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INTELLIGENCE HANDBOOK FOR SPECIAL OPERATIONS SUMATRA

SUMATRA

DIRECTORATE OF INTELLIGENCE

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INTELLIGENCE HANDBOOK
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SPECIAL OPERATIONS
SUMATRA

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CONTENTS

Appendixes

Photographs
(Abbreviated Titles)

Maps

(Inside Rear Cover)

39136 Sumatra and Associated Islands

Main Map (Place names, Airfields, Transportation)
Population and Administrative Divisions
Ethnic Groups
Economic Activity
Terrain
Vegetation
Army Order of Battle

25X1

FOREWORD

[redacted]

In this Handbook, Board on Geographic Names placename spellings are used in preference to those of any other system. The terms Malaya and peninsular Malaysia are used interchangeably. The term main island is sometimes used in referring to Sumatra. The term associated islands refers to the smaller islands associated geographically and administratively with Sumatra. They are shown on Map 39136.

The cutoff date for material contained in this Handbook is 15 November 1964.

I. Introduction

Sumatra occupies a strategic position astride the equator, dominating the Strait of Malacca and the Sunda Strait through which most of the shipping between Europe-Africa and the Far East passes. It comprises 22 percent of Indonesia's total land area but contains only 15 percent of its population.

Railways, highways, and telecommunications, while still primitive by Western standards, are more developed on Sumatra than elsewhere in Indonesia except Java. Waterways are especially important in Sumatra, and are the primary means of bulk transport. Of Indonesia's 11 secondary ports, four are on Sumatra (Palembang, Pandjang, Telukbajur, and Belawan), and one (Sabang) is on the island of We off the northernmost tip of Sumatra. Medan airport is one of the eight Indonesian airfields with 8,000 foot runways.

The Palembang area on Sumatra is considered one of the three strategic areas in Indonesia because of its importance as the center of the oil industry. There are two important refineries located there which are fed by a network of pipelines from surrounding oil fields. Included in the complex are extensive POL storage facilities and marine terminal facilities. The importance of Palembang was demonstrated during the first days of World War II, when the area became the first Indonesian objective of the Japanese.

Sumatra's basic importance to Indonesia lies in its rich natural resources. In addition to the largest oilfields in Indonesia, it has important rubber plantations and forestry resources and also produces bauxite, tin, and coal. Sumatran exports of oil, rubber, copra, tea, coffee, palm oil, and tobacco account for a majority of Indonesia's foreign exchange earnings. Sumatra, together with the Riau and Anambas Islands, is also playing an important role as a base for Indonesia's military confrontation against Malaysia.

The fact that the central government has consistently sacrificed economic progress to political issues has been particularly galling to Sumatran leaders. Many of the Sumatran people are by temperament and experience more oriented toward competition and economic initiative than are the Javanese who dominate the national bureaucracy. The Sumatrans also contributed important leadership to the Indonesian revolution and to the early national period and resented their increased isolation after the mid-1950's from a national policy-making role. Dissatisfaction with the central government is most commonly expressed today by large-scale smuggling,

although in the recent past (1958-1961) Sumatra was the scene of open rebellion against the Sukarno government. The ex-rebels no longer represent an organized opposition to the central government, but their leaders are still the focal point for anti-government sentiment. Latent discontent is still sufficiently strong that the island could once again become the scene of anti-government guerrilla activity, especially if stimulated by such factors as unfavorable decisions by Java, an escalation of the Malaysian conflict, or the death of Sukarno.

II. Historical Background

A. Chronology

670 Beginnings of the Sumatran kingdom of Srivijaya

1377 Srivijaya kingdom crushed by Madjapahit kingdom of Java

1511 Portuguese control established over eastern portion of Sumatra which lasted until Dutch conquest in the 17th century

1898 Thirty year conflict between Dutch and Atjeh ended

1927 Communist rebellion in western Sumatra put down by Dutch

1942 Japanese forces land in northern Sumatra (January)

1945 Indonesian independence declared by Nationalist leaders on 17 August; Sukarno selected as head of new Government of Republic of Indonesia

1947 Linggadjati agreement concluded between Netherlands and Republic of Indonesia, recognizing de facto authority of latter in Java and Sumatra

1947 Dutch launch military action against Republic of Indonesia after failure to agree on implementation of Linggadjati agreement

1949 Netherlands transfers sovereignty over Indonesia to newly inaugurated federal Republic of United States of Indonesia

1950 Indonesia converted to unitary state as Republic of Indonesia

1952 In so-called "October 17 affair" army leaders fail in attempt to force Sukarno to dissolve appointive parliament and assume personal control of government

1953 Revolt breaks out in Atjeh

1955 First nation-wide elections held for Parliament

1956 Army territorial commanders in central and northern Sumatra set up councils replacing local civil government and refuse to recognize authority of cabinet

1958 "Revolutionary Government of the Republic of Indonesia" (PRRI) proclaimed in Padang, Sumatra as a rival government

1959 The 1945 Constitution, which centralized power in the executive and reduced legislatures to rubber stamps, is reinstated

1961 President of rival Sumatra government surrenders and urges his followers to end hostilities

1962 Daud Beureueh, Atjeh rebel leader and founder Sumatra wing of Darul Islam, surrenders

B. History

Until the early twentieth century Indonesia consisted of a mosaic of more or less autonomous societies -- speaking their own language and dialects and following their own traditions. Primary loyalties among these societies were toward their own ethnic groups rather than toward a unified nation. These local loyalties have been especially strong on Sumatra and persist even today, although on a diminishing scale.

As early as the second century leading Hindu and Buddhist families from India, encouraged by local potentates, began to move into Indonesia. South Sumatra became a center for Buddhist scholars and pilgrims, while Hindu influence focussed on Java. By 800 the Buddhist kingdom of Srivijaya, centered in the Palembang area, had established suzerainty over large areas of Sumatra, western Java, and the Malayan peninsula. Srivijaya remained a major power until the twelfth century when several Sumatran provinces asserted their independence. The final blow to the Srivijaya realm came in 1377 when the Madjapahit empire from Java extended its rule to Sumatra for about a generation, but then declined itself.

The forces of Islam and the West moved into the vacuum. Islam made its first penetration into Indonesia on northern Sumatra, and Atjeh became a Moslem stronghold. The sultanates of Perlac and Sumudra, two small port kingdoms in northern Sumatra, were established by the end of the thirteenth century, and during the fourteenth century a few other areas in northern Sumatra were converted to Islam. By the end of the fifteenth century Islam was widely accepted in the major port areas of Sumatra.

Most of the kingdoms established by the end of the fifteenth century remained so constituted until the disruptions caused by

the expansion of Dutch rule in the seventeenth century. Malacca (taken over by the Portuguese in 1511) controlled much of the east coast of Sumatra, and northern Sumatra was divided among a number of independent port kingdoms of which Atjeh was by far the strongest. From 1530 onward the Portuguese fought a series of wars with Atjeh.

The Dutch subjugated Atjeh during the seventeenth century after successfully challenging the Portuguese. However, Western interest remained centered on Java until late in the nineteenth century, although the Dutch East India Company controlled several Sumatran ports at the time it went bankrupt on January 1, 1800 and turned over control of its territories to the Netherlands Government. In 1830 the Dutch had to suppress a rebellion in Palembang, and they also became involved in a religious struggle in which they supported the Minangkabaus against the fanatically Moslem Padris sect. In 1858 the Dutch extended their sovereignty over the rich east coast of Sumatra after repelling the British who had obtained control over the sultanate of Siak in north-central Sumatra. The incident also brought the Dutch into a thirty year conflict with Atjeh. The Atjehnese chief submitted to the Dutch in 1898, but guerrilla warfare continued until 1908. The Dutch by 1910 had brought all of Indonesia under their administration. Indirect rule through the local leaders rather than direct rule was instituted throughout most of Sumatra.

In 1927, the Dutch put down a poorly-organized rebellion in western Sumatra led by the Communists who had grown in strength following World War I. The event led to repressive action by the Dutch against the radical Nationalists, and political life during the 1930's was quieter.

The Japanese made their first Indonesian landings in northern Sumatra in January 1942. The Indonesian nationalists were split in their attitude toward the Japanese, but the Indonesians as a whole accepted the Japanese without opposition. The Republic of Indonesia (Java) was proclaimed in August 1945, several weeks before the arrival of allied forces. Throughout the period from 1945 to 1950, the newly-proclaimed Republic of Indonesia was almost constantly fighting the Dutch. Following negotiations at The Hague, the United States of Indonesia made up of the Republic and the 15 states created under Dutch auspices, was constituted. In 1950, the federal states merged into the Republic.

Dissident activity broke out almost immediately in widely scattered areas of Indonesia as local leaders resisted the government's efforts to centralize control. On Sumatra, a revolt erupted in Atjeh in 1953. In late 1956 and early 1957 local military commanders in northern and central Sumatra assumed

control of their areas, and open rebellion emerged in February 1958. The military commander in southern Sumatra did not break completely with Djakarta due to the presence of large numbers of Javanese among his forces (about 50 percent). The government regained strategic control of Sumatra with the fall of Bukittinggi, the rebel capital, on 4 May 1958, although operations continued until the final rebel surrenders in mid-1961.

III. Physical Geography

A. Introduction

Sumatra, westernmost of the major islands of Indonesia, is slightly larger than the State of California. It extends from approximately 6°N, across the equator, to 6°S. The straight-line distance from the northwest to the southeast tip is about 1,100 miles. East-west distance across the island along the equator is about 290 miles.

Much of western Sumatra comprises a densely forested mountain range that extends the entire length of the island. The mountains drop steeply to the west coast, presenting a "western wall" to the Indian Ocean. The descent to the east is gradual, however, with the mountains merging into rolling foothills which, in turn, merge into a broad, flat lowland, swampy and covered with jungle.

Physically, large areas of Sumatra are better suited for special operations than for conventional military operations. The prevalence of mountainous and swampy terrain and generally dense forest largely limits vehicular movement to the relatively few established transportation routes. Cross-country movement on foot generally is possible except in the extensive eastern swamps, where the numerous streams provide the best routes for surface movement. The consistently high temperatures and humidity are enervating to personnel and contribute to rapid deterioration and malfunctioning of equipment.

B. Terrain, Drainage, and Vegetation

1. Terrain

The terrain of Sumatra presents a simple overall pattern. A backbone of rugged mountains, which stretches uninterruptedly the entire length of the island from Banda Atjeh (Kutaradja) southeastward to Sunda Strait, is flanked on the west by occasional strips of coastal plain and on the east by much more extensive lowlands.

The mountain range rises steeply from the Indian Ocean or from narrow, discontinuous plains along the west coast. Crests are 3,000 to more than 10,000 feet above sea level, reaching a maximum of more than 12,000 feet at Mount Kerintji. Local relief (the difference between the highest and lowest elevations in a mile of horizontal distance) is more than 1,600 feet, and steep slopes (more than 30 percent) are common.

East of the mountains lies a zone of generally smooth, rounded foothills separated by narrow valleys. The width of this hill zone varies from a few miles in the north to about 100 miles in the central part. Elevations are generally more than 1,000 feet near the mountains but gradually decrease to the east as the hill zone becomes a belt of gently rolling, well-drained plains. In this discussion, the term Main Range includes both the mountainous backbone and the zone of foothills.

