collecting an immigration fee of one hundred guilders for every Chinese laborer brought in from South China. Since the new immigration fee made Chinese laborers too expensive, the planters gradually shifted to Javanese. Thus the government achieved its aim to create more employment opportunities for landless Javanese. Now the planters found that they had underrated the Javanese, who proved to be skilled tobacco growers, while their wives and daughters, with proper training, became proficient sorters and graders of tobacco leaves.

Of all tropical regions which have attracted Western planters, East Sumatra was unique in the agrarian arrangements made between the petty rulers and foreign planters. In the absence of either a cadastral service or surveyors, no effort was made during the early decades to separate the lands of the indigenous peasantry and the Western planters. Furthermore, the natural growth of the population was not taken into consideration; so that in seventy-five years population pressure had led to a scarcity of land.

As tobacco is an annual crop which must be followed by an extended fallow period and as the local peasant population practiced swidden cultivation, it was possible to combine in one system the swidden tobacco cultivation and the swidden rice and maize cultivation of the indigenous peasantry. This again was a unique pattern duplicated nowhere else in the tropics. The tobacco planters of East Sumatra were the only swidden cultivators in the world to alternate with the peasants in the use of swidden. The position of the two was not a true partnership, however, but a colonial one in which the planter dominated the operations. He might cultivate four to five hundred hectares, while several hundred indigenous cultivators each had the use of a *jaluran* of 0.7 hectare, scarcely large enough for bare subsistence. With the tobacco planters dominating the agricultural system and preventing the indigenous peasants from improving their own agricultural operations, it is no wonder that the interlocking of the agrarian rights of colonial planters and Indonesian peasants led to frequent friction and bitter disputes.

At the end of the second decade of the present century the central government reached the decision that the concession had so many drawbacks when compared with the long leases (*erfpachten*) that it was urgent to abolish the concessions and replace them by long leases.

The most important issue was the reduction of the land controlled by the plantations and its distribution among the land-hungry peasants.

The relatively short four-year occupation of Indonesia by the Japanese had deeply penetrating economic, social, and political consequences for the colony. In East Sumatra the planters lost their invaluable allies, the petty rulers, in the Social Revolution there. And the voiceless *tanis* and *buruhs* of the pre-war period were organized into unions and affiliated with the various political parties represented in parliament.

This period of East Sumatran development — characterized by the problems of emerging from colonialism, i.e. the agrarian struggle between peasant and planter after 1947 — may be dealt with in a following study.

NOTES

CHAPTER I

1. John Anderson, *Mission to the East Coast of Sumatra in 1823,* p. 363.
2. Ibbetson was asked "to visit each port or place of any consequence on the coast; collect the best information on the spot concerning its natural, commercial, and political advantages; the extent and nature of its resources, productions, imports, and exports; the precise nature of the revenue, and authority of its government; the number, character, and principal occupations of its inhabitants; the principal articles forming its staples, as well as those of foreign commerce in demand there; the nature and extent of its intercourse with the countries in the interior ... and every attainable information respecting the character, pursuits, and wants of the inhabitants of the interior countries" (Anderson, *Mission,* pp. 353-64).
3. See Map 9b by S. J. Esser in *Atlas van Tropisch Nederland* (Batavia, 1938).
4. Anderson, *Mission,* pp. 315-16.
5. A similar process took place on the Philippine island of Mindanao where Bukidnon, Manobo, and members of other tribes became bilingual and converted to Christianity as a result of contact with Christian Visayan immigrants. These converts began to dress like Visayans and gave up any practices which would make it impossible for them to pass as Visayans.
6. Anderson, p. 302.
7. Anderson, pp. 260-61.
8. One cubit has 45.72 cm.
9. Page references here and below are to Anderson, *Mission.*
10. D. G. E. Hall, *A History of South-East Asia,* pp. 441-42.
11. Anthony Reid, *The Contest for North Sumatra: Atjeh, the Netherlands and Britain, 1858-1898,* pp. 11-14.
12. "Het inbezitnemen en ontruimen van établissementen op de Oostkust van Sumatra," *Tijdschrift van Nederlandsch Indie* (1853), pt. 2, p. 225.
13. W. H. M. Schadee, *Geschiedenis van Sumatra's Oostkust,* pt. 1, pp. 59-60.
14. John Anderson, *Acheen and Its Ports on the North- and East-Coasts of Sumatra,* p. V.
15. Schadee, pt. 1, pp. 89, 91, and 94; Reid, p. 16.
16. Article 3 reads: "The High Contracting Parties engage that no Treaty hereafter made by either with any Native Power in the Eastern Seas shall contain any Article tending, either expressly, or by the imposition of unequal duties, to exclude the Trade of the other Party from the Ports of such Native Power; and that if, in any Treaty now existing on either Part, any Article to that effect has been admitted, such Article shall be abrogated upon the conclusion of the present Treaty."

17. Reid, p. 31; Schadee, pt. 1, p. 86.
18. Schadee, pt. 1, pp. 86-87.
19. Schadee, pp. 91-92.
20. Schadee, pp. 95-97.
21. Reid, p. 38.
22. Reid, p. 37.
23. Schadee, p. 125.
24. Reid, pp. 47-48.

CHAPTER II

1. *Indisch Verslag 1939: II, Statistisch jaaroverzicht van Nederlandsch-Indie over het jaar 1939,* p. 2.
2. R. W. van Bemmelen, *The Geology of Indonesia, IA,* 689.
3. Ibid. 687.
4. Ibid. 689.
5. Ibid. 689.
6. H. D. Collings, "Pleistocene Site in the Malay Peninsula," *Nature, 142* (1938), 575-76.
7. van Bemmelen, *IA,* 691.
8. Ibid. 691-93.
9. Ibid. 694.
10. Ibid. 686-87.
11. These are reviewed in J. H. Druif, *De bodem van Deli: H, Mineralogische onderzoekingen van de bodem van Deli,* pp. 21-34.
12. This and the following two paragraphs are based on the English summary in Druif, pp. 189-90.
13. E. C. J. Mohr, *The Soils of Equatorial Regions with Special Reference to the Netherlands East Indies,* pp. 468-69.
14. Ibid. p. 470.
15. Druif, pp. 190-91.
16. Druif, p. 192.
17. Mohr, p. 472.
18. R. van de Waal, *Richtlijnen voor een ontwikkelingsplan voor de Oostkust van Sumatra,* pp. 16-18.
19. Mohr, pp. 56-59.
20. The leaves of nipa palm are folded over a slat made out of the wood of the nibung palm (*Oncosperma filamentosum* Bl.) and then stitched in place with a thread obtained by splitting the stem of the herbaceous bamban (*Donax arundastrum* Lour. and *D. canniformis* K. Schum.). The atap industry of East Sumatra required such large quantities of nipa leaves and bamban that both were actually planted by atap makers.
21. B. Hagen, "Die Pflanzen- und Thierwelt von Deli auf der Ostküste Sumatra's," *Tijdschrift van het Kon. Nederlandsch Aardrijkskundig Genootschap,* Second Series, *7,* (1890), 38-39.
22. Most fires along the sides of public roads are due to the carelessness of travelers.
23. S. C. J. Jochems, "De begroeiing der tabakslanden in Deli en hare beteekenis voor de tabakscultuur," *Mededeelingen van het Deli Proefstation te Medan,* Ser. 2, No. 59 (n.d.), pp. 26-27, 77-89.

CHAPTER III

1. A. Hoynk van Papendrecht, *Gedenkschrift van de Tabak Maatschappij Arendsburg ter gelegenheid van haar vijftigjarig bestaan 1877-1927,* pp. 20-21.
2. Ibid. p. 22. P. van den Arend and his partners were disappointed in the tobacco produced on Tempeh and decided not to renew the lease. The experiment ended with a loss of 36.000 guilders.
3. W. H. M. Schadee, *Geschiedenis van Sumatra's Oostkust, 1,* 172-73.
4. E. Netscher, "Togtjes in het gebied van Riouw en onderhoorigheden," *Tijdschrift voor Indische Taal-, Land- en Volkenkunde, 14* (1864), 342-43.
5. Schadee (*Geschiedenis, 1,* 93) reports that Saïd Abdullah was born in Surabaya but, after losing a ship on the east coast of Sumatra by shipwreck, settled in Deli and married a sister of the sultan. Abdullah was therefore related by marriage to the sultan but was definitely not a prince.
6. A. Hoynk van Papendrecht, pp. 26-27.
7. It is not known whether this was the very first Deli tobacco to arrive in Europe or whether Deli-grown tobacco had been received earlier via a British trading firm in Penang.
8. A. Hoynk van Papendrecht, p. 30.
9. Schadee, *1,* 174-75.
10. A. Hoynk van Papendrecht, pp. 33-34.
11. Ibid. p. 32. The transfer took place 1 April 1867; Schadee, *1,* 176.
12. Dutch translation of the contract in A. Hoynk van Papendrecht, pp. 36-37.
13. Ibid. p. 28. Since nutmeg was not mentioned by Anderson as an export commodity of Deli and since he did not observe this once so important spice, we must assume that the industry was started after 1823. The nutmeg industry, like the pepper industry, has practically disappeared from Deli. Certainly the planters soon lost all interest in the nutmeg industry; I am not aware that any of them ever engaged in pepper production. This industry remained in the hands of the local population, but since the planters soon had control over all the land the pepper industry was bound to decline.
14. J. A. M. van Cats Baron de Raet, "Vergelijking van den vroegeren toestand van Deli, Serdang en Langkat met den tegenwoordigen," *Tijdschrift voor Indische Taal-, Land- en Volkenkunde, 23* (1876), 31.
15. Ibid. 33.
16. A. Hoynk van Papendrecht, p. 39.
17. The Consortium was changed to the Tobacco Company Arendsburg (N.V. Tabak Maatschappij Arendsburg) in April 1877, with a capital of 750,000 guilders. Looking back over the fifteen years that the Consortium had operated reveals that the pioneering years were years of heavy losses; throughout the period Nienhuys was administrator, the Consortium had only deficits. De Munnick was able to balance expenditure and income during the span from 1867 to 1871. Then the year 1872 showed a loss of about 12,000 guilders, but the following years — 1873, 1874, and 1875 — yielded handsome profits totaling some 220,000 guilders. The last year of the Consortium, 1876, was again a loss of about 4,450 guilders. (See A. Hoynk van Papendrecht, *Gedenkschrift,* for full historical data regarding the activities of van den Arend and Consortium.) The new company was most successful in the period from 1877 to 1927: in just ten years the company paid dividends amounting to 100 percent or more of the nominal value of the issued shares and in 1906 dividends reached 170 percent of the nominal value. The company was finally absorbed by the Deli Company in 1952.
18. Schadee, *1,* 180.

19. Ibid. 181-82.
20. Deli-Maatschappij, *Gedenkschrift bij gelegenheid van het vijftigjarig bestaan,* p. 11.
21. Ibid. 54-55.
22. *Senembah Maatschappij 1889-1914,* p. 44.

CHAPTER IV

1. B. Hagen, "Die Pflanzen- und Tierwelt auf der Ostküste Sumatra's," *Tijdschrift van het Kon. Nederlandsch Aardrijkskundig Genootschap,* 2nd ser., *7* (1890), 38.
2. The pods of the *peteh* are eaten in small quantities for their pungent flavor, which slightly suggests garlic. The *peteh* also has a diuretic effect.
3. The *tualang* tree grows to a very great height and has large buttresses. The timber splits badly, is not at all durable, but is excessively hard and heavy. As happens so often in Southeast Asia with trees of a very low utilitarian value, the *tualang* are believed to be haunted. This may have led to the practice of sparing them; Batak woodcutters refuse to cut them. Another reason sometimes given is that the *tualang* are the favored nesting trees of wild bees. Since the villagers do not wish to lose their source of honey, they insist that the trees be spared. Of the two explanations, the first one appears to me to be the more plausible.
4. Called "sand leaves" because the rains splash sand particles onto these lower leaves.
5. R. Broersma, *Oostkust van Sumatra,* Part I (*De ontluiking van Deli*), pp. 126-27.
6. C. J. J. van Hall and C. van de Koppel, eds., *De Landbouw in de Indische Archipel, 3,* 466-67.
7. *De Bevolkingsrubbercultuur in Nederlandsch Indie,* Part VI, p. 16.
8. B. B. M. M. van Suchtelen, *Neerlands nieuwe eereschuld aan Indie;* Peter Bauer, *The Rubber Industry: A Study in Competition and Monopoly,* pp. 65-73, 209.
9. Bauer, p. 209.
10. In September 1907 the seven radjas of Simelungun signed the so-called Short Declarations in which they recognized the sovereignty of the Netherlands, promised not to have political contracts with foreign countries, and agreed to follow the rules and regulations established by the Netherlands Indies government.
11. A. A. L. Rutgers, *Investigations on Oilpalms,* p. 1.