Vast swamps cover practically all of the eastern third of Sumatra. The region is low, flat, always wet, and frequently flooded.

a. Atjeh Highlands

In the Atjeh Highlands the major mountain backbone lies nearer the center of the island than it does on the remainder of Sumatra. It consists of two parallel main ranges seperated by the discontinuous longitudinal valley of the Atjeh River, which extends approximately 30 miles inland from the northwest coast. The river is flanked on the west by a rugged mountain range that drops abruptly to the Indian Ocean (see Figure 1) and on the east by discontinuous mountains that are no barrier to travel from the valley to the northeast coast. Approximately 30 miles inland from Banda Atjeh the central valley disappears, and the two mountain ranges merge into a single mountainous core. One of the main features of this rugged area is Lake Tawar, a large fresh-water lake almost entirely surrounded by forested limestone mountains, some of which attain heights of 9,000 feet. Generally slopes are steep and the ridge crests are from 500 to 1,600 feet above the valley floors. Intermontane basins are numerous in the southern Atjeh Highlands, and many contain centers of population.

b. Batak Highlands

The Batak Highlands form a high plateau that averages 3,000 to 4,500 feet above sea level, roughly between $3^{\circ}30'$N and $1^{\circ}30'$N. The plateau presents a very steep face toward the Indian Ocean and is largely inaccessible from the west because of its many deep valleys and gorges and its lack of a major routeway. Initially the eastern flanks drop off abruptly, but thereafter they descend gradually toward the eastern lowlands. Lake Toba is the outstanding feature of the Batak Highlands. It is a large lake -- about 50 miles by 20 miles -- and is almost completely surrounded by

Figure 1. Aerial view of part of the Atjeh Highlands of northern Sumatra. Rugged, forested highlands generally extend to the sea in this part of Sumatra.

Figure 2. Rugged mountains in northern Sumatra. Note the absense of dense vegetation on the summits and slopes.

escarpments that rise nearly 2,000 feet above its surface (see Figure 3). A causeway connects Samosir Island, which is large and populated, with the western shore of the lake.

c. Padang Highlands

The 350-mile segment of the Main Range between approximately 1°30'N and 2°S is known as the Padang Highlands. These highlands are only about 25 miles wide in the north but widen to approximately 50 miles in the center. Two parallel northwest-southeast trending ranges enclose five long discontinuous valleys and basins within the Padang Highlands. The valley bottoms are swampy or partially filled with lakes and are drained by streams that flow eastward or westward in gorges through the mountains.

The western range is somewhat higher than the eastern and has several active volcanic cones as well as dormant cones reaching elevations over 6,500 feet. The densely forested western flanks of the highlands drop abruptly to the ocean or to small pockets of coastal plains. The eastern range has few elevations over 6,500 feet except for an occasional volcanic cone. The descent to the eastern plains is gentler than that to the ocean or plains in the west but requires crossing a number of lower northwest-southeast trending ridges and enclosed basins and valleys.

The northernmost of the discontinuous valleys -- that of the Angkola and Gadis Rivers -- is approximately 47 miles long and 6 miles wide, and its floor is only 650 feet above sea level. The southern end of the Angkola-Gadis Valley is closed by a group of volcanic mountains that reach elevations of more than 6,800 feet. The long, narrow valley of the Asik and Sumpur Rivers lies southeast of the Angkola-Gadis Valley. Farther south the roughly circular Pajakumbuh and Bukittinggi Basins are almost side by side. The floor of the Bukittinggi Basin (see Figure 5) is roughly 3,000 feet above sea level; that of the Pajakumbuh Basin is at about 1,650 feet. The southernmost valley of importance in the Padang Highlands is the long, narrow valley drained by tributaries of the Hari River, which extends southeastward from Lake Diatas for a distance of approximately 45 miles.

d. Bengkulu Highlands

The Bengkulu Highlands form a region 20 to 50 miles wide that extends from the general area of Mount Kerintji southward more than 500 miles to the tip of the island.

Figure 3. Grassy and cultivated slopes surrounding Lake Toba. Patches of dryland rice and clumps of trees are scattered among the grasslands.

Figure 4. Terraced farms and coconut groves on hills surrounding Lake Toba.

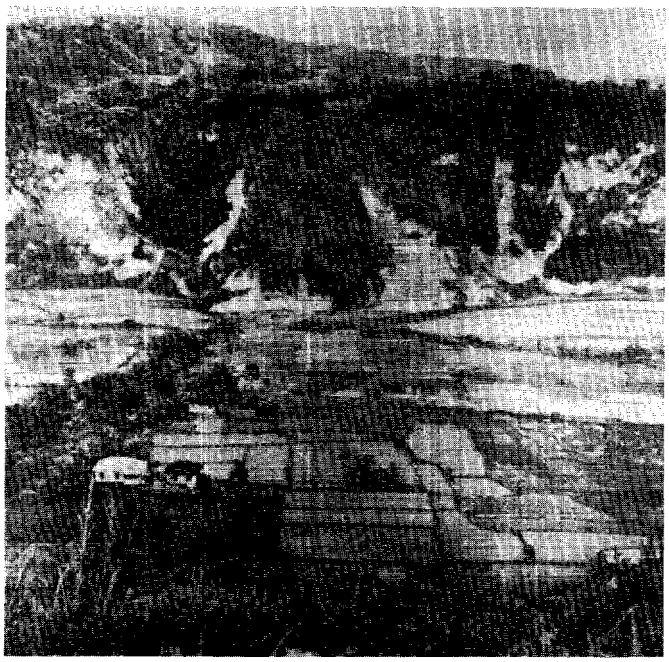

Figure 5. A cultivated part of the Bukittinggi Basin, with adjacent steep, forested slopes of the Main Range. Most of the valley floor is covered with ricefields.

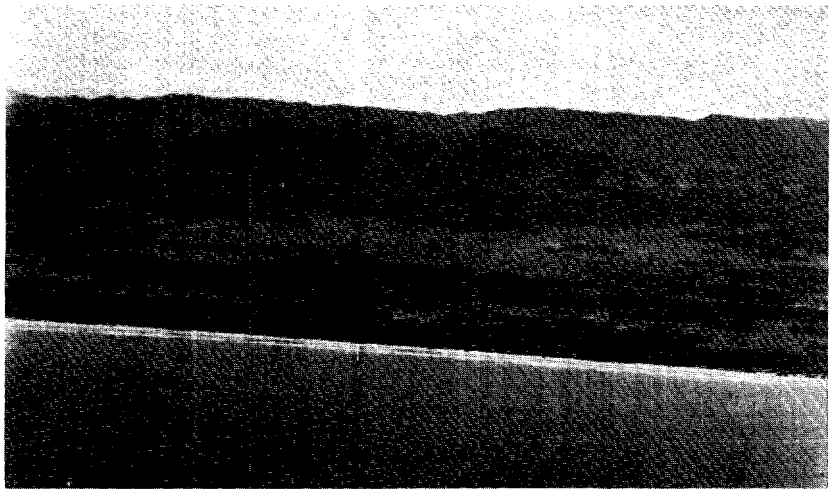

Figure 6. A plain on the west coast of Sumatra. Such lowlands are generally narrow, poorly drained, and isolated by the steep slopes of the Main Range.

In this section of the Main Range, two parallel volcanic mountain ranges enclose discontinuous valleys and basins.

A northwest-southeast trending valley approximately 20 miles long, 10 miles wide, and slightly over 3,000 feet above sea level lies between Mount Kerintji and Lake Kerintji. South of Lake Kerintji the central valley becomes indistinct, but it reappears distinctly south of Mount Gedang and extends approximately 100 miles to volcanic Mount Dempo. The section of the valley between Mount Daun and Mount Dempo to the south has gently sloping sides and low bordering ranges, especially in the west. The eastern range is sharply dissected by tributaries of the Musi River east of Mount Dempo, and its elevations are generally low. The western range continues southward, however, as an unbroken wall. A narrow northwest-southeast trending valley leads southward to Lake Ranau. The range east of this central valley consists of hills drained by tributaries of the Komering River.

South of Lake Ranau the central valley has three distinct basins at different elevations. The first of these (5°S-104°07'E)lies approximately 10 miles southeast of the lake, at an altitude of 3,050 feet. Southeast of this basin a second, much lower, basin (5°15'S-104°17'E) occurs at an elevation of about 750 feet. The third basin (5°28'S-104°30'E) is a little above sea level at the head of Semangka Bay. Each of these basins forms a significant center of population, but the northernmost is the most densely populated. Semangka Bay, on the south coast of Sumatra, is bordered on the west by the western range and on the east by the wider, more broken eastern range. Mount Radjabasa (4,200 feet), on the southeastern tip of Sumatra, is an outlying member of the eastern range.

e. West Coast Plains

Relatively small, discontinuous plains are located on the west coast of Sumatra separated by mountains that drop abruptly to the ocean (see Figures 6 and 7). They are generally isolated, swampy, and sparsely populated. The northernmost extends from approximately 4°50'N to 3°45'N, is narrow in the north, and widens to approximately 20 miles in the south. Several rivers cross this plain. Another low plain extends roughly 30 miles inland between 2°40'N and 2°N. A long, narrow coastal plain lies between 1°40'N and 1°S. The surface of this latter area is broken by hills, some of which attain heights of 1,850 feet above the swampy lowlands. Padang is in the southern part of this plain.

Figure 7. The west coast of Sumatra at Sibolga. Rugged mountains and hills extend to the sea along most of Sumatra's west coast.

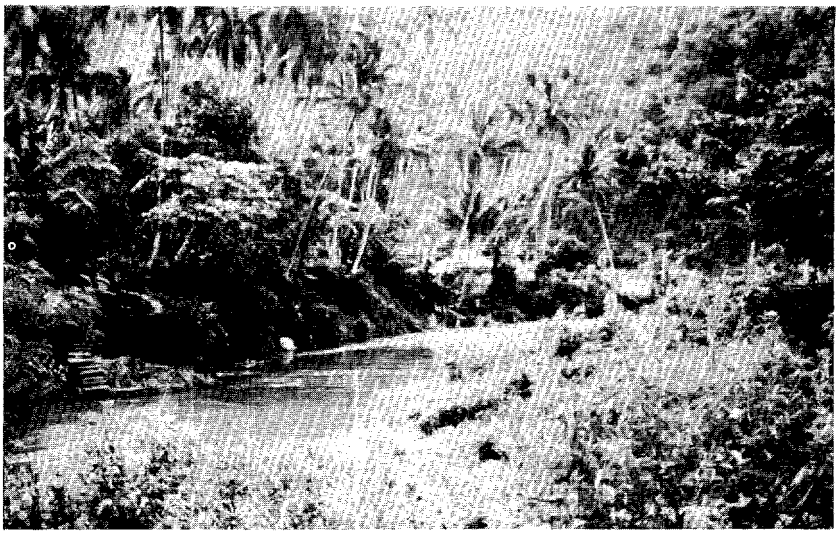

Figure 8. Jungle terrain between Bukittinggi and Padangsidimpuan.

Other small "pockets" of plains lie between 2°S and 2°45'S, and between 4°S and 4°45'S.

f. Eastern Plain and Swamps

More than half of Sumatra lies east of the Main Range at elevations of less than 350 feet. The Eastern Plain extends from Lhokseumawe on the north coast all the way to the southeast tip of the island.

Between Lhokseumawe and the Asahan River the plain is narrow and generally dry (see Figure 9). Elevations are mostly less than 40 feet near Medan but increase toward the west.

South of the Asahan River the Eastern Plain widens to approximately 35 miles. Swamp forests cover two-thirds of the section between the Asahan and Inderagiri Rivers and are commonest along the lower courses of the main rivers. The swampy coastal plain extends eastward into the Strait of Malacca in the form of a series of low, swampy islands that are separated from the Sumatran mainland and from one another by narrow channels. South of about 1°45'N the plain broadens to an average of 95 miles and is very swampy. In addition to the belt of dry land in the west, there are dry areas near Pakanbaru and, in a northwest-southeast trending belt, between the Kampar and Inderagiri Rivers.

Between the lower course of the Inderagiri River and the mouths of the Hari River the plain narrows somewhat. This section is only slightly above sea level and is generally swampy. A belt of hill country about 30 miles wide extends in a northwest-southeast direction form Taluk to Djambi and is bounded on the west by the middle course of the Hari River. Its general elevation is about 330 feet, although a rectangular block of hills known as Pegunungan Tigapuluh rises to a maximum height of 2,296 feet. West of Pegunungan Tigapuluh the middle course of the Hari and the Merangin and Tembesi Rivers enclose an area that is low except for an isolated group of hills that reach heights of 1,430 feet.