CHAPTER V

1. K. van der Molen, *Bevolkingsgrond en concessierecht ter Oostkust van Sumatra,* p. 9.
2. Ibid. p. 12.
3. Ibid. p. 11.
4. Ibid. p. 13.
5. W. H. M. Schadee, *Geschiedenis van Sumatra's Oostkust, 1,* 187-203; P. J. Veth, "Het landschap Deli op Sumatra," *Tijdschrift van het Nederlandsch Aardrijkskundig Genootschap, 2* (1877), 162-65.
6. R. Broersma, *Oostkust van Sumatra: I. De ontluiking van Deli,* p. 69.

7. E. A. Halewijn, "Geographische en ethnographische gegevens betreffende het Rijk van Deli," *Tijdschrift voor Indische Taal-, Land-, en Volkenkunde, 23* (1876), 147-52.
8. For a history of the model contracts, see H. J. Bool, *Landbouwconcessies in de Residentie Oostkust van Sumatra,* pp. 6-17; and for the text of these four model contracts, ibid. pp. 122-38.
9. Ibid. p. 37.
10. The company records of families in concession areas would permit a very useful study of population growth in East Sumatra, since it was in the interest of the plantation companies to keep careful records. So far as I know, no one has used these data.
11. In the original this passage reads: "*alle hoofden van huisgezinnen, hetzij tijdens, hetzij na de uitgifte op de concessiegronden gevestigd en die volgens de inheemse instellingen te rekenen zijn tot de rechthebbenden op grond.*"
12. Bool, p. 79.
13. Bool, pp. 117-19.
14. Bool, p. 119.
15. J. G. W. Lekkerkerker, *Concessies en erfpachten voor landbouwondernemingen in de Buitengewesten,* p. 89.
16. Lekkerkerker, p. 90.
17. Bool, pp. 53-56; Lekkerkerker, p. 94.
18. J. de Ridder, *De invloed van de westersche cultures op de autochtone bevolking ter Oostkust van Sumatra,* p. 25.
19. The Karo Batak have five main margas — Tarigan, Ginting, Karo-Karo, Perangin-angin, and Sembiring — each of which is divided into a number of submargas. The Simelungun Batak have four main margas — Damanik, Sinaga, Saragih, and Purba — each divided into submargas. The Toba Batak are divided into many more margas than either the Karo or the Simelungen, even if we take into consideration the Karo and Simelungun submargas.
20. C. J. Westenberg married the daughter of a Karo Batak chief of the plateau, became probably the best expert on Karo Batak adat, and was instrumental in the establishment of Dutch rule over the Karo plateau about 50 years ago. His writings are a most valuable source of anthropological, sociological, and economic data regarding the Karo Batak, both of the Karo plateau and of the coastal states of East Sumatra.

CHAPTER VI

1. Investment opportunities were being sought everywhere in the tropics, but the Netherlands Indies had some advantages over other areas. For example, both U.S. Rubber and Goodyear applied successfully for large amounts of land in Sumatra after efforts to obtain similar amounts in the Philippines had failed. In the Philippines the law limited the amount for which a company could apply to 1,024 hectares; the Netherlands Indies knew no such limitation.
2. J. G. W. Lekkerkerker, *Concessies en erfpachten voor landbouwondernemingen in de Buitengewesten,* pp. 66-70.
3. *Sumatra Post,* 5 April 1899 and 7 August 1902, as quoted by J. van den Brand, *De millioenen uit Deli,* pp. 15-17.
4. In this connection it may be revealing to compare the relationship between planters and members of the British Colonial Service serving across the

Strait of Malacca on the Malay Peninsula. The social background of the British officials with their public school and Oxford-Cambridge university training enabled them to take a more independent stand and resist the attempts of the planters and businessmen to influence their decisions.

5. H. J. Bool, *De landbouwconcessies in de Residentie Oostkust van Sumatra,* p. 58.
6. Ibid. p. 65.
7. J. de Ridder, *De invloed van de westersche cultures op de autochtone bevolking ter Oostkust van Sumatra,* p. 43.
8. Cornelis van Vollenhoven, *De Indonesier en zijn grond,* pp. 83-90.
9. Armin von Oefele, "Het plantagevraagstuk in de Bataklanden," *Koloniale Studien, 3* (1919), 312-67.
10. Similar opposition among the Karo of the plateau induced the governor of East Sumatra to close Karoland to Western plantation agriculture. One finds the argument that all this opposition was due to the machinations of missionaries and of dishonorably discharged officials, but if the people themselves had been convinced that they would benefit financially or otherwise or that their own economic future would be safeguarded, it is doubtful that they would have supported the efforts of those opposed to plantation development.
11. The Long-Lease Ordinance for the indirectly ruled territories outside Java and Madura (*Erfpachts-ordonnantie voor de zelfbesturende landschappen buiten Java en Madura*), published in *Staatsblad 1919,* No. 61, became effective 1 February 1920 in those territories whose rulers had signed the so-called Short Declaration. The ordinance could not be applied to territories whose rulers had signed the so-called Long Contracts without modification of these political contracts. For this reason the Long-Lease Ordinance did not become effective in Langkat, Deli, and Serdang until 1 December 1938 (*Staatsblad 1938,* No. 628 and 676) after the Long Contracts had been revised on 16 June 1938.
12. *Inleidende nota van de Inspecteur van Agrarische Zaken in verband met de expiratie binnen korte tijd van de termijnen waarover ter Oostkust van Sumatra landbouwconcessies zijn uitgegeven* (*Nota Du Marchie Sarvaas*), 31 March 1929 (unpublished).
13. *Nota van de Inspecteur van Agrarische Zaken — Nota Bastiaans,* 5 August 1933 (unpublished).
14. *Brief van de Resident belast met het bestuur over het Gouvernement Oostkust van Sumatra aan de Gouverneur Generaal van Nederlandsch Indie, 9 October 1937 (254/C.B./Geheim)* (unpublished).
15. Ibid.
16. *Brief van de Directeur Binnenlands Bestuur aan de Gouverneur Generaal (no. A.I. 9/1/13/Geheim) betreffende conversie van landbouwconcessies in erfpacht ter Oostkust van Sumatra,* 28 December 1938 (unpublished).
17. J. A. van Beukering, *Verslag nopens de conversie van landbouwconcessies in erfpacht ter Oostkust van Sumatra,* 6 March 1939 (unpublished).
18. J. A. van Beukering, *Nota: Nopens de conversie van landbouwconcessies in erfpacht ter Oostkust van Sumatra,* 1 June 1939 (unpublished).
19. These include medical services, housing costs, value of rice and other allowances distributed among laborers, cost of housing laborers and their families, pensions, and cost of recruitment and repatriation of laborers.
20. The lawyers, adhering carefully to the letter of the law, not only rejected in principle any increase in the size of the allotments but insisted on retention of the *bouw* as against the larger hectare as the area unit. This eclectic

legalism reminds me of the unsuccessful maneuver in 1945 by lobbyists in Washington for Cuban sugar interests to have the unit of the Philippine sugar quota changed from long tons to short tons. The result of course would have been to reduce the actual quota by 10 percent.

21. *Brief van de Directeur van Economische Zaken (no. 2337/4/Geheim),* 3 September 1940 (unpublished).
22. J. G. Frowein, *Rapport nopens den waterstaatkundigen toestand en de hierop gebaseerde agrarisch economische mogelijkheden van de ter gelegenheid der aanstaande conversie op de Onderneming Boeloe Tjina aangeboden gronden* (Medan, 15 October 1940, mimeo).
23. The planters had learned by experience that land below the two-meter mark had too high a salt content and was, therefore, unsuited for tobacco cultivation. The salt content of the soils is due to their relatively young age: these soils have formed on very young alluvial sediments, which experience the daily entrance of salt water that penetrates several miles inland through a network of creeks and small and large rivers and apparently affects the ground water. This last assumption would explain why even soils which are no longer reached by sea water may retain small quantities of salt.
24. The head of the Conversion Bureau submitted a report entitled *Kolonisatie Sisir Gunting (no. 73/C.B./24 March 1937)* to the Assistant Resident of Deli and Serdang.
25. *Teeltdwang-Ordonnantie,* in *Staatsblad 1939,* No. 538 and 539.
26. F. J. J. Dootjes, *Kroniek 1939,* p. 68.
27. At least these data on the sawah pilot projects disappeared from the files of the Agricultural Service. Copies of van Lijnden's reports may have survived in other files, but I have been able to locate only a few monthly reports for the year 1940.
28. The sultan of Langkat, at a meeting in his palace in Bindjei on 12 April 1938, had taken the same position, declaring the division between "A" and "B" claimants unacceptable and further arguing that if the *jaluran* system were to be abolished there should also be a prohibition on the practice of giving *jaluran* to laborers, foremen, clerks, guards, tobacco-shed builders, and other plantation employees as part of their wages. A report by J. Gerritsen of the meeting of 17 February 1941 was issued in Medan on 19 February 1941 under the title *Kort verslag van de op 17 Februari 1941 gehouden besprekingen ten paleize van den Sultan van Langkat te Bindjei inzake de nieuwe inzichten betreffende het grondenvraagstuk bij conversie.* The 26 February 1941 meeting in the Kerapatan office in Medan was reported in J. Gerritsen, *Kort verslag van de op 26 Februari 1941 gehouden besprekingen ten Kerapatan kantore te Medan inzake de nieuwe inzichten betreffende het grondenvraagstuk bij conversie* (unpublished).

CHAPTER VII

1. Among the administrators were Messrs. W. G. C. Walgrave, G. G. van Kooy, J. C. Groenenberg, L. M. Reuvers, P. W. Janssen, and F. R. Kramer.
2. *The Dependence of the Economic Existence of Sumatra's East Coast on the Maintenance of Industrial Agriculture* (Medan, n.d.) is one of many unpublished reports written for the guidance of Colonel Namura.
3. A case is reported of one administrator being severely reprimanded for ordering the destruction of tobacco standing in the field and defending his order by insisting that the land was needed for the planting of food crops.

4. R. Jongens, "Overzicht van de tabakscultuur in Deli gedurende de bezettingsjaren 1942-45," *Economisch Weekblad voor Indonesie, 14* (1948), 622-24.
5. On many plantations the oldest stands were located near the administrative center or around the factory, while the youngest stands lay at a considerable distance. Postwar maps of these plantations, showing a nonproducing area in the center, illustrate the factor of age in the choice of land cleared for emergency food production. A map of the wartime clearings in the Wingfoot Plantation of the Goodyear Rubber Company presents a rather striking distribution pattern of rectangular plots of equal size. Since Wingfoot had neither sufficient reserve land nor overaged stands, the administrator had decided to cut down all those blocks which had been planted with a certain rubber clone that had been found to be inferior to other clones used on neighboring plots.
6. A. A. Zorab, *De Japanse bezetting van Indonesie en haar volkenrechtelijke zijde,* p. 6.
7. Willard H. Elsbree, *Japan's Role in Southeast Asian Nationalist Movements, 1940 to 1945,* pp. 112-15.
8. Mohd. Amir, "Nieuw Sumatra," *De Opdracht,* No. 34-38 (1946), as quoted by J. J. Dootjes, *Kroniek 1941-1946,* p. 80.
9. The center at Nagahuta was organized by Captain Inoue, a Kempetai officer who gained great influence among Simelungun and Karo youth. It was called *Talapeta* (*Taman Latihan Pemuda Tani,* or Farm Youth Training Center).
10. H. J. van Mook, *Indonesie, Nederland en de wereld,* pp. 78-79.
11. Ibid. pp. 88-89; Alastair M. Taylor, *Indonesian Independence and the United Nations,* pp. 5-11.
12. Dootjes, *Kroniek 1941-1946,* pp. 62-63.
13. Ibid. p. 63.
14. Van Mook, *Indonesie,* p. 139.
15. Dootjes, *Kroniek 1941-1946,* p. 96.
16. George McT. Kahin, *Nationalism and Revolution in Indonesia,* pp. 172f.
17. Those fortunate enough to be interned by the TRI in Simelungun — at Pematang Siantar, Raja, and Bah Birung Ullu — were set free when Dutch troops occupied the region in July 1947. In the safe of the Bank Negara Indonesia in Pematang Siantar, the jewels and other valuables belonging to internees were found but the loot of the bands following the orders of the PP leadership could not be recovered; *Medan Bulletin, 2,* No. 173, 1 August 1947.
18. Dootjes, p. 59.
19. Charles Wolf, *The Indonesian Story,* p. 182.
20. Dootjes, *Kroniek 1947,* pp. 31-32.

CHAPTER VIII

1. J. van den Brand, *De Millioenen uit Deli,* Amsterdam, 1902.

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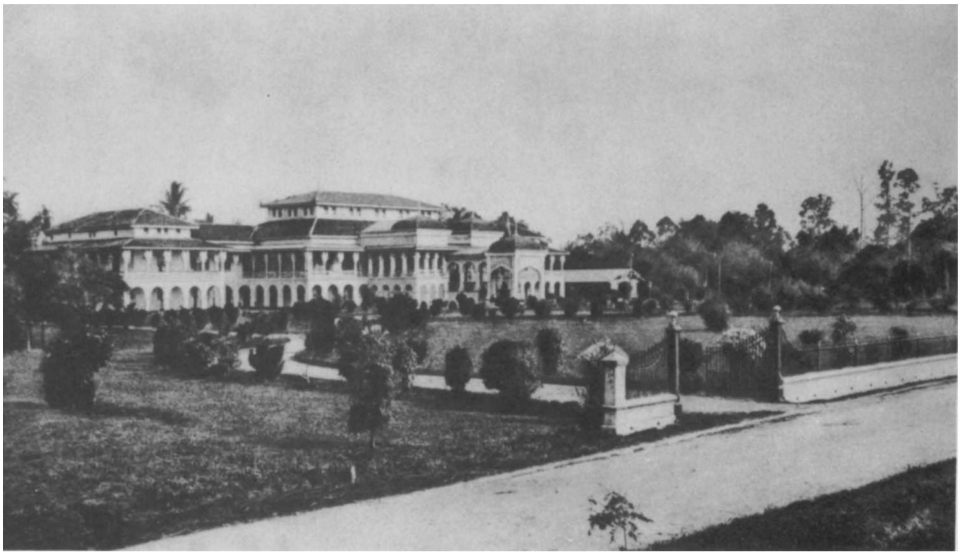
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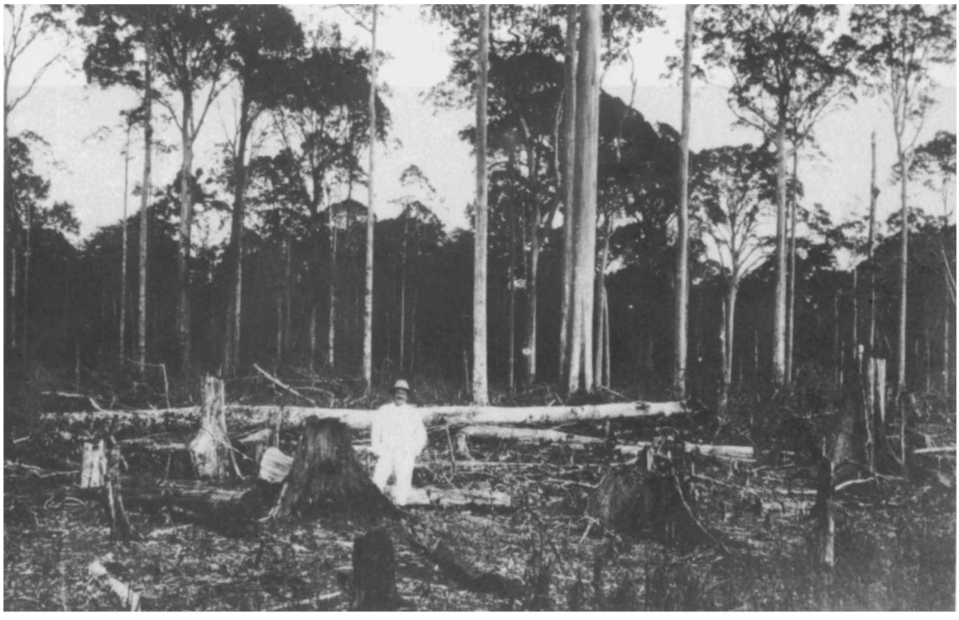
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1. Palace of the Sultan of Deli in Medan, East Sumatra.
(Deli Planters Vereeniging)



2. Clearing of primeval forest on a plantation of the Deli Maatschappij in Deli, East Sumatra. (DPV)



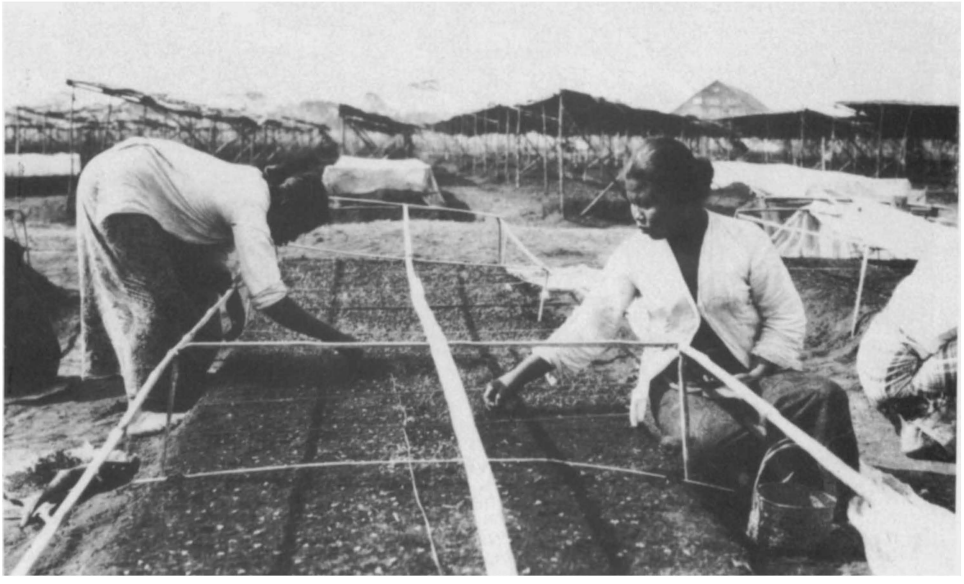
3. Swamp-forest in the coastal belt of Serdang, East Sumatra. (DPV)



4. Chinese forest workers cutting lumber in primeval forest in East Sumatra. (DPV)



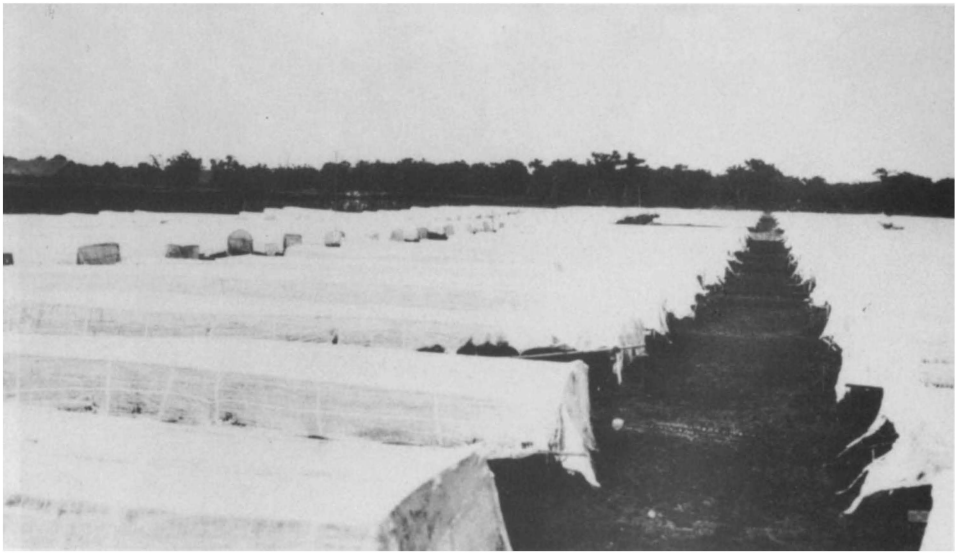
5. Second-growth forest, or *blukar,* on a tobacco plantation of Deli, East Sumatra. (DPV)



6. Javanese women thinning tobacco seed-beds. The frame supports a shade cover. On the horizon, tobacco drying-sheds. Deli, East Sumatra. (DPV)



7. Chinese tobacco gardeners arriving from Swatow, south China, in the harbor of Belawan, Deli, East Sumatra. (DPV)



8. Tobacco seedbeds on a plantation in Deli, East Sumatra. In background second-growth forest, or *blukar*. (DPV)



9. An upland tobacco plantation on terraced, steeps slopes of ravines. Due to accelerated erosion, such plantations lost much of their highly fertile volcanic soils. (DPV)



10. Upland wrapper-tobacco plantation in Deli, East Sumatra. Although hill sides are terraced, this could not prevent accelerated soil erosion. In background second-growth forest. (DPV)



11. Mixed stands of coffee bushes and young *Hevea brasiliensis* on a plantation in Serdang, East Sumatra. (DPV about 1905)



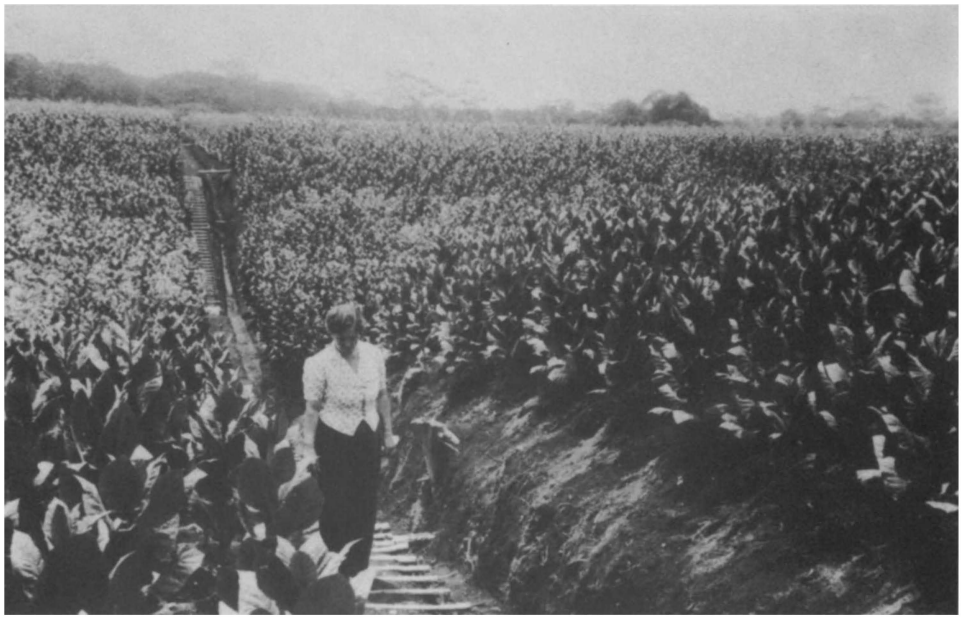
12. Buildings of a lowland plantation of the Senembah Maatschappij. Road is lined with coconut palms. Serdang, East Sumatra. (DPV)



13. Chinese tobacco gardener planting tobacco seedlings on a plantation in Deli, East Sumatra. (DPV)



14. Deli tobacco gardener digging drainage pits between rows of a wrapper tobacco on a plantation in Deli, East Sumatra. (DPV)