Between the Hari and Musi Rivers the swampy belt averages 50 miles in width but extends much farther inland along major rivers. A tongue of swamp 15 miles wide reaches 124 miles inland along the Musi River to Sekaju, which is only 30 feet above sea level (see Figure 10). A broad area of higher, generally drier land extends from the area immediately west of the swampy coastal zone inland to the foothills

Figure 9. Plains near Medan. These gently rolling plains are better drained than those farther south.

Figure 10. The lower Musi River at Palembang. The town is built on the natural levees of the river, which are the highest ground in the vicinity. Note the low swampy hinter-land behind the city.

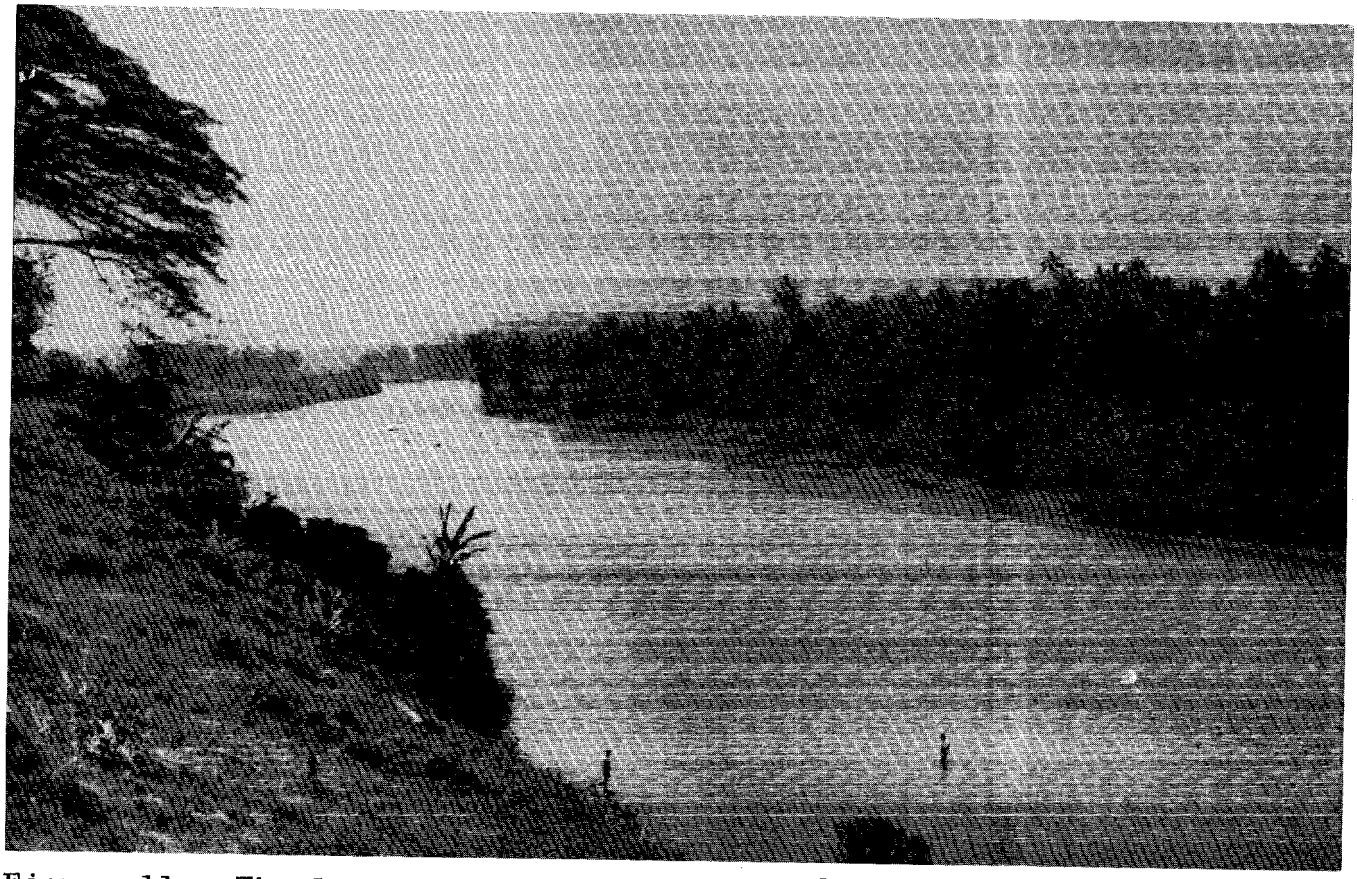

Figure 11. The Lematang River (3°02'S-104°16'E), a major tributary of the Musi.

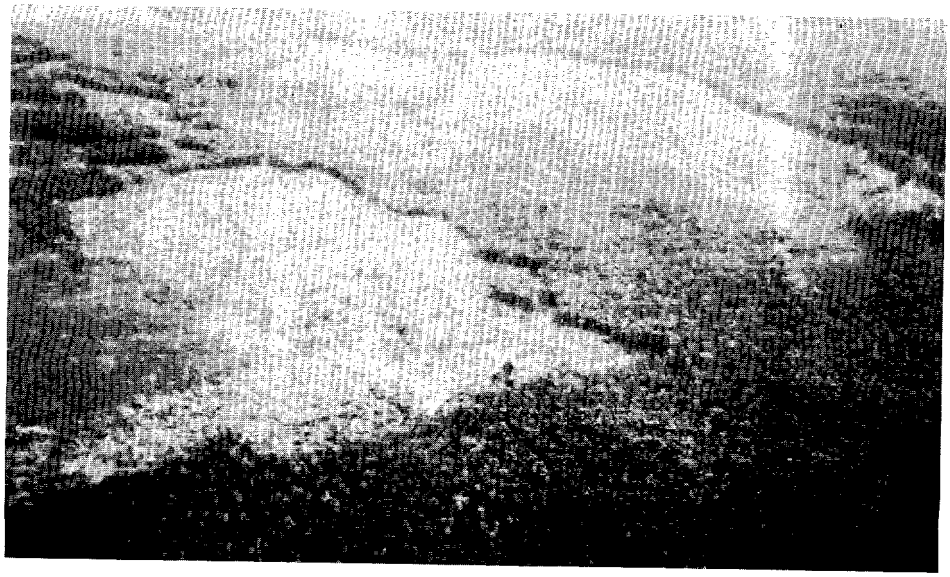

Figure 12. Partially cleared forest near Rengat. Such areas are potential drop zones.

of the mountains. It consists of three parts -- an eastern section, composed of gently undulating plains with low, flat hills; a similar but smaller and narrower western section; and an intervening basin that is generally lower and frequently swampy.

A large, nearly uninhabited swamp covers the area between Palembang and the Bangka Strait. South of a line connecting Palembang and Lucipara Point the swamp begins to narrow and is confined to areas adjoining river systems. South of the Mesudji River the swamp is limited to a narrow coastal strip, except where it extends inland along large rivers. A flat, gently undulating plain -- generally 60 to 165 feet above sea level -- extends inland from the coastal swamps to the foothills of the Main Range. Much of this plain, especially along the larger rivers, is susceptible to flooding during the wet season.

2. Drainage

The Main Range is the drainage divide of Sumatra. Rivers flowing westward into the Indian Ocean are characteristically short, swift, and straight and have few tributaries; they are insignificant for navigation. Streams flowing to the east, however, have entirely different characteristics and provide the best routes for surface movement in eastern Sumatra; many are navigable for scores of miles by seagoing vessels and all the way to the mountains by native craft. In their headwaters these streams flow swiftly eastward in deep, narrow, V-shaped valleys, but where they cross intermontane basins they tend to slow down and broaden (see Figure 13). In the foothills the streams have high, moderately steep banks, cobble-studded channels, and numerous tributaries. As they cross the flat plains and swamps of eastern Sumatra the eastward-flowing rivers broaden and begin to meander. Many of the larger streams are interconnected by a maze of smaller creeks. Large bars of sand and mud partially block the entrances to most river mouths, although major streams normally have at least 3-1/2 feet of water over such sandbars at low tide. Tidal influence extends many miles upstream from the coast.

Almost the entire east coast is swampy. Many fresh-water swamps are permanently wet, but some relatively dry areas between major streams are flooded only from November to March. Tidal swamps are inundated by marine water twice a day.

Figure 13. Streams in rugged country north of Lake Toba. Above the waterfall on the left, the larger stream fills the V-shaped valley. Below the waterfall the channel widens, the banks become moderately high, and the stream acquires the characteristics of a stream in its middle course.

Figure 14. Swampy, alluvial plain -- east coast.

3. Vegetation

Broadleaf evergreen forests cover approximately 70 percent of Sumatra. Roughly 10 percent is grassland, and about 20 percent is cultivated land, much of which is in tree crops.

Forests are of several types, primarily because of differences in elevation. Many kinds of shallow-rooted, broadleaf trees grow in well-drained areas below elevations of 3,000 feet. They normally form a dense, uneven canopy at heights of 80 to 150 feet, although individual trees may attain heights of 200 feet. Trees forming the main canopy are usually 10 to 30 feet apart, although the larger trees -- those with trunks as much as 6 feet in diameter -- are 40 feet or more apart. Smaller trees form a secondary canopy about 60 to 80 feet high. A third tier of slender trees, palms, climbing rattans, and leafy vines, about 10 to 25 feet high, occurs where light is sufficient. The undergrowth in these forests also depends on the amount of light reaching the ground. Where the canopy is dense, scattered herbaceous plants and ferns cover the ground. Many leafless vines hang from the canopy but do not reach the ground. In openings where sunlight is admitted directly, such as at the edges of streams or clearings, undergrowth is extremely dense. Climbing rattan is troublesome because parts of it are covered with spines and thorns that may tear clothing and inflict painful scratches. North of Lake Toba, at elevations below 2,500 feet, pure stands of slender pine reach heights of 100 feet. These pines are normally more than 10 feet apart and have an undergrowth of grass.

At elevations of 3,000 to 7,000 feet, trees are somewhat smaller than at lower elevations. In the area north of Lake Toba, for example, evergreen oaks, maples, and magnolias occur. Forests in this altitudinal zone have a dense canopy, but trees usually do not exceed 100 feet in height or 3 feet in diameter. Large trees are generally spaced 10 to 20 feet apart, but small trees (up to 30 feet high) are only a few feet apart. Evergreen shrubs form thickets 4 to 6 feet high. Forests with a dense canopy that contains much wet hanging moss grow on persistently cloudy slopes. Trees in such areas are small, crooked, and have low branches. They are usually between 20 and 40 feet high, up to a foot in diameter, and approximately 4 to 6 feet apart. A thick mat of mossy vegetation covers the ground and conceals logs and rocks (see Figure 15).

Areas above 7,000 feet have a tangle of low shrubs 3 to 4 feet high and a few small trees less than 20 feet high. Thickets of rattans, ferns, and sharp-leaved shrubs form a

dense brush.

Small areas of brush and secondary forests at elevations up to 6,000 feet have resulted from logging operations and slash and burn agriculture. Areas recently abandoned normally contain dense stands of ferns, small palms, and rapidly growing small trees heavily choked with vines. This vegetation is gradually replaced by a dense growth of softwood trees. Such dense stands of second-growth vegetation are almost impenetrable.

Pure stands of casuarina trees grow in narrow groves along sandy beaches on the west coast. The trees are spaced at intervals of 10 to 20 feet and form a continuous but sparse canopy at a height of approximately 100 feet. Their trunks are generally about a foot in diameter. The underbrush is sparse and consists of shrubs 3 to 4 feet high.

Brackish and saline swamp forests occur along most of the east coast and in swampy areas of the west coast. Their widths at the coastline vary from a few yards to 2 miles, but they may extend inland as much as 35 miles along major rivers. Normally mangrove trees grow on the seaward edges of such swamp forests, whereas nipa palms cover the inner edge and areas along brackish rivers and lagoons. Mangrove forests contain many types of broadleaf evergreen trees, all of which have aerial roots. The canopy of a mangrove forest is dense, with most trees achieving a uniform maximum height of up to 100 feet. The trees are usually 4 to 10 feet apart, and their trunks may be as much as 2 feet in diameter. Although aerial roots congest the floors of mangrove forests and make movement extremely difficult, underbrush occurs only on higher ground, mostly on the landward side. The undergrowth in these higher areas is 4 to 5 feet tall (see Figure 16). Pure stands of nipa palms about a foot apart rise 20 feet above the surface. Stands of nipa are almost impenetrable because of their tough, interlocking fronds.

Fresh-water swamp forests are common in the extensive lowlands of the east and in the scattered lowlands along the west coast that are free from salt water. The trees of such forests resemble those of the dryland forests but are generally smaller. They form a dense canopy and are spaced 10 to 40 feet apart. Aerial roots are common, and the underbrush of various palms, tall ferns, and thorny vines is very dense. Along the larger streams that cross these swamps are natural levees up to several miles wide -- many of them cultivated -- covered with various palms, scattered large trees, and a dense undergrowth of vines.

Figure 15. Moss-covered trees of moderate height typical of forests at elevations of more than 5,000 feet.

Figure 16. Mangrove swamp at low tide. The dense tangle of prop roots is a serious obstacle to movement on foot and makes vehicular movement impossible.

Extensive areas of marsh, some several miles wide, occur in southeastern Sumatra. From November through March these areas are under 1 to 5 feet of standing water, but during the remainder of the year they are generally covered with dense patches of shrubs and grass 4 to 10 feet high interspersed with small bodies of water. Dense patches of wild sugarcane, often 20 feet high, border large rivers.

Grasslands are scattered throughout much of Sumatra at elevations of less than 5,000 feet, principally near Lake Toba and in the southeast. Most of the grasslands have resulted from the annual burning of forests by slash-and-burn agriculturalists and, if left untouched, will revert to secondary forests in a few years. Cogon grass (alang-alang) is typical of the grasslands. It normally grows to a height of 2 to 4 feet, has very tough, stiff blades, and is an obstacle to movement on foot. Cogon grass is highly inflammable, and fires are a constant danger during dry weather (see Figure17).

Approximately 20 percent of Sumatra is cultivated. Rubber trees are grown on many plantations as well as on smaller, privately owned plots in the northeastern part of the island. They average 20 to 30 feet in height and have trunks about 6 inches in diameter. Groves of immature trees form a discontinuous canopy, but the canopy of mature groves is continuous, even during the period of about a week in the summer when the trees are partially leafless. Mature plantations normally have no underbrush.

Coconut palms are commonly grown on well-drained coasts. On large plantations they are regularly spaced, usually at 25-foot intervals, with their fronds touching to form a loose canopy. The palms attain heights of 30 to 60 feet, and trunks are 8 to 12 inches in diameter. The ground under the trees normally is kept clear but occasionally is covered with an undergrowth of low ferns and grasses.

Large tobacco plantations are found near Medan. Cultivation is primarily in an 8-year cycle, with the land remaining fallow for a 7-year period. The plantation land typically consists of a patchwork of irregularly shaped units, each about 100 acres in extent, of cultivated land and fallow land in secondary growth.

Wetland rice is commonly grown on the northern coastal plain, in intermontane basins, and on plains along streams in southern Sumatra. It is normally planted in fields of about an acre surrounded by earthen dikes. The fields are flooded to a depth of 5 to 8 inches during the growing season. In single-crop areas, mostly at higher elevations,

Figure 17. Cogon grass interspersed with scrub trees. This sharp-bladed grass is an impediment to passage on foot and is a fire hazard during dry periods.

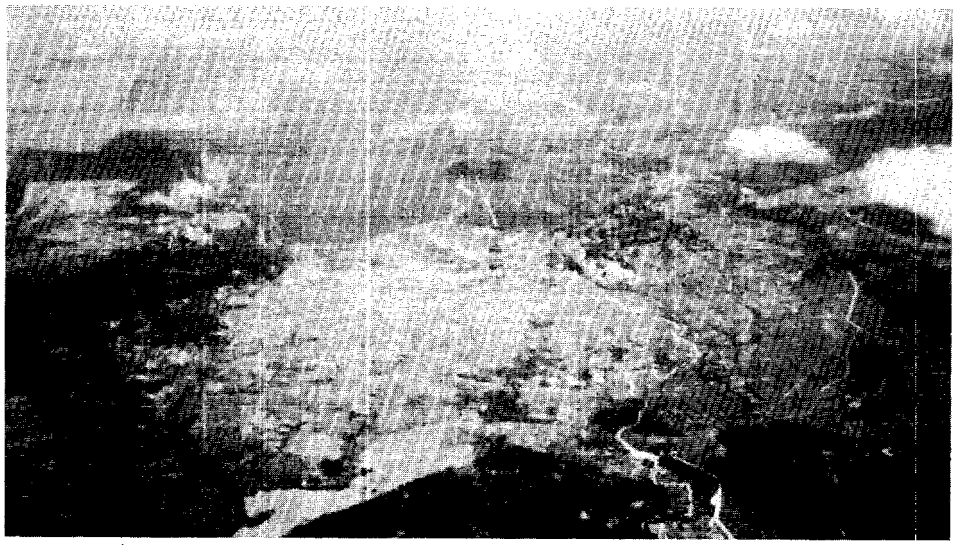

Figure 18. Rubber estates near Medan. Much of the Medan area is devoted to commercial agriculture.

the growing season is from December to June, and fields are normally fallow during the remainder of the year. In lowland areas, multiple cropping is practiced, and there are few fallow fields.

Dryland rice is grown in Sumatra but covers only half as much area as wetland rice. It is usually grown in areas with steep terrain and limited access to water. Dryland rice is often rotated with other crops and is grown by both slash-and-burn and sedentary agriculturalists.

4. Suitability for Operations

Within the mountainous areas, dense forests and steep slopes would limit tracked or wheeled vehicles to existing roads, but movement on foot is generally possible though arduous. Roads through the mountains are vulnerable to ambush and interdiction because of the prevalence of steep gradients, sharp curves, narrow defiles, numerous bridges, and adjacent dense vegetation. The dense mountain forests provide generally excellent opportunities, however, for concealment from air observation. The possibility of concealment from ground observation varies with the amount of undergrowth. In cultivated areas and grasslands, possibilities of concealment from either air or ground observation are generally poor. The best potential drop zones in mountainous areas are in the scattered, relatively small patches of low crops and in the grasslands. The tough, very sharp blades of cogon grass would be hazardous to landing personnel unless they were equipped with protective jump suits.

The eastern plains are less well suited to paramilitary operations than the mountains. Cross-country vehicular movement is possible through grasslands, cultivated areas, and some of the dryer forested areas and would be easier during the dry season than during the wet season. During the wet season, off-trail movement on foot would be severely limited and living conditions would be extremely disagreeable. Concealment from air and ground observation is excellent except in grasslands and cultivated areas; drop zones are available in these grasslands and areas of cultivation.

In the eastern swamps, rivers provide virtually the only avenues for movement, and most of the limited population lives along the rivers. Movement on foot away from the rivers is extremely difficult because of the swamps and very dense vegetation. Suitable drop zones are almost entirely lacking.

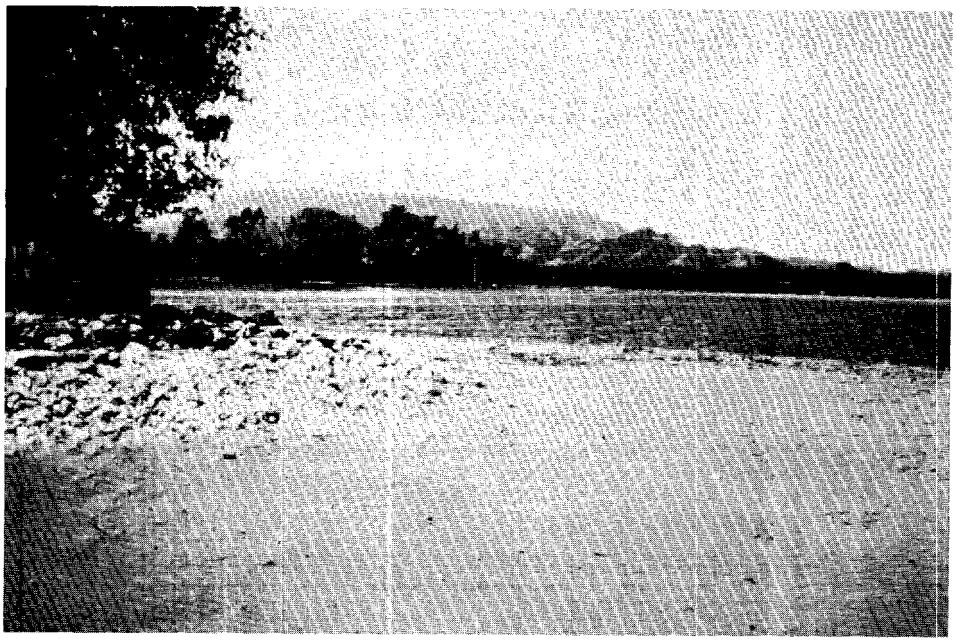

Figure 19. A beach on the north coast of Sumatra near Uleelheue (5°35'N-95°18'E). Note the abandoned Japanese fortification to the left.

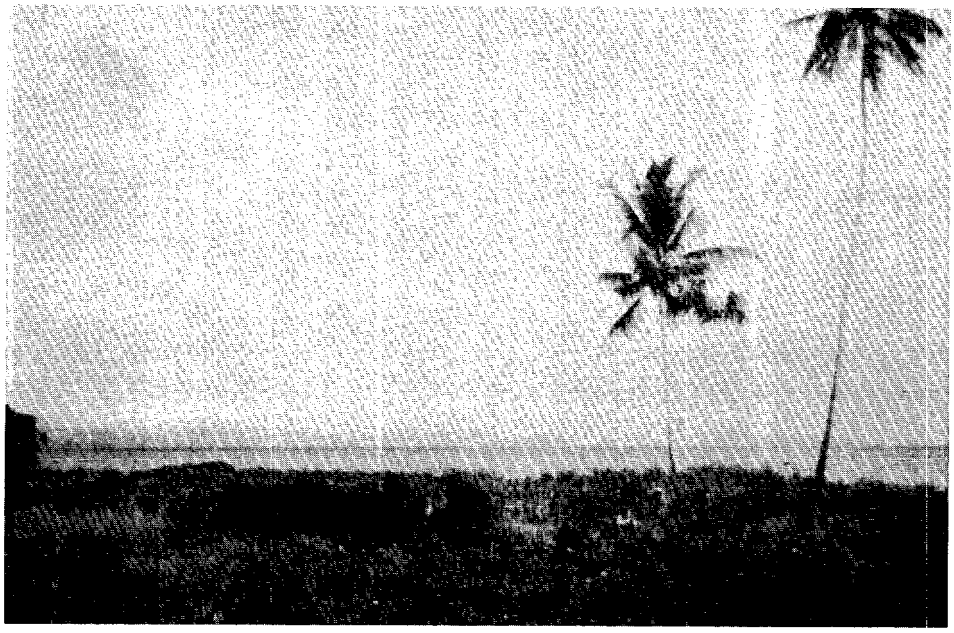

Figure 20. A view of Lampung Bay, looking west from the mainland (5°40'S-105°25'E). Note the grasses that back the beach.

C. Coasts

1. North Coast

Good landing beaches are numerous along the north coast of Sumatra from Banda Atjeh to Diamond Point. Coastal approaches are generally clear, but there are occasional obstructions, especially near Diamond Point. The north coast is mostly low and sandy, and beach material is generally firm sand. Over half of the beaches are longer than 2 miles, and most are wider than 35 yards. Exits from the beaches lead through ricefields to the coastal road and railroad. The Atjeh River flows through a wide valley to the north, giving access to the interior.