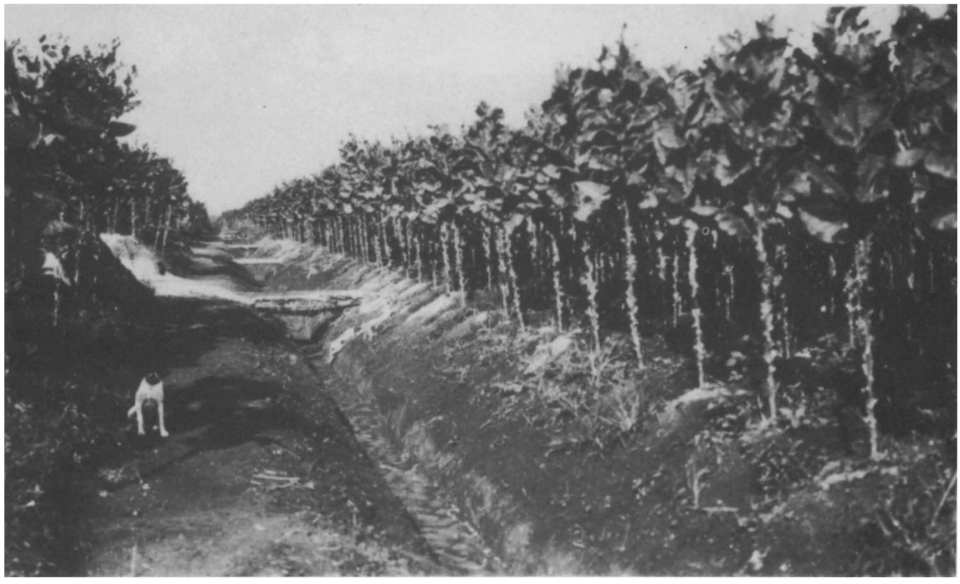
15. Maturing wrapper-tobacco field. On the trail, Mrs. Loos, wife of the late Dr. Loos, Inspector of Agriculture for Sumatra. Deli, East Sumatra. (Dr. Loos, May 1939)



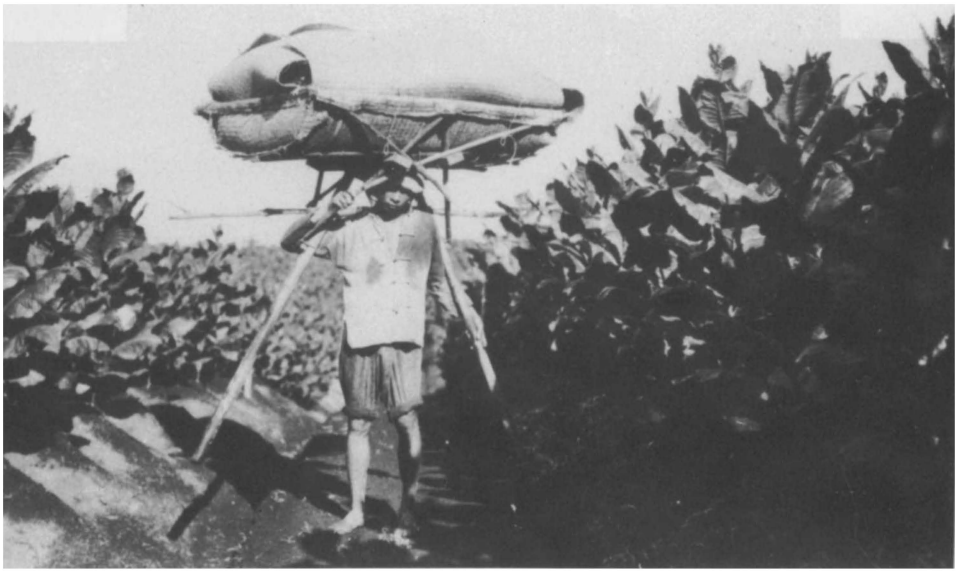
16. Maturing wrapper tobacco. Two plants have been permitted to flower and go to seed. (DPV)



17. Two Indonesian girls collecting caterpillars on tobacco plants. Deli, East Sumatra. (DPV)



18. Wrapper-tobacco field about half harvested. Starting at the base, the lowest two leaves are cut and transported to the drying sheds. Deli, East Sumatra. (DPV)



19. Great care is taken to prevent any damage to the wrapper-tobacco leaves. Deli, East Sumatra. (DPV)



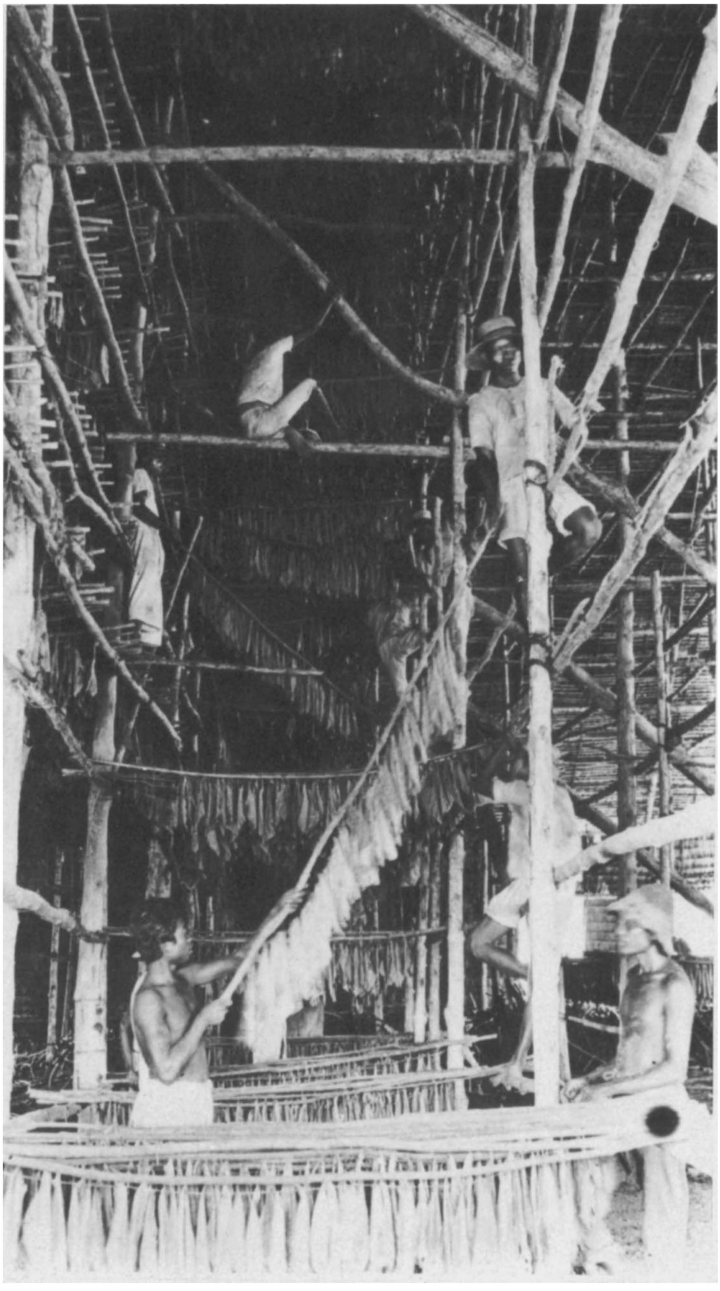
20. Wrapper-tobacco fields badly damaged by a *bohor,* or *Föhn*-type wind descending from the Karo Plateau. Deli, East Sumatra. (DPV)



21. Deli plantation road, lined on both sides by stands of teak trees, or *Tectona grandis.* (DPV)



22. In a tobacco drying shed Javanese women hang wrapper-tobacco leaves on bamboo poles. (DPV)



23. Interior of drying shed. Javanese laborers hanging tobacco leaves between uprights. (DPV)



24. Wrapper-tobacco bundles ready for transport from drying- to grading-shed. (DPV)



25. Javanese and Chinese workers in a grading hall of a wrapper-tobacco plantation. Permanent building; south side of the building is all glass; cement floor. Deli, East Sumatra. (DPV)



26. Chinese laborer grading wrapper-tobacco leaves according to length. Tobacco plantation in Deli, East Sumatra. (DPV)



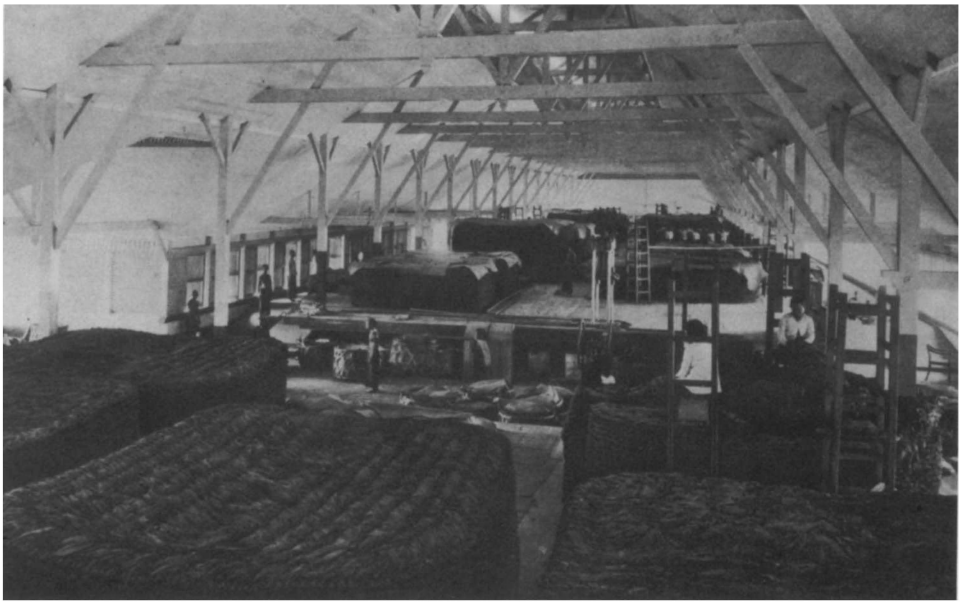
27. Chinese laborer grading wrapper-tobacco leaves according to size, color, and defects such as discoloration or caterpillar holes. Light comes over both shoulders. Deli, East Sumatra. (DPV)



28. Wrapper-tobacco-grading hall, filled with Javanese women, relatives of Javanese tobacco gardeners. Deli, East Sumatra. (DPV)



29. Graded tobacco bundles are placed in large piles for the fermenting process. Long bamboo tubes reach to the center of the tobacco piles and permit the measuring of the temperature in the interior of the piles. Before the temperature reaches dangerous levels the piles are rearranged. Deli, East Sumatra. (DPV)



30. Wrapper-tobacco fermentation hall on a plantation in Deli, East Sumatra. (DPV)



31. Bales of wrapper-tobacco of the Deli Maatschappij, ready for shipment abroad. Only in 1939 and 1940 was Deli tobacco shipped to New York; prior to 1939, tobacco was always shipped to Amsterdam. Since 1957, tobacco has been shipped to Bremen. (DPV)



32. Harvested tobacco land ready for distribution to indigeneous farmers who can claim a *jaluran* share. Seedlings of second-growth forest may not be uprooted. Deli, East Sumatra. (DPV)