2. East Coast

The entire east coast south of Diamond Point is low and swampy, and approaches are obstructed by shoals, banks, fringing mudflats, or mangrove. A few good landing beaches exist in the extreme southeast corner of Sumatra and on the west coast of Bengkalis Island ($1^{\circ}30'N-102^{\circ}15'E$), but their offshore approaches are partially obstructed. These beaches are generally more than 2 miles long and more than 35 yards wide; widths may decrease to less than 15 yards at high tide. Beach materials are chiefly firm sand. Most of the east coast is sparsely populated, but there are several coastal villages in the extreme southeast. Movement inland except along waterways would be difficult, but some areas contain trails, especially in the southeast.

3. South Coast

Numerous beaches are suitable for use by small landing parties. Most of them are small and backed by rugged hills, but several larger beaches at the heads of Lampung and Semangka Bays are backed by low coastal plains. Although approaches are generally clear, some are encumbered by shoals or coral. Beach materials consist principally of sand or small pebbles. Movement inland is usually by trail.

4. West Coast

The west coast is characterized by narrow, discontinuous plains, interrupted by cliffs and rocky stretches. Numerous beaches are suitable for landing small parties, and offshore approaches are generally clear. Beach materials are mainly fine sand. Small villages are numerous and mostly connected by coastal roads. Exits from beaches lead across

sandy ridges to coastal roads.

D. Associated Islands

1. Off North Coast

We Island, the largest island off the northern tip of Sumatra, is approximately 11 miles from the mainland. Its interior is densely forested and has elevations of up to 2,018 feet. The island has two large bays -- one on the south coast and the other extending along most of the north coast; on the northeast shore of the latter is a naval port of Sabang. The northeast coastal plain is narrow and backed by steep highlands. The southeast coastline has a reef-fringed bay, is relatively flat, and is densely populated. Except for a sandy bay, the west coast is steep and rocky.

2. Off East Coast

Several large islands are located immediately off the east coast of Sumatra in the Strait of Malacca. These include Rupat, Bengkalis, Padang, Rangsang, and Tebingtinggi. All are low, swampy, and sparsely populated. In appearance they closely resemble the swampy portions of the Eastern Plain.

The Riau Islands, south of the Malay Peninsula, have special current significance in view of Indonesia's policy of confrontation with Malaysia. They lie astride one of the most important shipping routes of the world and are only a few miles from Singapore. All coastal navigation near these islands is hazardous. The most important of the numerous islands in the group are Bintan, Batam, Rempang, Kundur, and Great Karimun. Bintan, the largest of the Riau Islands, is low with a maximum elevation only slightly over 700 feet. The island has several bays, but most are blocked by coastal obstructions. Batam is similar to Bintan, although smaller, and also has an irregular coastline. Rempang and Kundur are generally low; the eastern part of Kundur is especially low and swampy. Great Karimun is fairly rugged in the north, with heights of 1,900 feet, but tends to be low and swampy in the south.

South of the Riau Islands are the Lingga Islands, the largest and most important of which are Singkep and Lingga. The terrain of both these islands has been significantly altered by tin mining. The mines are numerous, cover large areas, and are often more than 50 feet deep. When abandoned,

the pits generally become partially filled with water. Singkep is roughly rectangular and has large bays on both its north and south coasts. Most of the island is low and swampy, but some hills in the east exceed 1,500 feet in elevation. Lingga is irregularly shaped and trends in a northwest-southeast direction. It is hilly in the north, low and swampy in the east, and very rugged in the west, where some elevations exceed 3,800 feet. There are many large bays, particularly in the east, but coastal approaches are hazardous because of numerous coral reefs, shoals, coastal swamps, and mangrove forests. Most of the smaller islands in the group are low and fringed with coral.

Bangka is a large northwest-southeast trending island off the southeast coast of Sumatra that is densely covered with secondary forests. Like Singkep and Lingga, Bangka has many abandoned tin mines with water-filled pits (see Figure 21). Most of the island's surface is gently undulating, but hills and ridges, some with elevations in excess of 1,500 feet, occur in various areas. In general, rivers flow through deep valley's in their upper reaches and form extensive marshes near their mouths. The coasts tend to be low and swampy (see Figure 22), and offshore reefs and shoals are numerous. The north coast has two large bays with muddy or reef-fringed shorelines. The east coast has no deep bays and is difficult to approach because of numerous offshore obstructions. The west coast is generally lower and swampier than the east coast.

Billiton is roughly square shaped and also shows the effect of tin mining. It is generally flat to gently rolling, but some summits exceed 1,000 feet in elevation. Billiton is covered with secondary forests; small areas of grassland occur in the center of the island. Its coasts are generally low and densely wooded (see Figure 23), and there are numerous offshore rocky islets and reefs. The southeast is swampy and is separated from the sea by a belt of sand dunes. The southwest and northwest coasts are backed by steeper slopes than are most of the other coasts.

The Natuna Islands are located in the South China Sea between Malaya and Sarawak, from 2°N to 5°N and from roughly 108°E and 109°E. Although distant from Sumatra proper, they are administratively part of Riau Province. Most of the islands are small and relatively insignificant, but Great Natuna has considerable military significance because of its larger size and strategic location. It is fairly rugged on its north, east, and south coasts, but its west coast and interior tend to be more gently rolling and are swampy in places. The island is heavily forested and has extensive areas of plantations and mangrove

Figure 21. Open-pit tin mine on Bangka Island. The numerous tin mines on Singkep, Lingga, Bangka, and Billiton Islands have significantly altered the terrain.

Figure 22. Northeast coast of Bangka Island. Much of Bangka's coast is low and swampy, with isolated hills rising above the lowlands.

along the coast. Although several bays are large, especially in the south, coastal approach is difficult because of the many offshore obstructions. The smaller islands of the Natuna group are generally hilly except for Subi-Besar, which is quite low and swampy. Coastal obstructions are common to all of these islands.

The Tambelan Islands are a group of small islands off the west coast of Borneo. Tambelan and Benua Islands are the largest of the group. Most of the islands are forested and hilly, but the southern coast of Tambelan Island is rather low. The greatest elevation on any of these islands is just over 1,000 feet. Although the offshore approaches to most of them are generally shallow and muddy, coral is less common than in offshore waters of the island groups described previously.

The Anambas Islands, midway between the Natuna Islands and Singapore, are of considerable military significance because of their location. Djemadja, Matak, Mubur, and the Siantan Islands are the largest of the group, but there are numerous smaller islands. Most of the islands are hilly. Elevations exceed 1,800 feet on Siantan and are nearly as high on neighboring islands. Most of the islands have bays that penetrate far inland, but tidal flats and offshore obstructions make the coastal approaches hazardous.

3. Off West Coast

Simeulue Island, off the northwest coast of Sumatra, trends northwest-southeast for a distance of about 62 miles. Its width varies between 9 and 19 miles. Abundant rainfall has contributed to the growth of a dense forest cover, with individual trees reaching heights of 200 feet. Most of the interior of the island is fairly rugged, but the southeast corner has gentle hills. The west coast is generally low and has sandy beaches, but approach is difficult because of swells and numerous coral reefs offshore. The east coast has three reef-fringed bays and is more readily approachable.

Southeast of Simeulue, the Banjak Islands comprise a group of small, forested islands, mostly encircled by coral reefs. Tuangku and Bangkaru are the largest islands of the group. Tuangku Island has a maximum elevation of 1,027 feet in the north, but its relief is gentler in the south. Much of the coast of Tuangku is fringed with coral reefs, but there are breaks in the reef along the southwest coast and in the northwest and southeast. Numerous small islands and coral reefs make approach from the northeast extremely difficult. Bangkaru Island has highlands in both the north and south and a lowland in the central area. It is almost

entirely encircled by coral reefs, and the southeast coast is fringed with mangroves.

Nias Island is the largest island off the west coast of Sumatra. It is roughly rectangular in shape, approximately 75 miles long, and 25 miles wide. The island is forested, but native agricultural practices have resulted in extensive secondary growth. Nias is very rugged, with most of the ridges trending in a north-south direction. The hills extend nearly to the coast in the northeast and the south, but there are wide, swampy coastal plains on the east and west coasts. Most of the beaches are sandy, and some are covered by casuarinas; many are backed by coconut groves.

Pini, Tanahmasa, and Tanahbala are the largest islands of the Batu Island group. Pini Island has a maximum elevation of approximately 200 feet and is roughly rectangular in shape, low, and heavily forested. Tanahmasa and Tanahbala have heights that exceed 650 and 850 feet, respectively, and have gently undulating, forested surfaces. The offshore approaches of each of these islands are encumbered by a combination of coral reefs, mudflats, and small islands (see Figure 24).

The Mentawai Islands comprise approximately 100 islands that extend from 1°S to 4°S. Most of them are hilly and densely forested. Siberut, Sipura, Pagai Utara, and Pagai Selatan are the largest islands of the group. These four have low, undulating surfaces that seldom exceed 1,000 feet in elevation. As is true throughout the islands off the west coast of Sumatra, both the east and west coasts of each island are exposed to monsoonal winds. The approaches to many of the Mentawai Islands are blocked by coral reefs and mangrove.

Enggano Island is a densely wooded island roughly 250 miles southeast of Pagai Selatan and approximately 80 miles offshore from Sumatra. Its western end is low and gently rolling, but the central and eastern parts are generally higher. The highest elevation, 925 feet, is in the center of the island. Most of the coast is covered with vegetation. There are a few sandy beaches, but coral reefs, mangrove, and the ocean swell make landings difficult.

E. Special Features

The mountainous areas of Sumatra are subject to frequent and severe earthquakes that can cause damage over hundreds of square miles. Even smaller earthquakes cause severe local

Figure 23. A beach on the north coast of Billiton Island (2°41'S-108°09'E). Movement inland from this beach is comparatively easy.

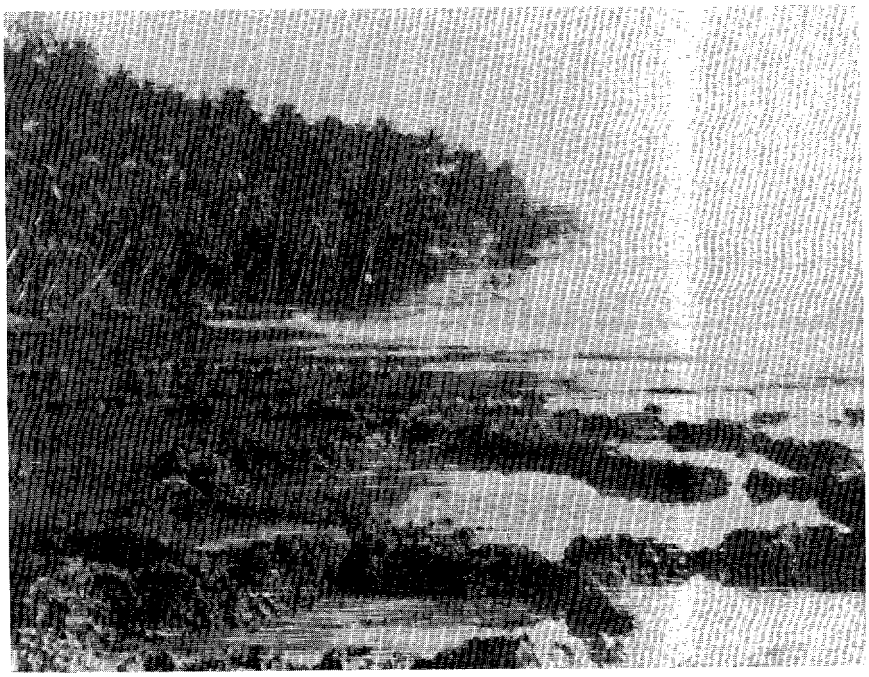

Figure 24. Reef-fringed northern coast of Tanahmasa Island (00°12'S-98°27'E). Coral obstructions are common to most islands near Sumatra, and coastal approaches are hazardous.

damage.

Twelve of Sumatra's volcanoes are active, and eruptions are not uncommon. The effects of falling rocks and hot, noxious gases may be felt many miles from the erupting crater.

Landslides frequently result from the combination of deep, unconsolidated soils, unstable volcanic ash, steep slopes, heavy rainfall, and frequent earthquakes.

Coastal areas are subject to occasional seismic sea waves capable of great destruction. Such waves result from submarine volcanic eruptions or earthquakes. Those that originate far out at sea may arrive on the coasts without warning.

F. Climate

The climate of Sumatra is characterized by a combination of monotonous, oppressively high temperature and humidity that has an adverse effect on both men and equipment. Tropical location contributes to the constantly high temperatures, and exposure to monsoonal winds results in heavy annual rainfall (see Tables 1 and 2 at end of chapter).

Temperatures at any given station on Sumatra and its associated islands vary little throughout the year. Near sea level, they range from the low 70's at night to the high 80's in the afternoon. Relative humidity is usually in the 90's during the day but drops to the 60's at night. At higher elevations, temperatures are lower -- generally about 3^{o} cooler per 1,000 feet of elevation.

Rainfall is abundant the year round in all of Sumatra, but periods of maximum precipitation normally coincide with the monsoons. From December through March the northern monsoon dominates Sumatra and winds blowing from north to south bring rainfall to the eastern part of the island. The southern monsoon prevails from May through October, and winds that are forced to rise over the Main Range deposit large amounts of rainfall on the western slopes. Rainfall is heaviest and most frequent along the west coast and over the mountains, where it averages more than 100 inches annually; east of the mountains rainfall is still heavy, with 79 inches the average annual total at Medan, for example. Much of the rainfall of Sumatra falls during thunderstorms, which occur as often as 15 to 20 times a month throughout the year but are most common during the periods between monsoons.

Rainfall is torrential at times; as much as 20 inches has fallen a 24-hour period. Sumatra is not directly influenced by typhoons.

Cloudiness generally does not interfere with most types of air operations. Clouds over land normally dissipate after dark, but over the open sea cloudiness and thunderstorms are most frequent at night. Fog and low clouds normally cover swampy areas and upland basins between midnight and 0900 hours. Cloudiness is common and rain is likely to occur between 1100 and 1400 hours over land. On mountain slopes, cloudiness reaches its peak after 1400 hours, when thunderstorms often form, eventually to move out to sea.

Ceilings and visibility are generally adequate for air-ground operations if properly timed. During the northern monsoon and spring transitional season, lowlands usually have ceilings at 1,500 to 2,500 feet and visibility up to 10 miles. During the southern monsoon, ceilings are generally 2,000 to 3,000 feet in the lowlands. The bases of clouds frequently reach ground level on the windward slopes of mountains, but ceilings and visibility usually are sufficient for operations on the leeward slopes. During the morning and evening the weather in most inland areas tends to clear. Thunderstorms, although frequent, are usually of short duration and do not interfere seriously with air operations.

Table 1

Mean Daily Maximum and Minimum Temperatures
(in degrees Fahrenheit)

Station		Month												Year	Years of Record
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Takingeun	Max	78	80	80	80	81	80	79	79	78	78	77	78	79	10
(4°37'N-96°51'E)	Min	61	60	61	62	61	60	59	59	60	61	61	61	60	10
Medan	Max	85	87	89	89	89	88	89	89	88	86	85	85	87	19
(3°35'N-98°40'E)	Min	71	71	72	73	73	72	72	72	72	72	72	72	72	19
Bukittinggi	Max	77	78	79	80	80	80	79	79	79	78	78	77	79	20
(0°19'S-100°22'E)	Min	65	65	65	66	65	64	64	64	64	65	65	65	65	20
Gunung Singgalang	Max	55	55	57	56	57	54	55	57	55	57	56	55	56	2
(0°24'S-100°21'E)	Min	44	42	46	45	46	45	45	46	46	46	45	46	45	2
Padang	Max	87	87	87	87	88	88	87	87	86	86	86	86	87	21
(0°58'S-100°22'E)	Min	74	74	74	75	75	74	74	74	74	74	74	74	74	21
Manggar	Max	84	85	86	87	87	86	86	86	86	87	86	85	86	6
(Billiton Island)	Min	74	74	74	75	76	77	78	78	77	76	74	74	76	6
(2°53'S-108°16'E)															

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Table 2
Mean Monthly Rainfall
(in inches)

Station	Month												Year	Years of Record
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Banda Atjeh (5°34'N-95°20'E)	5.9	3.9	3.9	4.4	5.9	3.7	3.8	4.3	6.4	6.9	7.4	8.0	64.4	63
Medan (3°35'N-98°40'E)	5.7	3.3	4.2	5.2	6.9	5.2	5.2	6.8	8.4	10.6	9.4	8.5	79.3	63
Singkil (2°17'N-97°47'E)	11.7	10.6	14.3	18.0	14.4	10.5	11.1	14.7	16.0	21.7	20.7	15.2	179.0	51
Mangani (0°01'S-100°15'E)	17.7	13.1	16.9	18.8	15.0	12.1	9.5	13.3	17.1	21.7	22.4	22.2	199.8	20
Padang (0°58'S-100°22'E)	13.9	10.1	12.2	14.5	12.8	11.7	10.5	13.7	16.2	20.1	20.5	19.2	175.3	63
Lubukrusa (1°34'S-103°21'E)	7.6	6.5	7.8	7.2	5.5	3.3	2.6	3.3	5.0	7.1	9.7	8.8	74.2	27
Lebongtandai (3°01'S-101°54'E)	19.7	17.4	18.3	22.8	19.0	14.5	11.9	19.1	20.8	27.2	23.5	19.9	234.1	34
Sukadana (5°05'S-105°33'E)	12.8	10.8	10.4	7.2	5.9	4.8	2.6	3.0	3.2	3.8	6.4	11.2	82.1	29
Manggar (Billiton Island) (2°53'S-108°16'E)	11.8	7.5	10.6	8.9	10.0	8.1	6.6	5.0	4.0	6.5	9.6	13.7	102.0	62

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IV. Population

A. General

In general, Sumatra is sparsely settled. This is particularly true of the vast swamplands that cover the eastern part of the island. Large parts of the island are virtually uninhabited. By far the most densely populated part is the northeastern lowland region around Medan, where in places the population density is more than 800 persons per square mile. In the valleys of the Padang Highlands, particularly between Bukittinggi and Padang, the density reaches almost 500 per square mile. The only other relatively densely settled mountainous area is around Lake Toba, where in some places there are more than 200 persons per square mile. Small concentrations of population are located near the mouths of rivers in the extreme northern and southern parts of the east coast and around Palembang. Most of the cities are situated either on the coast or along a major river. As of 1961 the six largest were Medan (population: 479,098), Palembang (474,971), Padang (143,699), Pematangsiantar (114,870), Telukbetung-Tandjungkarang (113,901), and Djambi (113,080). (See Map 39136 - Population and Administration Divisions.)

Except for parts of Simeulue and Nias, the islands lying off the west coast of Sumatra are sparsely inhabited, generally having a population density well under 25 persons per square mile, and most of the people live along the coasts. In the islands off the east coast the density is somewhat higher -- up to 100 persons per square mile in the coastal regions of Riau, Lingga, Anambas, and Natuna, and as much as 150 per square mile in Bangka and Billiton.

The distribution of the total population of 15,739,363 (1961 census) among the Sumatran provinces, listed from north to south, and relative density of population in each are tabulated below:

Province	Population 1961	Density (persons per square mile)
Atjeh	1,628,983	67.5
Sumatera Utara	4,964,734	180.0
Sumatera Barat	2,319,057	135.0
Riau	1,234,984	34.0
Djambi	744,381	33.2

Province	Population 1961	Density (persons per square mile)
Sumatra Selatan	3,313,614 a/	82.7 a/
Lampung	1,533,610 a/	82.7 a/
Total	15,739,363	

a/ In 1961, Lampung was a second-order administrative division within the province of Sumatera Selatan. It was elevated to first-order (province) status in January 1964. The 1961 population figures are correct for the two provincial areas as they are today, but information on the density of population in each of the newly created provinces is not available.

Most of the peoples of Sumatra are of Malay stock, and it is impossible to distinguish Sumatran ethnic groups by physical characteristics alone. Intermixing of peoples, particularly in recent years, has contributed to a complex ethnic picture. The ancestors of the present inhabitants of Sumatra are believed to have come from mainland Southeast Asia in three main waves of migration over a period of several centuries. Each successive wave brought its own characteristic social organizations, customs, and language; and, in general, the newcomers were more advanced than the people of the preceding migrations.

Of the people in Sumatra today the Kubus are believed to represent the first wave of migration; the Bataks, Gayos, Redjang-Lebongers, Lampungers, Orang Lauts, and peoples of the islands off the west coast represent the second wave; and the Atjehnese, Malays,* and Minangkabaus, represent the third. The Kubus, a primitive people who live in the swampland south of Djambi, are short (males under 5 feet tall) and dark, although considerably lighter than Negritos or Papuans. They have black wavy hair, thick lips, and flat noses. The decendants of the people who came in the second wave of migration are short (males average 5 feet 2 inches in height) and slender, and their skin color varies from brown to yellow. They have flat faces, straight or wavy black hair, and a scanty beard. The Atjehnese, Malays, and Minangkabaus tend to have more dominant Mongoloid characteristics than do the decendants of earlier arrivals.

*The Malay ethnic group occupies eastern Sumatra as well as peninsular Malaysia, coastal Borneo, and parts of neighboring islands. The term "Malay" can also have a much broader meaning when used to refer to Malay racial stock, which includes most of the people of Malaysia, the Philippines, and Indonesia.

B. Movement of Population

Moving from Sumatra to other parts of Indonesia is common among the Bataks, Minangkabaus, and Malays. A large number of Bataks (probably several thousand) live in Djakarta, and there are communities of Bataks and Minangkabaus in many large cities throughout the Indonesian Archipelago, particularly on Java. Many of the Malays on Borneo emigrated from Sumatra and the Riau Islands. Many of the inhabitants of the west coast of peninsular Malaysia moved there from Sumatra during the past 50 years, and ties between the Malays of peninsular Malaysia and the Atjehnese and Malays of Sumatra are close.

Since 1905, peasants from overcrowded Java have been resettled through government-sponsored programs on underpopulated Sumatra, principally in the southern part (see discussion of Javanese and Sundanese, p. 59). In spite of subsidies and aid provided by the government, however, most of the Javanese and Sundanese have drifted back to their homeland. In addition to those helped by the government, many Javanese have come to the Medan area of Sumatra, where they have been recruited to work on the rubber and tobacco estates. Many of them are temporary workers who return to Java when their work is completed.

Within Sumatra, the only continuing large-scale movement of peoples is from the Batak Highlands around Lake Toba to the eastern lowlands around Medan. As nearly all land in the Medan region is utilized, the foreign-owned plantations around Medan have become honeycombed with extensive squatter areas occupied by several hundred thousand squatters, mostly Bataks, Malays, and Javanese. The squatters most often occupy tobacco estates, because in any one year about seven-eights of the tobacco plantation is fallow and therefore vulnerable to takeover by the peasants. Less frequently, land has been taken from the rubber, oil palm, sisal, and tea estates. In order to raise subsistence crops it is usually necessary for the squatters to either cut down the commercial crop or to clear away jungle growth. The squatters justify their claims to the land by insisting that they had used it during World War II under order of the wartime authorities and also during the revolution and that they therefore have the right according to their adat (customary law) to use the land again. The government has tried to alleviate the squatter problem by resettling some of the migrants on lands legally expropriated from the estates, but on the whole the government programs have been unsuccessful.

C. Social System

The traditional social organization of the indigenous ethnic groups of Sumatra is based on the extended family, in which family attachments are strong and national loyalties are weak. During the past century, however, outside influences have considerably weakened the kinship basis of the social system. The classic clan is a closely knit, exogamous unit (members must marry individuals outside the clan) that occupies a hamlet. Up to 30 or 40 closely spaced hamlets occupied by related clans are often allied to form a village. Until recent years, villages were relatively isolated and highly autonomous.