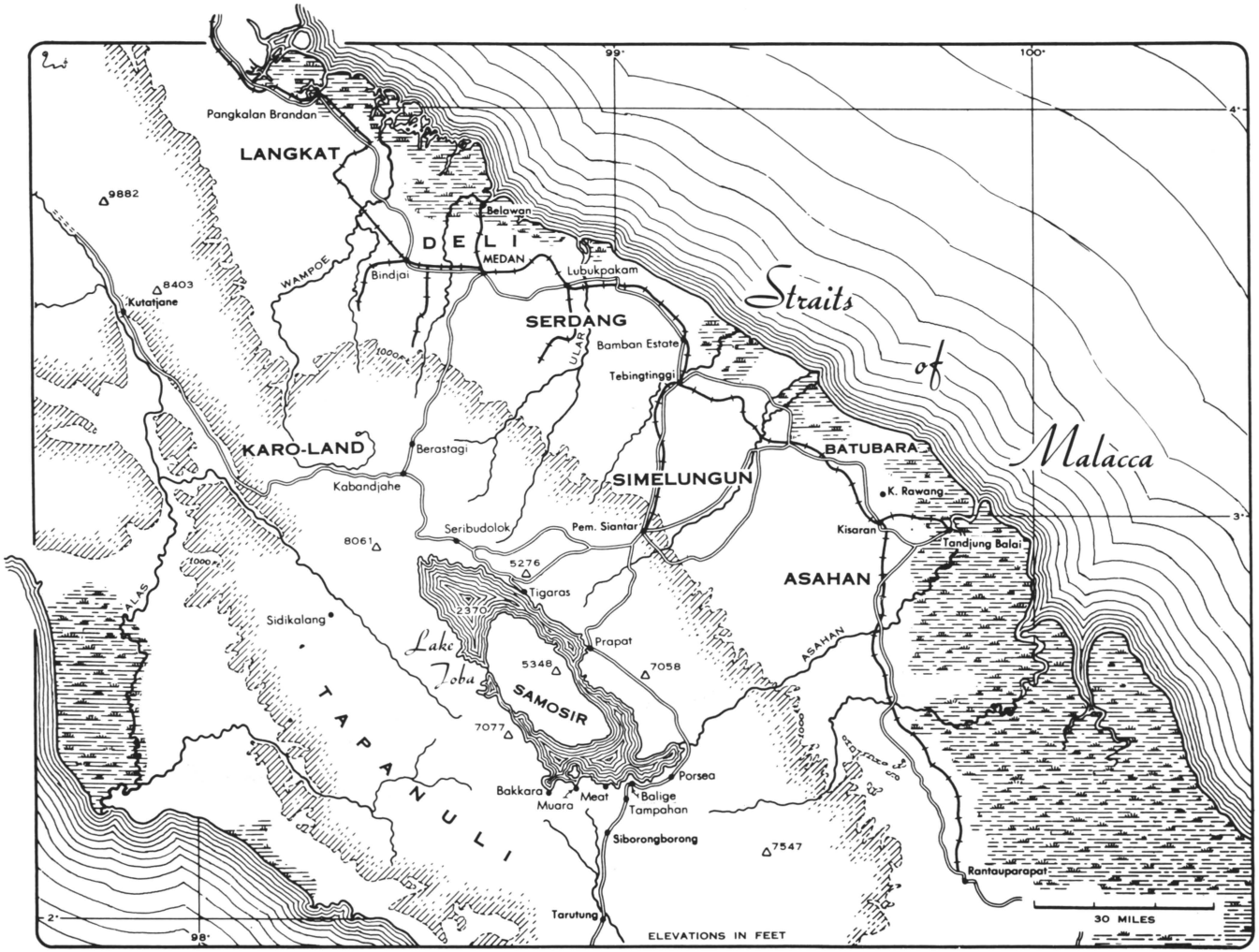
33. *Jaluran* of a Batak farmer who uses a harvested tobacco field of a plantation during the second half of the year. On the ieft, *Imperata* grass and spontaneous second-growth-forest seedlings. Deli, East Sumatra. (DPV)



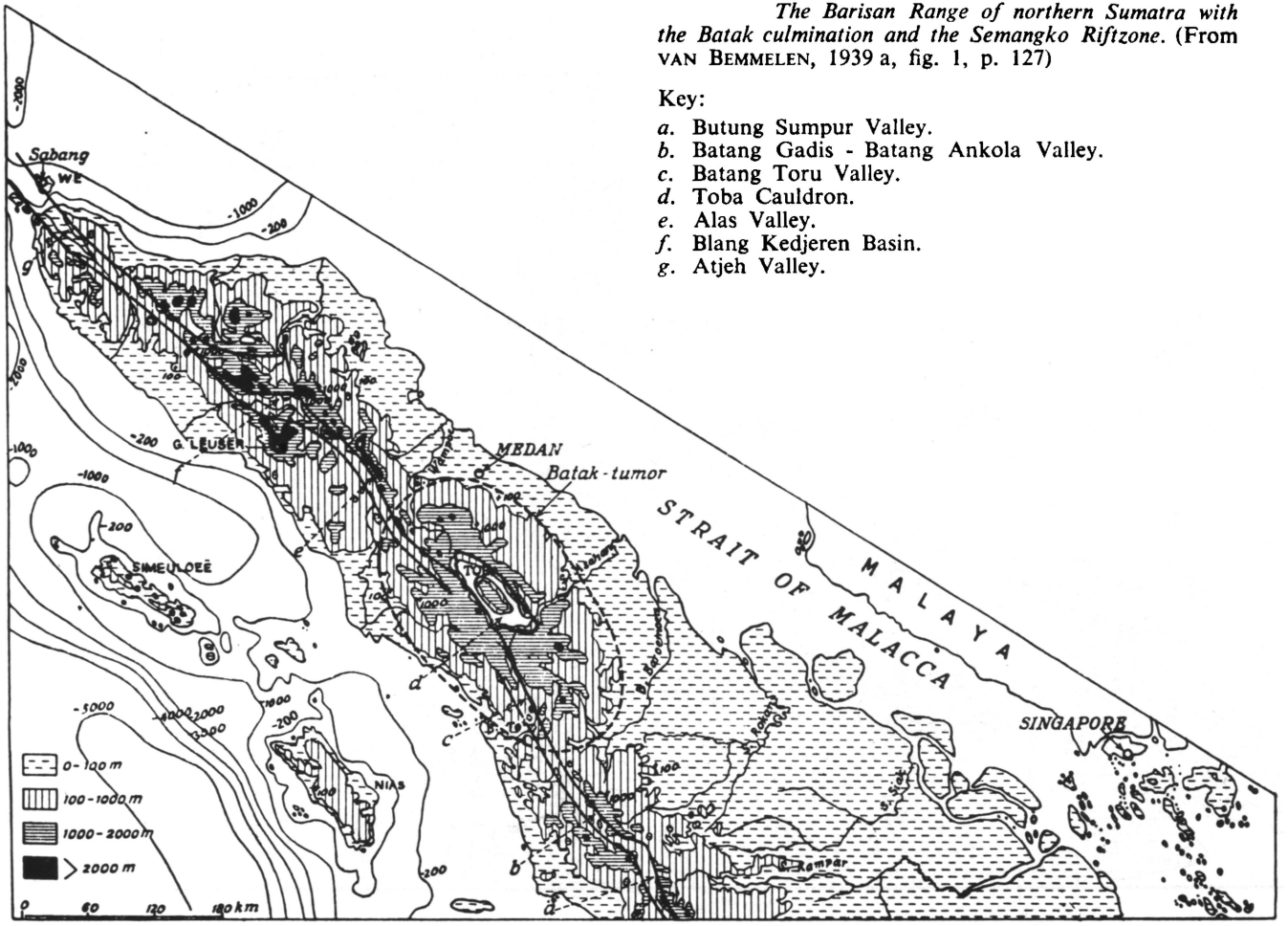
34. *Jaluran*-ricefield in the foreground; second-growth forest in the background. Deli, East Sumatra. (DPV)



35. Harvested tobacco land being taken over by *Imperata* spp. and second-growth forest. Deli, East Sumatra. (DPV)



MAP I
East Sumatra and Tapanuli: Rivers, Roads, Railroads, and Towns.

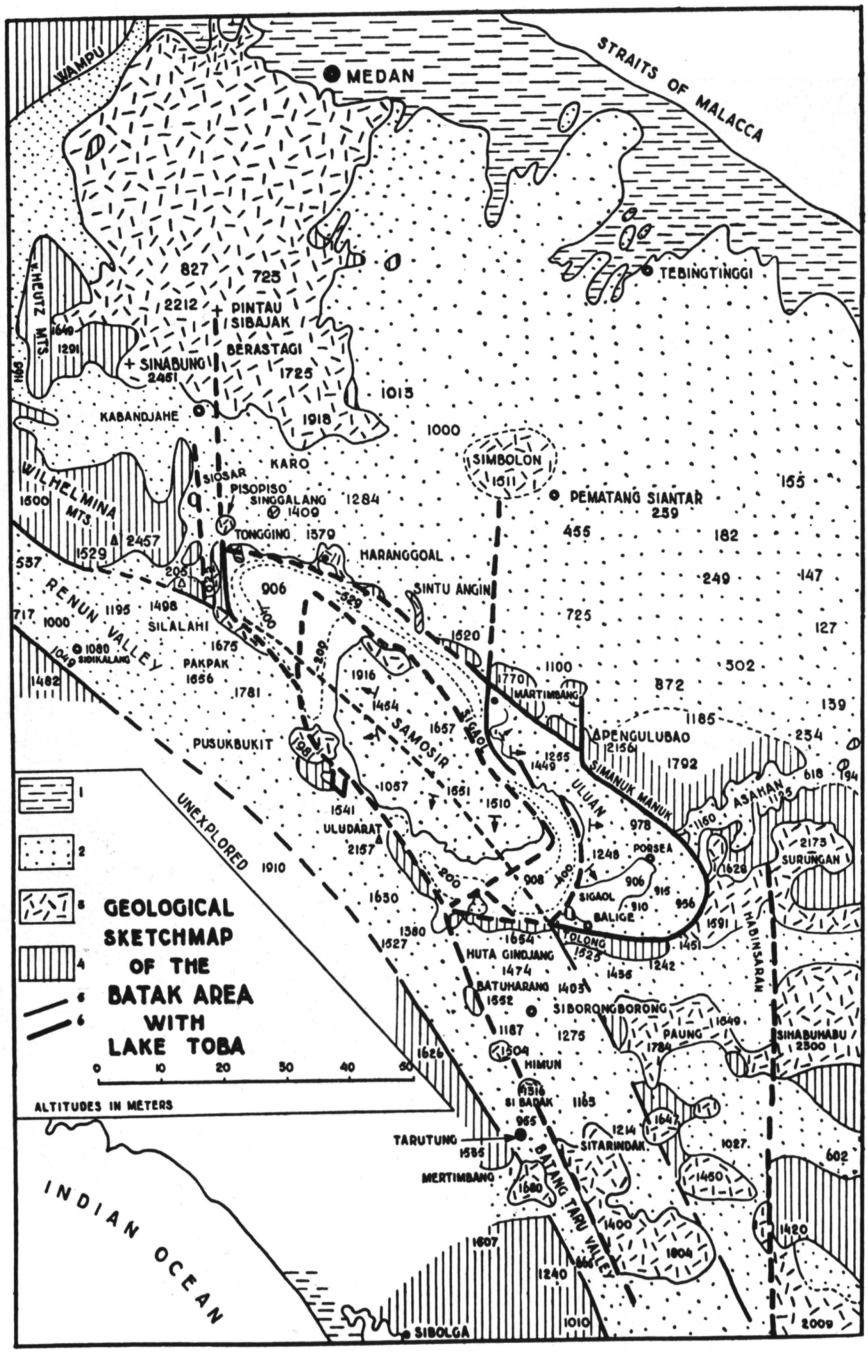


The Barisan Range of northern Sumatra with the Batak culmination and the Semangko Riftzone. (From VAN BEMMELEN, 1939 a, fig. 1, p. 127)

Key:

a. Butung Sumpur Valley.
b. Batang Gadis - Batang Ankola Valley.
c. Batang Toru Valley.
d. Toba Cauldron.
e. Alas Valley.
f. Blang Kedjeren Basin.
g. Atjeh Valley.

MAP II



MAP III

(From van Bemmelen, *The Geology of Indonesia,* Vol. I A. Second edition, The Hague 1970, p. 690).

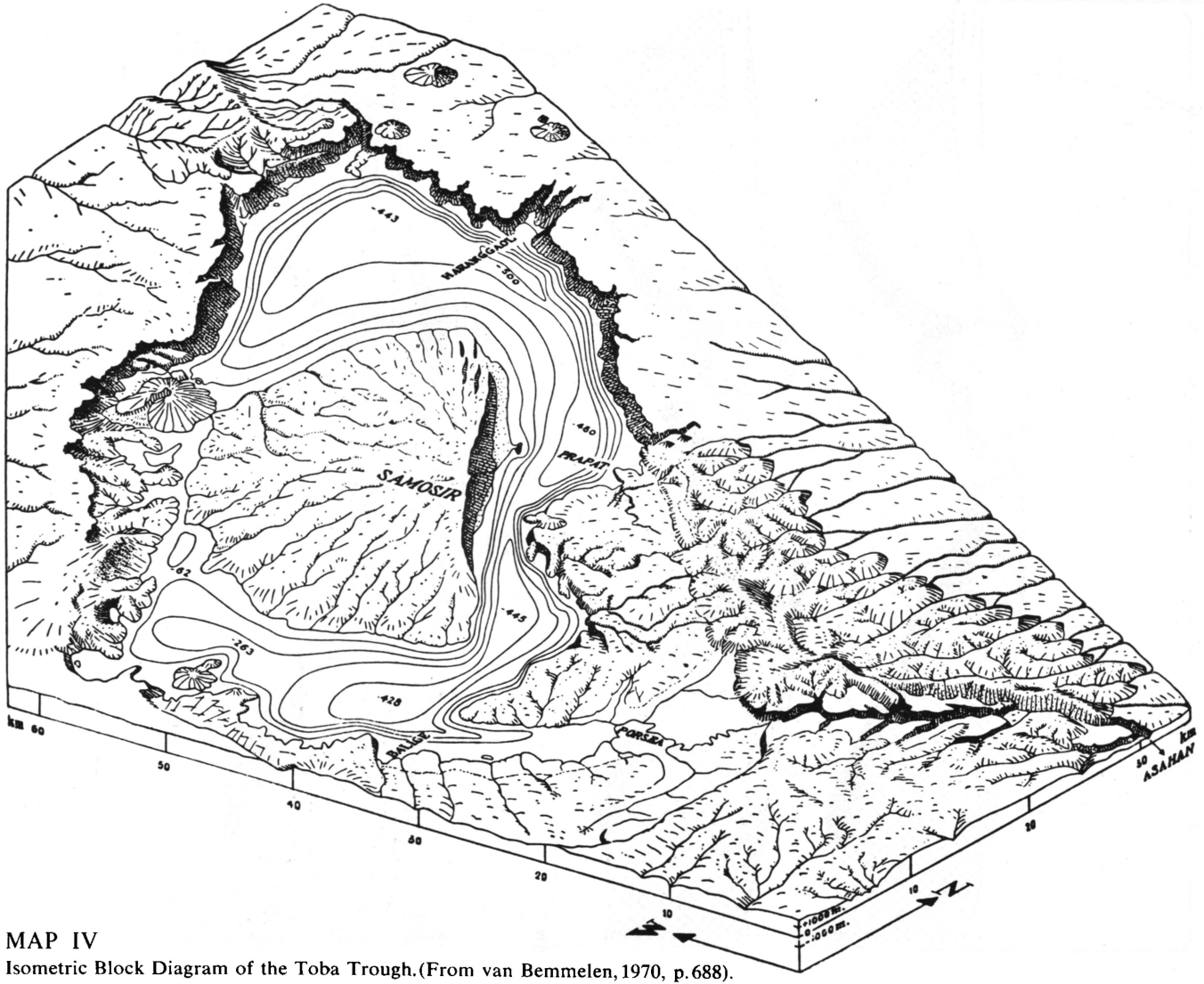
Legend:

1. Fluviatile and marine alluvial deposits of the Medan coast.
2. Rhyolitic tuffs of the Toba eruption(s).
3. Andesitic and dacitic volcanic rocks of pre-Toba and post-Toba age.
4. Pre-Toba sediments and igneous rocks (Oligo-Miocene and Pre-Tertiary).

5a. Faults along the Semangko Graben Zone of pre-Toba age.

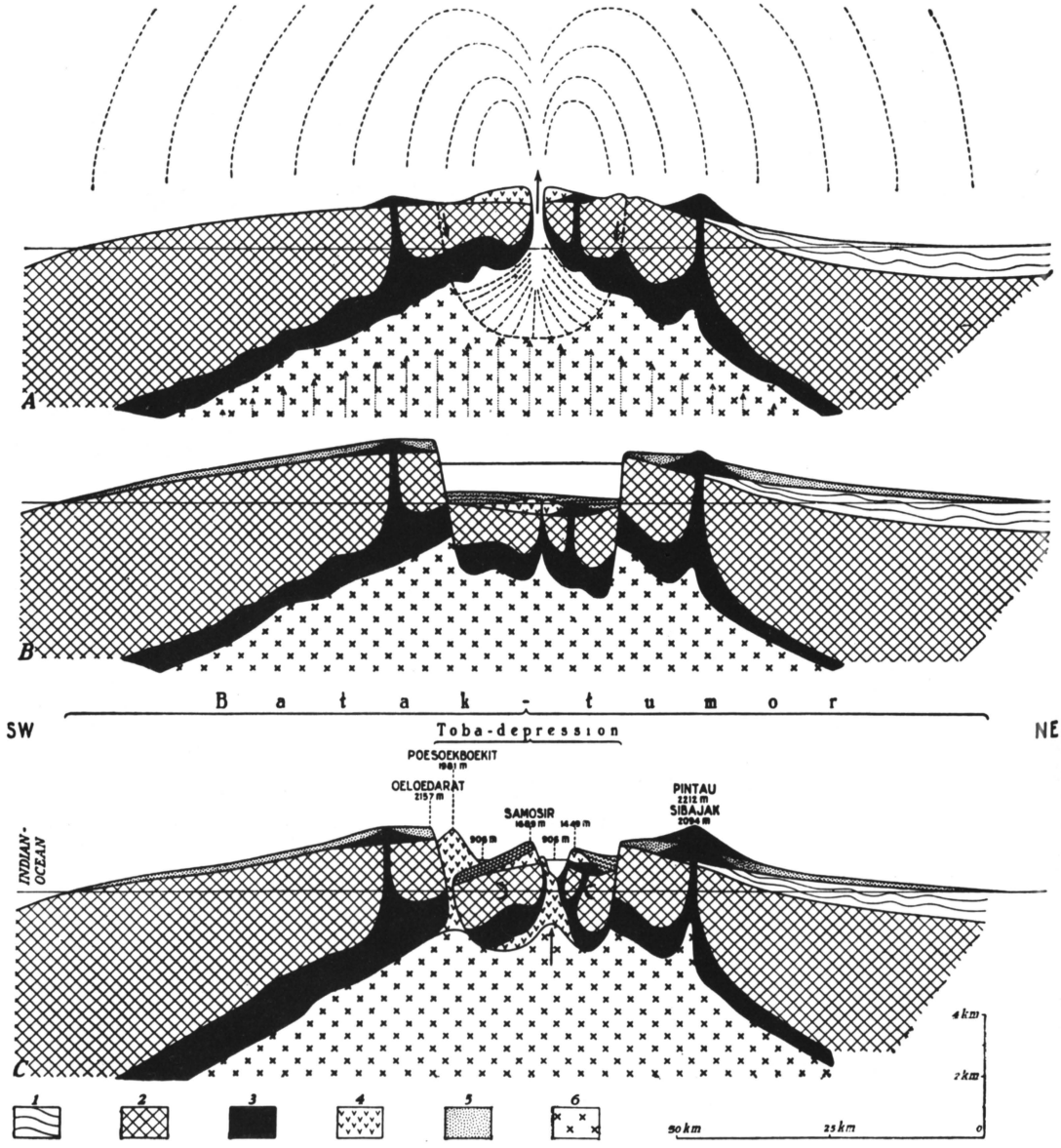
5b. Supposed former connection between the fault along the NE side of the Renun Valley and along the NE side of the Batang Toru Valley (broken line).

6. Faults related with the collapse of the Toba cauldron.



MAP IV

Isometric Block Diagram of the Toba Trough. (From van Bemmelen, 1970, p. 688).

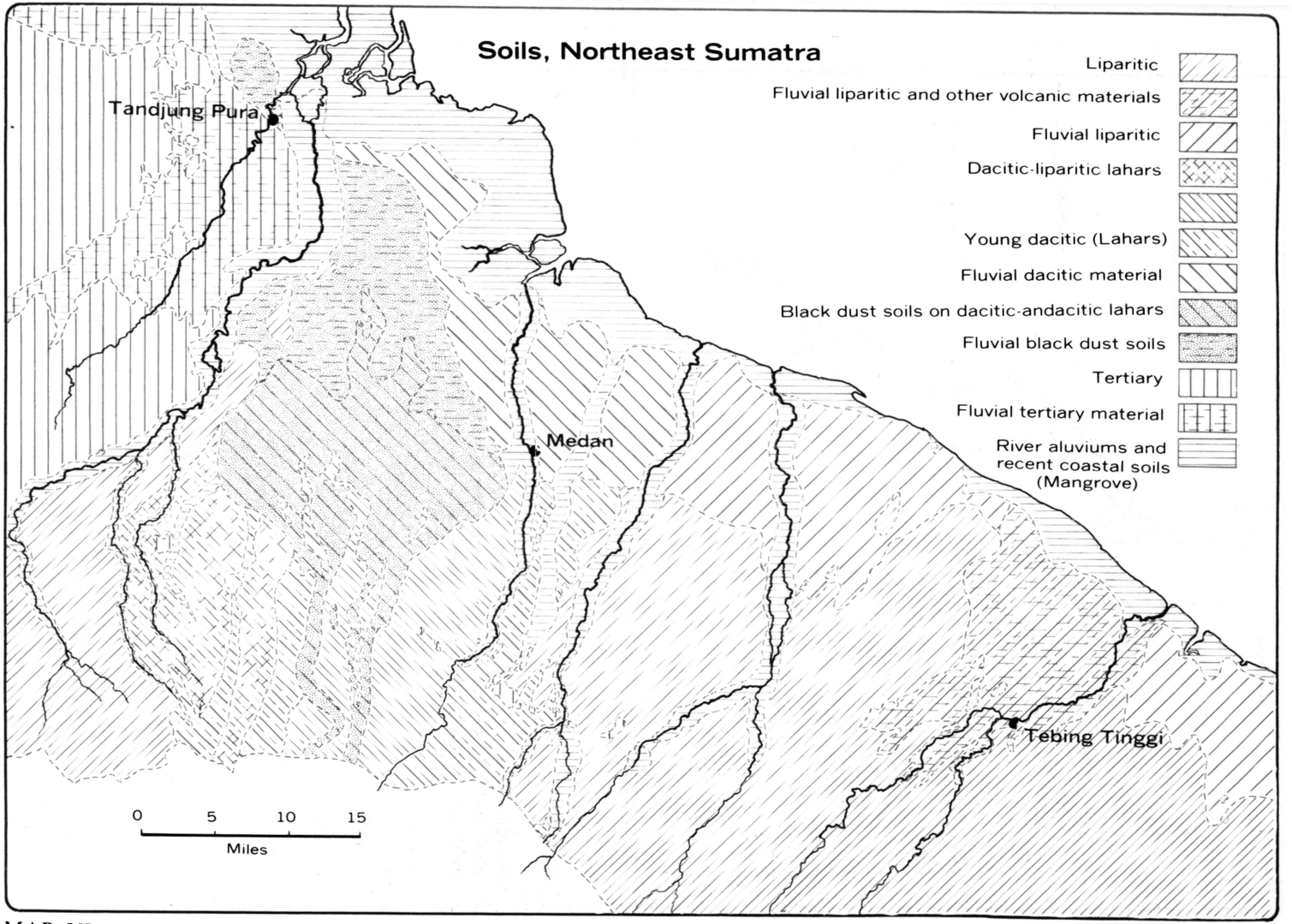


MAP V

Three schematic sections across the Batak tumor, showing the consecutive stages of formation of the Toba cauldron. (From van Bemmelen, 1970, p. 695).