Within the hamlet, each household has a headman who is responsible for the welfare of the occupants of his house. His duties include arranging weddings, settling disputes, presiding at family councils and festive functions, and sitting in with other headmen of the hamlet or village to act on intertribal disputes or make decisions on such matters as the levying of taxes and assignment of land. One of the headmen serves as overall chief of the hamlet. Where hamlets are combined to form a village, a village chief is chosen from among the hamlet headmen. In addition to his obligations to the people of his village, the village chief also acts as the link between his people and the government, particularly in collecting taxes. With increased absorption of the tribal organization into the administrative structure of the government, there has been a general decline in effective leadership at the local level.

The Atjehnese and the Malays have traditionally had highly stratified class systems, but their importance is diminishing. Among other ethnic groups social divisions are less well defined. Traditionally, among groups having class systems, there has been a small and wealthy hereditary nobility at the top, a large group of commoners (which include peasants as well as minor government clerks, small businessmen, and laborers) in the middle, and descendants of slaves at the bottom. Among all groups, lineage is giving way to education as the primary factor in social status, and the former noble class is being replaced by a new class comprised of the persons who occupy the highest levels of governmental, commercial, religious, and intellectual life. Modern education has increasingly become the identifying mark of membership in the elite and the passport for admission to it from the class below.

Each ethnic group has its own distinctive adat, a body

of social law that governs the life of the individual from infancy onward. Adat defines such things as inheritance, property, marriage, moral values, and reciprocal rights and obligations between relatives. Within an ethnic group, details of adat may vary from village to village. Although there is generally no effective way to enforce the adat of an ethnic group other than through fear of supernatural punishment, the members of the group respect it and live by its rules. In some cases village elders may hold court or, in other cases, informal sanctions may be applied. In general, the adat of Sumatran peoples has been considerably undermined by outside influences during the past 100 years, particularly in the urban areas. The traditional attitudes toward the supernatural forces which are believed to control the adat are most pronounced in isolated rural areas.

D. Religion

The peoples of the coastal regions of Sumatra and of most of the islands lying off its east coast have long been under the influence of the Islamic religion, which was first introduced into the coastal cities by Arab traders in the thirteenth century. To some extent, Islam has also spread into the interior, particularly among the Bataks living north of Lake Toba.

As elsewhere in Indonesia, Islam on Sumatra has been molded to serve the traditional animistic beliefs of the people. In spite of its presence on the island for many centuries, Islam as practiced by many of the people who call themselves Moslems is still essentially a superstructure of adopted practices on a foundation of animism. The underlying paganism gives to the religion unique characteristics that make it different from the form followed by orthodox Moslems. For example, religious ceremonies may contain rituals dictated by the Koran along with rituals directed to the world of spirits. Most Sumatran Moslems are primarily concerned with the ceremonial aspects of Islam, such as fasts -- including Ramadan, the month when Moslems fast from dawn until sunset -- prayers, and pilgrimages to Mecca, and for the most part they do not understand the meaning of rituals and practices. They often violate Islamic laws -- for example, by drinking alcohol and eating pork. Depth of ancestry among Moslems counts for rank, and the Moslem who can look back on several generations of Moslem ancestors feels superior to his more recently converted coreligionist. A pilgrimage to Mecca also assures much prestige to the pilgrim and provides a means for a prosperous Moslem of doubtful antecedents to climb the social ladder.

It is estimated that about 750,000 people on Sumatra, about two-thirds of them Bataks living near Lake Toba, are Christians. In addition, there are sizable Christian communities on the islands off the west coast. One of the attractions of Christianity has been that its missionaries have done much to improve the health and general standard of living while converting people to Christianity. Like Islam, Christianity has had to take account of prevailing religious customs and beliefs and has had to incorporate some of them into its tenets.

Among the more primitive ethnic groups of the interior and the more remote outer islands, most of the people still adhere to animistic beliefs without the veneer of Islam or Christianity. These beliefs combine in varying degrees the propitiation of spirits, the cult of ancestors, and magic. These animists, particularly the older generation, worship a host of spirits embodied in things such as rocks, trees, animals, thunder, lightning, and rain. The people are very conscious of the spirits and are careful not to offend them because the spirits are believed to be implacable in their thirst for vengeance if offended. Evasive terms are used when referring to the tiger, since it embodies the most evil of spirits and and even to call it by name might offend its spirit. If a tiger is killed, the carcass is held in great reverence, and the people propitiate its spirit by making offerings of food and flowers.

In the cult of ancestors, forebears who have passed to the spirit world become capable of influencing order and harmony on earth. In some areas the departed souls are believed to take up their homes in plants and trees. When cutting down a tree, rigid conventions must be followed in order to propitiate the spirit of an ancestor. If adversities are many, spirits of forebears may be blamed and attempts made to rid the village of their influence. To do this, a small idol of the ancestor believed to be responsible for the troubles is carved and, along with a chip from his skull, is launched from the village on a miniature ship. Presumably, he does not return to plague the village. Fires are sometimes believed to keep malicious demons away, and the carvings of various birds and animals, caribou horns, and various other magical devices that are found in many houses are believed to be helpful in keeping away intruding ancestors.

A pagan village usually has a witch doctor who acts as the intermediary with the world of spirits. He keeps the religious activities of the village almost entirely in his

hands. Through communication with the spirit world, the witch doctor is believed to be capable of controlling the weather, commanding a good harvest, and predicting future events.

E. Language and Education

At least 15 distinct languages are used on Sumatra and associated islands, and each has several dialects. Although conspicuous differences can be distinguished, the characteristics of grammer, vocabulary, and phonetics of the languages are enough alike so that a speaker of one probably can make himself understood to speakers of some of the others. The languages of some ethnic groups -- for example, the Minangkabaus and the Malays -- are so remarkably similar that they appear to be dialects of a single language. On the other hand, the dialects of the Karo Bataks and the Toba Bataks, subgroups of a single ethnic group, are so vastly dissimilar that they are mutually unintelligible. Although Sumatran languages are mutually unintelligible with most other languages of the Indonesian Archipelago, they are related to them as well as to the languages of Malaysia.

Bahasa Indonesia, a standardized form of Malay and the national language of Indonesia, is best established in urban areas where the existence of a multilingual society has emphasized the need for a mutually intelligible speech. It is slowly spreading into rural areas through compulsory teaching in the schools. It is the language of bureaucracy and mass media as well as of the schoolroom. The main difference between Bahasa Indonesia and other Malay languages lies in the large number of words from Hindi, Sanskrit, Arabic, Tamil, Portuguese, Dutch, English, and Chinese that have been incorporated into the Bahasa vocabulary. Although the spoken form of Bahasa varies from area to area, the written form uses the Latin script and is standard throughout Indonesia. To some extent, the Latin alphabet is being adapted to all Sumatran languages. Traditionally, however, other scripts -- in particular a modified form of Arabic -- have been used by most Sumatran ethnic groups, although scripts derived from Indian languages have been used by a few.

In spite of several centuries of Dutch rule, relatively few Indonesians are familiar with the Dutch language. Even though English is poorly taught and poorly understood by most of the people, it has been adopted officially as the second language of education. It is also used as a diplomatic language and as the principal commercial language. Familiarity with English is a status symbol and is often the avenue to personal advancement in either government or industry.

In the school year 1959-60, there were 6,505 schools on Sumatra and associated islands. The 1,336,850 students in primary schools and 100,243 in secondary schools were taught by 38,833 teachers. Sumatra has several colleges, but most students pursuing a higher education go to Java or to countries outside Indonesia.

F. Occupations

About two-thirds of the people of Sumatra and associated islands are engaged in agriculture, most of them on a subsistence basis. Most of the farmers practice sedentary agriculture with wetland rice as the major crop. A primitive slash-and-burn system of dryland-rice cultivation in which entire villages are moved every 12 to 15 years as soils become depleted is practiced in the interior of Sumatra and on the smaller islands. In southern Sumatra, irrigated ricefields are interspersed with areas of dryland rice. Much of the agricultural land in Batak territory shifts from rice cultivation to commercial crops (particularly vegtables), depending on market price and demand. Since the severance of legal trade with Malaysia by the Indonesian Government, many fields formerly devoted to cash crops have reverted to subsistence crops.

In many peasant villages, the men are only part-time farmers. They prepare the land for planting and assist with the harvest, but women do all other farmwork, and the men seek employment in nearby towns. Many Sumatran rice farmers, particularly in the northeastern and southern parts of the island, reserve a small plot on which they raise a cash crop such as rubber, tobacco, tea, or pepper. In addition to these farmers, there are many smallholders in the Medan area and in the southern part of the island who depend solely on a cash crop for their livelihood. Because of the large areas of agricultural land devoted to cash crops, Sumatra has not enough food for its people, and large quantities of rice must be imported. The government has attempted to achieve self-sufficiency by expanding rice acreage and improving agricultural practices, but the government program is short of its goal.

In addition to raising domestic animals (cattle, pigs, and fowl), most ethnic groups provide themselves with meat by hunting and fishing. Fishing is common not only along the coasts and in the rivers but also in Lake Toba. Traditionally, small game has been hunted with blowpipes and slings, and larger animals such as deer and wild pig have been driven into nets or killed with spears. Now,

however, many hunters -- particularly those who served in Indonesian military units or were active in the anti-Djakarta rebellions of the 1950's -- are familiar with firearms and use shotguns and rifles. The Kubus and many of the inhabitants of the islands off the west coast still have an extremely primitive economy based solely on hunting with primitive weapons and gathering jungle produce such as coconuts, taro, sago, and bananas.

Economic activities outside the agricultural sphere draw more individuals from the Atjehnese, Batak, Minangkabau, and Chinese ethnic groups than any others. Many of these peoples have left their homelands and have gone to urban areas where they are employed as laborers, businessmen, professional people, or government clerks. Many of the people living along the east coast of Sumatra and on the islands nearby are commercial fishermen; many others are employed in the timber and petroleum industries and on rubber and tobacco estates. In the past, many people living along the east coast and in the Riau Islands relied almost entirely on smuggling for an income. Since the Indonesian Government has increased its antismuggling patrols, however, many of these people have fled to Singapore.

G. Housing

Most of the Bataks and Minangkabaus live in distinctive villages of large communal dwellings (see discussions on p.53 and p.69). Other peoples of Sumatra generally live in small compact settlements of single-family dwellings or in cities. The typical village house, a rectangular structure of timber or bamboo with a palm thatch roof, is built on piles, and a ladder provides access to it. Some houses are built out over a river and are connected to the shore by a catwalk.

Although in some hamlets the houses are aligned in two parallel rows facing one another across a narrow street and in others they are arranged around a central square, most of the hamlets form no particular pattern. Many of the hamlets of single-family dwellings contain a communal building used for meetings, as a sleeping place for bachelors, and for village guests. Some hamlets are enclosed within an earthen wall or palisade of bamboo for defensive purposes, although this feature is disappearing since intertribal warfare is no longer a serious threat. A centrally located hamlet contains marketing facilities and, in Moslem areas, a mosque to serve the people of surrounding hamlets.

H. Dress

Except in the more remote areas, most people of Sumatra wear either Malay or European-style dress. The men wear short trousers when at home or at work and long trousers with a sarong and vest or jacket for full dress. The women wear colorful sarongs, blouses, and scarfs. Headdresses and ornaments vary from group to group. People in the very remote areas still wear primitive attire -- a loin cloth for the man and a sarong hung loose from under the arms or around the waist for women.

I. Health and Medical Factors

The tropical climate of Sumatra and associated islands and other environmental conditions generally are conducive to the rapid spread of disease. Breeding places for disease-carrying insects are abundant; in many areas, housing is crowded, and sanitary conditions everywhere are bad; water supplies are likely to be contaminated with human or animal waste, even in urban areas; diets are often deficient in elements essential for good health; and medical facilities are few, as are doctors and other medical personnel. The people do not know the basic principles of hygiene, and there has been little inducement for them to change their ways. Medical education has improved in recent years, partly through the efforts of Christian missionaries; but many people (particularly those in the more remote regions) continue to rely on ritual prayers, witch doctors, herbs, amulets, and charms to ward off evil spirits and assure good health.