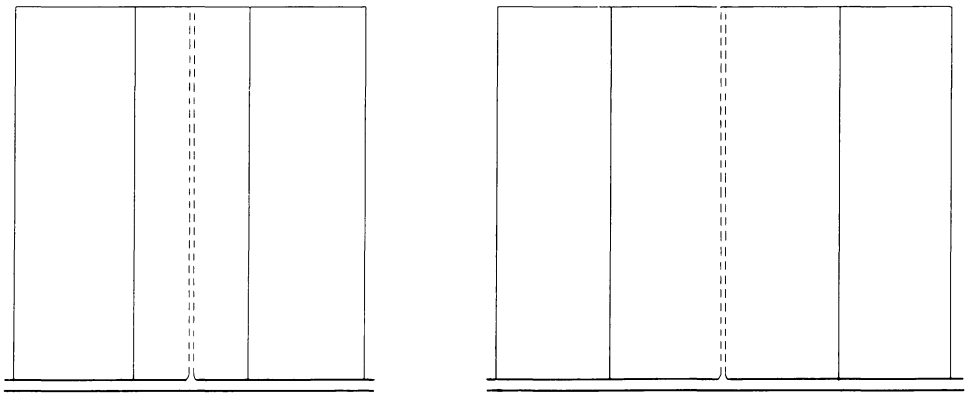
Legend:

1. Neogene marine deposits of the Medan coast.
2. Pre-tertiary basement complex.
3. Basic-intermediary magmas and eruption products.
4. Welded rhyolite tuffs and breccias of Samosir and the Prapat-Porsea Peninsula.
5. Acid Toba tuffs.
6. Granitic Toba batholith.



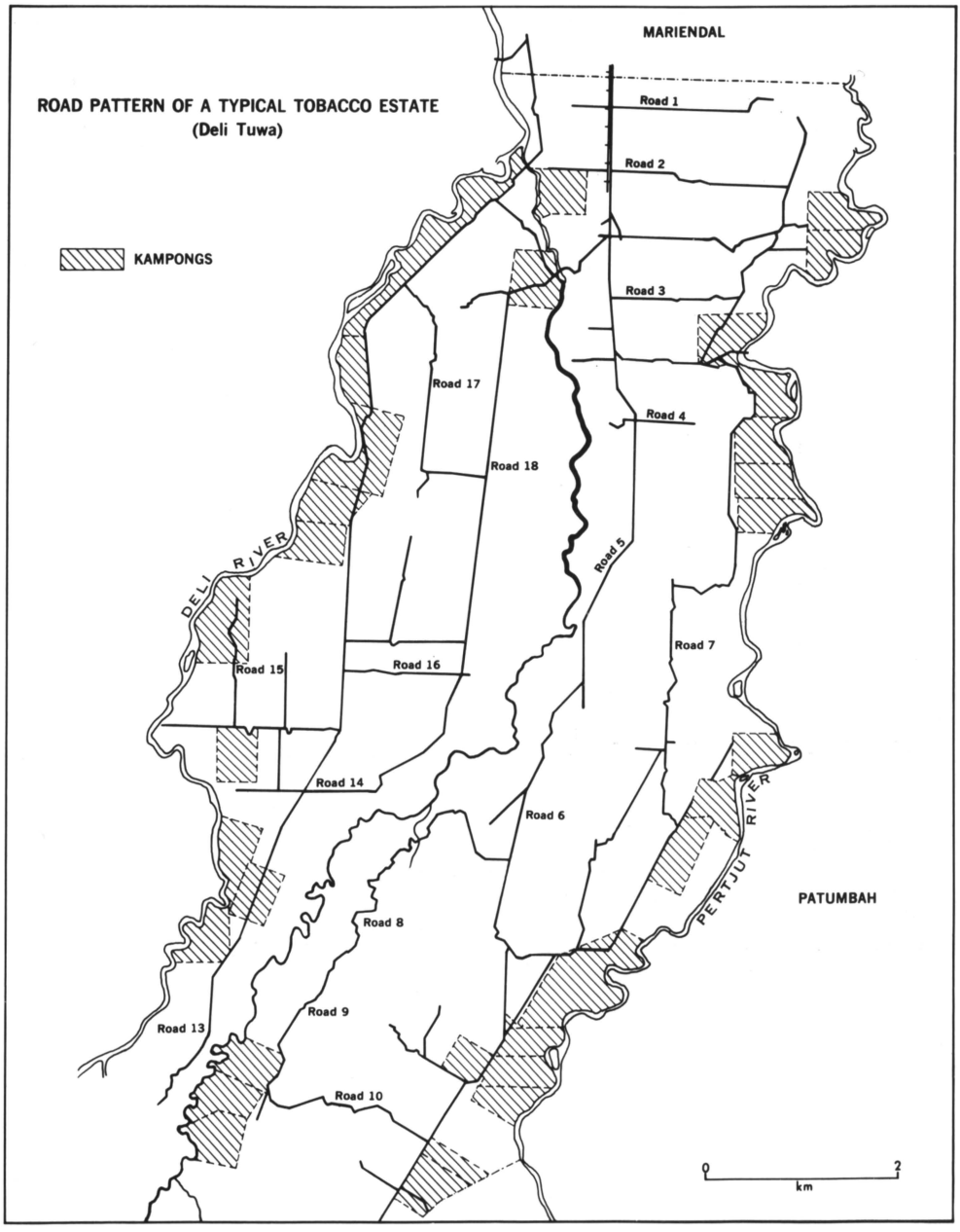
MAP VI

The Soils of the Tobacco Region of East Sumatra, according to J. H. Druif.

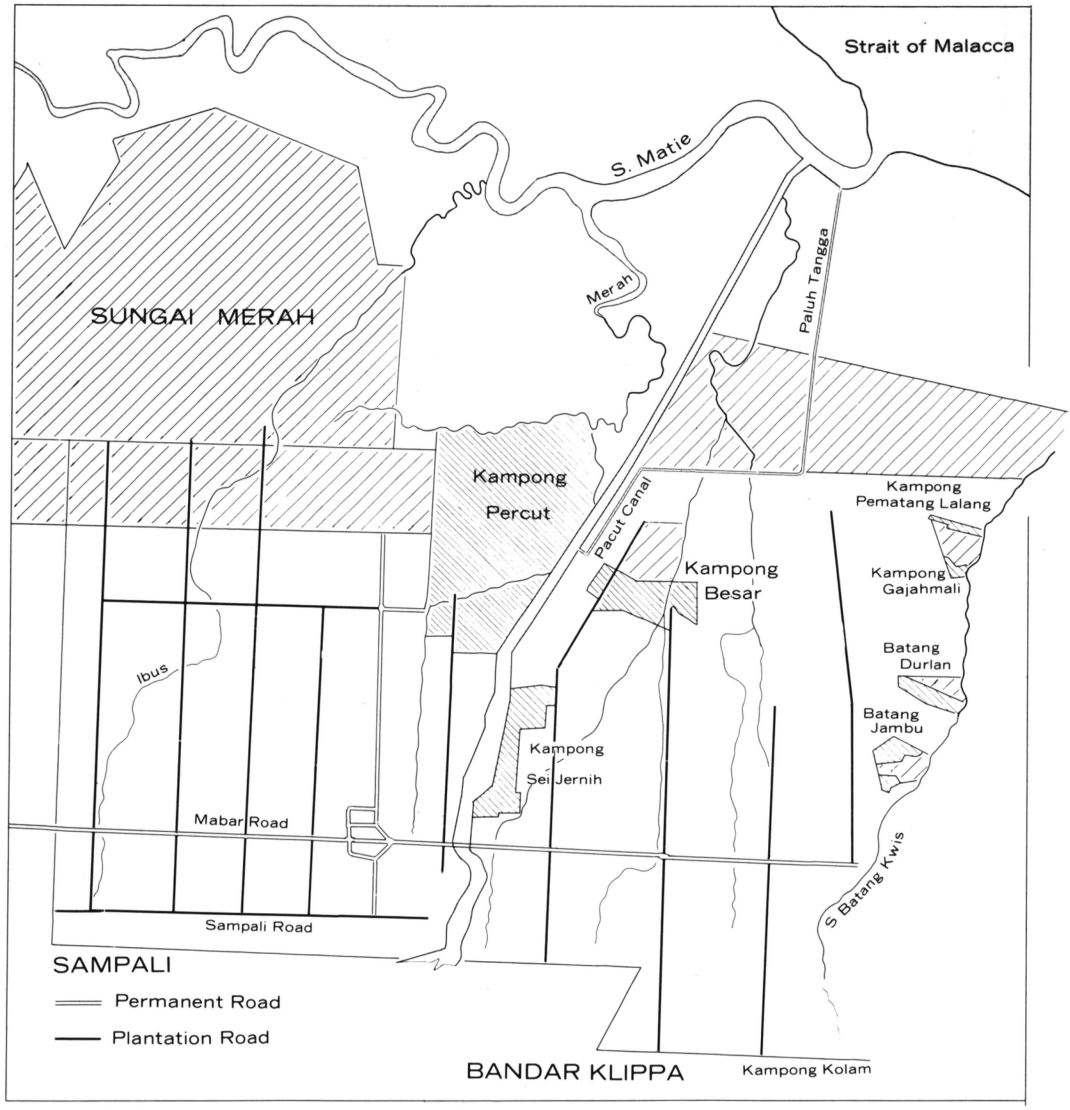


MAP VII

The layout of a tobacco plantation:
Plantation "A" (on the left) has three tobacco divisions per field road, while plantation "B" (on the right) has four tobacco divisions per field road. Field roads are kept open permanently. Plantation roads run the whole length of the plantation.


ROAD PATTERN OF A TYPICAL TOBACCO ESTATE
(Deli Tuwa)
KAMPONGS
MARIENDAL
Road 1
Road 2
Road 3
Road 4
Road 5
Road 6
Road 7
Road 8
Road 9
Road 10
Road 13
Road 14
Road 15
Road 16
Road 17
Road 18
DELI RIVER
PERTJUT RIVER
PATUMBAH
0
2
km

MAP VIIa



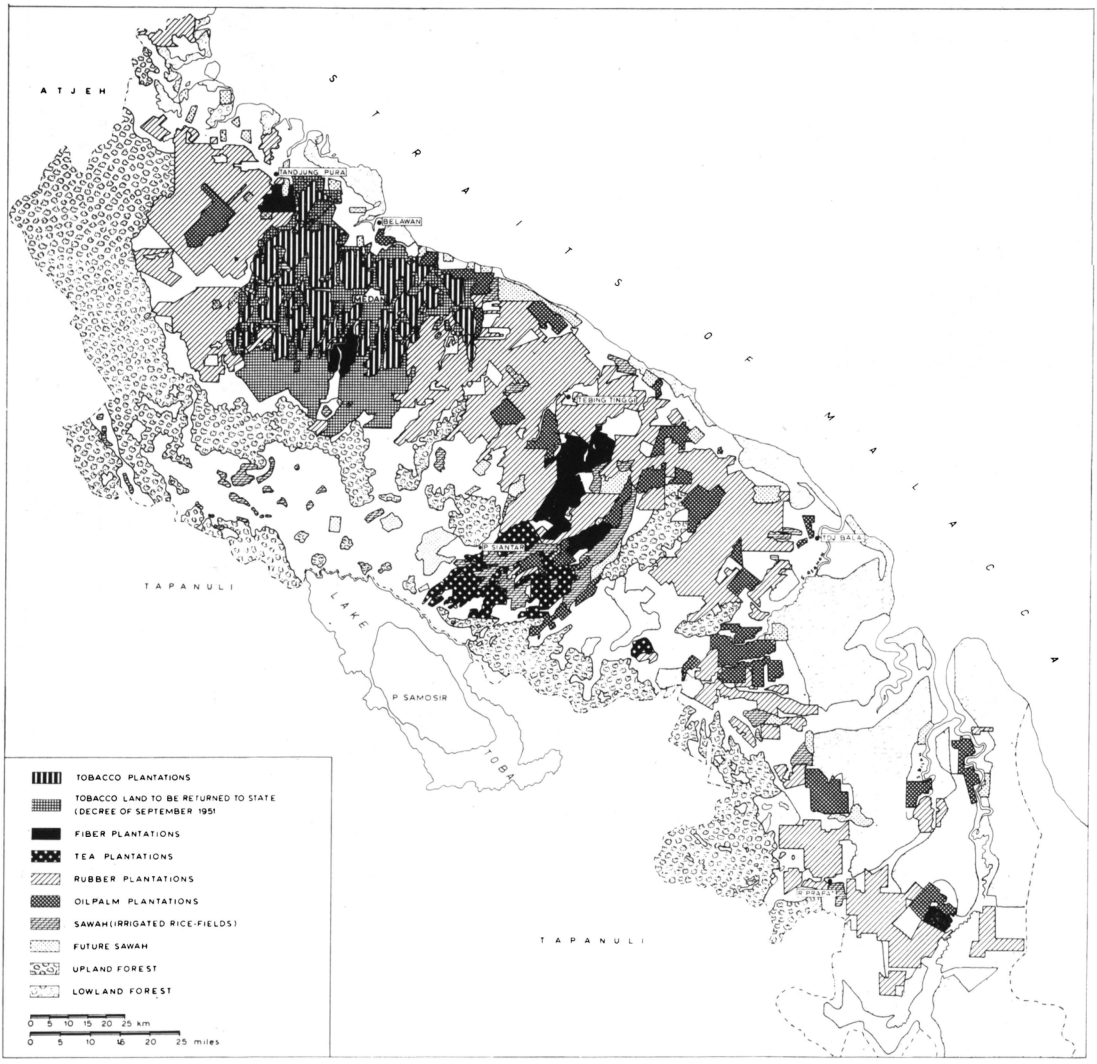
MAP VIII

Saentis Estate and Percut.



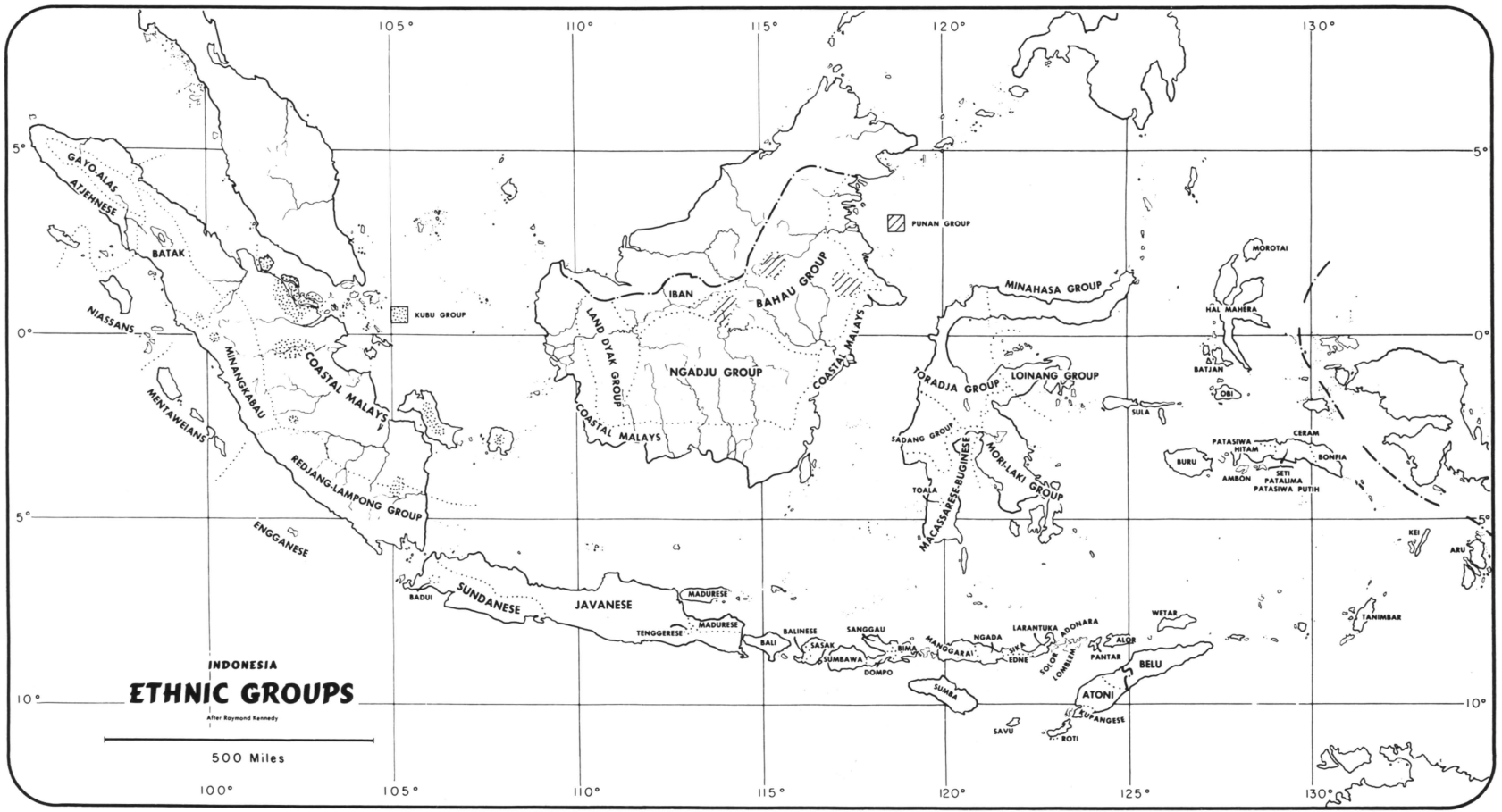
MAP IX

Expansion and Contraction of the Tobacco Industry of East Sumatra.

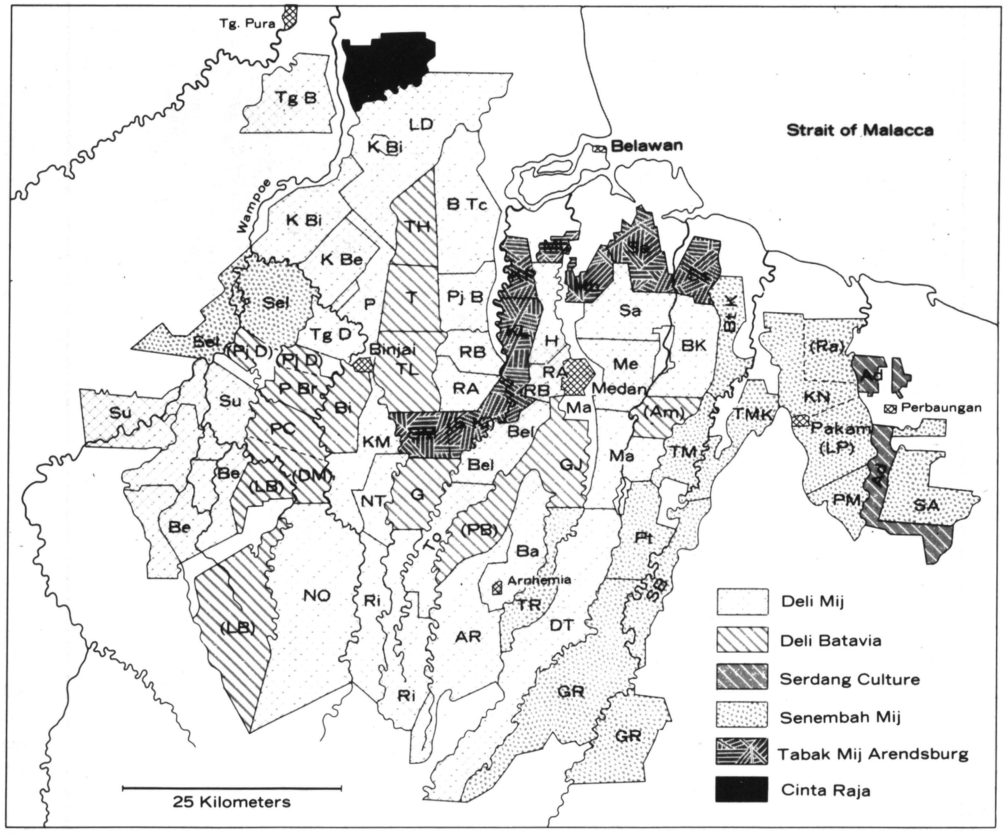


MAP X

Plantation Belt of East Sumatra.

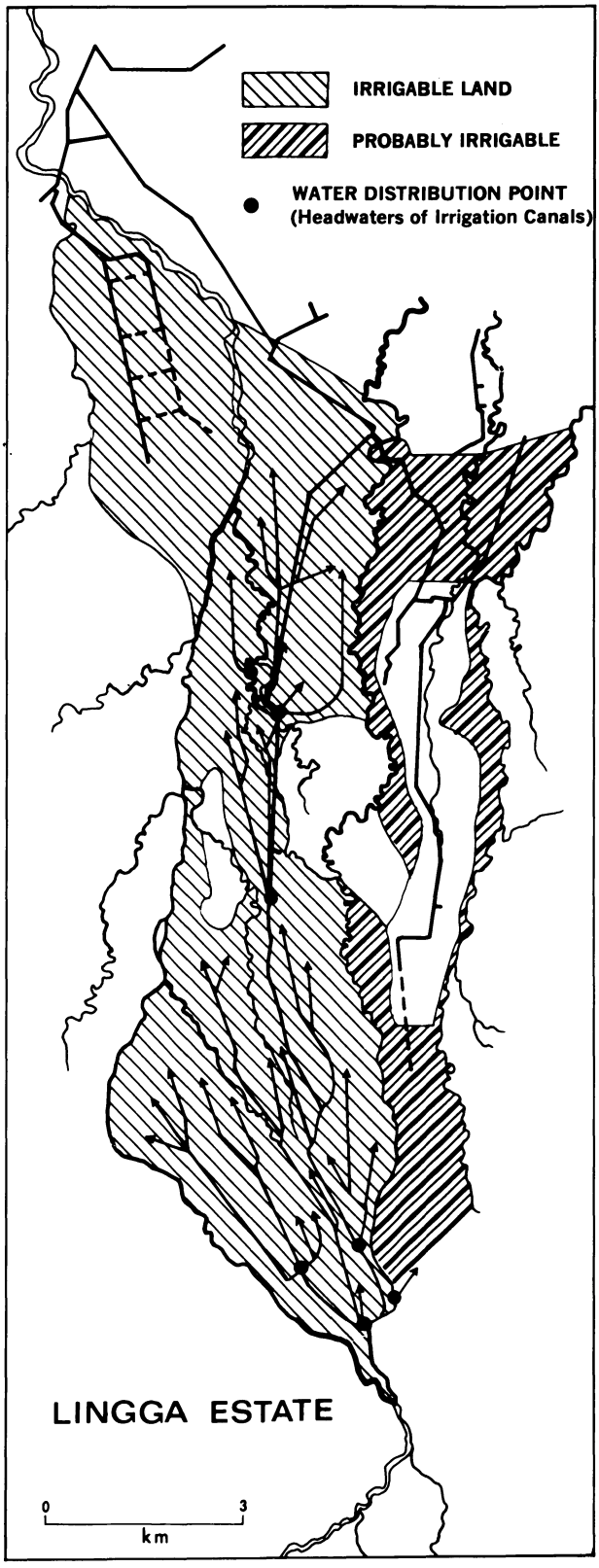

INDONESIA
ETHNIC GROUPS
After Raymond Kennedy
500 Miles
105°
110°
115°
120°
130°
100°
125°
5°
0°
10°
GAYO-ALAS
ATJEHNESE
BATAK
NIASSANS
MINANGKABAU
COASTAL MALAYS
MENTAWEIANS
REDJANG-LAMPONG GROUP
ENGGANESE
KUBU GROUP
IBAN
BAHAU GROUP
PUNAN GROUP
LAND DYAK GROUP
NGADJU GROUP
COASTAL MALAYS
COASTAL MALAYS
MINAHASA GROUP
MOROTAI
HAL MAHERA
BATJAN
OBI
SULA
TORADJA GROUP
LOINANG GROUP
SADANG GROUP
MORI-LAKI GROUP
TOALA
MACASSARESE-BUGINESE
PATASIWA HITAM
CERAM
BONFIA
BURU
AMBON
SETI
PATALIMA
PATASIWA PUTIH
KEI
ARU
TANIMBAR
BADUI
SUNDANESE
JAVANESE
MADURESE
MADURESE
TENGGERESE
BALINESE
BALI
SASAK
SUMBAWA
SANGGAU
BIMA
DOMPO
NGADA
MANGGARAI
LARANTUKA
ADONARA
EDNE
SOLOR
LOMBLEN
ALOR
PANTAR
WETAR
BELU
ATONI
SUPANGESE
SUMBA
SAVU
ROTI

MAP XI



MAP XII

Lowland Settlements along Navigable Rivers and Upland Settlements Unrelated to Rivers.



MAP XIII

J. G. Frowein's sketch map of the proposed irrigation system of Lingga Estate.