Mass inoculation against tuberculosis and the use of DDT to eradicate malaria-carrying mosquitoes have been among the more successful of the recent medical programs. The complete eradication of malaria, however, has been hampered by the movement of both mosquitoes and people from unsprayed areas into sprayed areas and by development of strains of mosquitoes resistant to DDT. Diseases other than tuberculosis and malaria that are prevalent include: dysentery, typhoid fever, smallpox, dengue, pneumonia, influenza, diphtheria, trachoma, leprosy, yaws, hookworm, tetanus, venereal disease, rabies, and various types of skin ailments.

Major hospitals are located in Medan, Pematangsiantar, Padang, and Bukittinggi. In addition there are hospitals at Palembang, at the naval base on Siantan Island in the Anambas group, at Tandjundpinang on Bintan in the Riau group, and on Nias (to be built in 1964). Several other smaller

hospitals, clinics, and dispensaries are assumed to be scattered throughout Sumatra, many of them associated with plantations and oil installations owned by Western companies.

J. Attitudes and Loyalties

The people of Sumatra resent the power of the Djakarta-based government and its neglect of Sumatra. They would like greater regional autonomy and more control over the revenues received from Sumatran resources. Dissatisfaction with the Sukarno regime led to the PRRI (Revolutionary Government of the Republic of Indonesia) rebellion in 1958. (See Chapt. V Sec. G .) The rebellion was quickly suppressed and many of the leaders fled to nearby Malaya, but the grievances which led to the uprising still linger and have been aggravated by the trade boycott imposed on Malaysia in 1963. Although the participants in the rebellion were mostly Minangkabaus and Bataks (Mandailing and Toba subgroups), they were joined by the Atjehnese, who had been in rebellion since 1953. Most other Sumatran ethnic groups sympathized with the rebellion but provided little active support.

Although subsistence farmers probably have not been affected much by Sukarno's confrontation policy, the Sumatran smallholders greatly resent the regime because it upset their traditional economy. Since the boycott went into effect, sizable numbers of people have fled from the east coast of Sumatra and the Riau Islands to peninsular Malaysia (particularly to Penang and the west coast). The smuggling of copra, rubber, and other commodities from the coast of Sumatra and from the Riaus to Malaysia has continued, although the antismuggling patrols of the Indonesian Government have reduced such smuggling considerably. The increased patrols have caused many people, who in the past relied almost entirely on smuggling for their income, to leave Sumatra and move to Singapore. In August 1964, the Malaysian Government banned all barter trade with Indonesia because small boats from Sumatra and the Riau Islands (some of whose owners had tacitly been allowed by the Indonesian Government to continue their barter trade) had been used to infiltrate Indonesian agents and arms into peninsular Malaysia.

Some ethnic groups of Sumatra, notably the Atjehnese, harbor resentment against the Javanese who have migrated from Java to Sumatra and have settled on the land or have been hired as plantation laborers. In much of Sumatra, however, anti-Javanese feeling is overshadowed by conflict between indigenous people, such as that between the Karo and

Toba Bataks.

Although there is a growing spirit of Indonesian nationalism on Sumatra, an undercurrent of ill will persists among the Sumatran ethnic groups. This antagonism toward the Djakarta regime could be exploited in the recruitment of individuals for use in paramilitary operations. Individuals in the groups that were active in the rebellions of the 1950's (Minangkabaus, Bataks, and Atjehnese), are likely to be the most receptive to recruitment; their participation in the rebellions provides them with experience that could be effectively utilized. Other ethnic groups generally have been politically passive and non-militant and are not considered to have significant potential for paramilitary uses.

K. Ethnic Groups

1. Atjehnese

The 1961 census lists the population of the Atjeh Province, in northern Sumatra, as 1,628,983; probably more than 1.2 million of these people are Atjehnese. The Atjehnese are densely settled on the coastal lowlands and in the contiguous foothills of the province. Their neighbors in the sparsely inhabited interior are the more primitive Gayo people. Because of its geographical position, Atjeh was the first part of the Indonesian Archipelago to come in contact with the Indian and Arab merchants and to be converted to Islam. It is now the strongest Islamic area in Indonesia. The Atjehnese are fervent, often fanatical, Moslems. Religion is the most powerful unifying element of the ethnic group.

In general, the Atjehnese social system is based on reckoning descent through the male line (i.e. patrilineally). An individual is linked with his ancestors through his father. Their houses and hamlets follow the single-family pattern common to most of Sumatra (see Section G). Most Atjehnese are sedentary farmers who grow wetland rice, the staple crop, and vegetables, which together with fish are major dietary supplements. Sugarcane, coconuts, pepper, rubber, and various spices as well as vegetables are grown on a smallholder basis and exported. Most of the Atjehnese who are not farmers work on the east coast as laborers on the rubber and oil palm estates and in the oilfields. The Atjehnese have a reputation as skilled craftsmen and shrewd traders.

The Atjehnese have a distinctive language with several dialects. Although it shares the same origins, it is generally

mutually unintelligible with other Sumatran languages. It is most similar to the languages of the Minangkabaus and the Malays but has a strong infusion of Arab and Indian terms and can be written in the Arabic script.

The Dutch were never able to maintain effective control over the Atjehnese, and the Atjehnese actively resisted control by the present Indonesian regime until 1961. At that time, instead of granting complete independence to Atjeh, which most Atjehnese wanted, the Djakarta regime granted economic concessions, including a barter agreement that allows Atjehnese exporters to retain 30 percent of the foreign exchange gained from transactions. Before Sukarno's confrontation policy against Malaysia, the government more or less ignored the heavy smuggling traffic between Atjeh and the mainland Malaysia. The ethnic, cultural, and commercial ties between the Atjehnese and the Malays of Malaya are strong, and there is considerable sympathy and support for Malaysia among the Atjehnese. The curtailment of trade with Malaysia is one of many factors that have strained relations between the Atjehnese and the central government.

The Atjehnese are fiercely independent by nature and at present a dissident people and therefore may have a greater potential for paramilitary activities than any other ethnic group on Sumatra. The Djakarta government fears that the close ethnic link between the Atjehnese and people on the west coast of mainland Malaysia might be exploited by Malaysia as a means of encouraging subversion on Sumatra. During the rebellions in Atjeh in the 1950's, the Atjehnese insurgents joined forces with the Darul Islam, an extremist Moslem organization that has been most active in western and central Java. The Atjehnese are generally anti-Communist and apparently well disposed toward the United States.

2. Bataks

The Batak ethnic group comprises several closely related subgroups, each with a distinct dialect, and includes over 1.5 million persons. The area in which the Bataks live is centered on Lake Toba and extends westward nearly to the west coast and eastward to the coastal lowlands. The Toba Bataks form the largest and best known subgroup, numbering close to 1 million persons. They occupy the land immediately around Lake Toba as well as Samosir Island in the lake. The other subgroups occupy land farther from the lake -- the Pakpaks on the northwest, the Karos on the north, the Simelunguns on the northeast, and the Mandailings and Angkolas on the south.

Figure 25. Atjehnese people in ceremonial dress.

Figure 26. Batak man.

Figure 27. Toba Batak settlement with houses typically arranged in two parallel rows. Soldiers are members of of a PRRI rebel patrol (1958).

Most Bataks are farmers, and they grow rice as their major crop. Nearly all the Tobas cultivate wetland rice; the Karos grow both wetland and dryland rice; most farmers in the other Batak subgroups grow dryland rice on a shifting, slash-and-burn basis. The Toba lands are overpopulated and, more than any other Batak subgroup, the Tobas have emigrated to the east coast. The other Batak subgroups devote a small part of their land to commercial crops. Some coffee and vegetables are grown and sent to the markets of the east coast. Before Indonesia severed trade with Malaysia, such cash crops were sent to Malaya and Singapore. Since the boycott, the loss of income from truck gardening has been a factor contributing to lawlessness in the Batak area, particularly among the Karos, who, along with the Simelunguns reportedly had extensive truck gardens. Bataks living in the estate areas of the east coast are smallholders of rubber, although most of those who have usurped plantation lands grow rice and other subsistence crops. Many Bataks have moved to the large urban centers of Sumatra and Java, where they have taken secretarial and clerical positions in business and in all levels of government. Many Bataks also function as teachers, doctors, lawyers, surveyors, mechanics, small shopkeepers, and merchants. They have a reputation for shrewdness in business dealings, although in their homeland most traders are Malays.

Batak houses are distinctive. Most of them are strongly built, massive timber structures built on piles. Generally, one enters the house through a hole in the middle of the floor via a ladder that can be pulled up into the house at night for defensive purposes, but some houses can be entered through a small doorway at the front. The thatch roof is very high and steeply pitched, and the ridge line is usually saddle-shaped, with the gable ends extending far out over the front and back walls of the house (see Figures 28 and 29). The walls, particularly those of the chief's house, may be decoratively carved and painted. The chief's house also may have a distinctive cupola. Narrow bamboo verandas serve as work areas and social gathering places, as the interior of the house is dark, musty, and smoke-begrimed.

The Batak house accommodates up to 12 families. Usually it has no partitions except for screens of bamboo or grass that are hung at night to provide privacy for the individual families. The position of the family quarters within a Batak house usually is an indication of rank, and the quarters at the right front are generally those of the headman. The dwellings in the higher upland areas above the Lake Toba tablelands are usually less massive and less ornate than

Figures 28 and 29. Two Toba Batak dwellings on Lake Toba illustrating contrast in ornamentation and quality of construction.

those of the lowlands.

Houses of the Toba Bataks are clustered together like islands in the ricefields. The clusters generally have 10 to 25 houses in two rows facing each other across a narrow street. Karo settlements are usually larger, with the houses irregularly grouped, often around a village square. Upland settlements are usually smaller than those in the valleys. In addition to the family houses in the Batak settlements, there are various buildings that range from the small sheds used to store grain and other small buildings used as work areas by the women to the large communal houses, 50 feet long or more. The communal houses are used for meetings and festivals, for entertaining guests, and as sleeping quarters for bachelors and widowers.

On the east coast Batak hamlets are strung out along the roads that run through plantation areas, and the nondescript houses in which the Bataks live are indistinguishable from those around them.

Many of the Mandailing and Angkola Bataks who inhabit territory bordering on that of the Moslem Minangkabaus and a few of the Karo and Pakpak Bataks who live in the extreme northern part of the Batak area near the Moslem Atjehnese are Moslems. About half of the Toba Bataks are Christians; they form the largest Christian community in Indonesia. Most of the rest of the Batak people still practice animism; and even among many who nominally have been converted to Islam or Christianity, the centuries-old background of animism has not been wholly dispelled and many traditional beliefs have been retained. The Batak Church, which was established by German Lutheran missionaries in the middle of the nineteenth century, probably is the most important Protestant church among the indigenous people of Indonesia. In addition to converting many Bataks to Christianity, the Lutheran missionaries have influenced their community organization considerably. The Church has gathered a number of contiguous villages into a congregation which, in effect, has merged small village alliances into a larger social organization. The missionaries also have established educational and medical facilities in the Batak region. In recent years, the Roman Catholic Church has extended its mission operations into the region.

Each of the six Batak subgroups has its own dialect. The dialects of the northern subgroups (Karos, Simelunguns, and Pakpaks) are mutually intelligible within those three subgroups, and the dialects of the central and southern

subgroups (Tobas, Mandailings, and Angkolas) are mutually intelligible within those three. Generally, however, the dialects of the north and those of the central and southern lands are not mutually intelligible, although they share many words. The Batak language can be written in a script of Indian origin which can still be read by literate members of all groups, although during this century the Latin alphabet has been adopted. Batak literature is not extensive, and most Bataks have not learned to read and write in their own language; but many are literate in Bahasa Indonesia.

Partly because of the missionaries, education is relatively advanced in Batak territory, particularly among the Tobas. Most Batak children receive some formal education. Batak is the language of instruction in the first 3 years of elementary school; Bahasa Indonesia is used above the third grade. Bataks desiring an education above the secondary school level must go to a university in one of the larger cities of Sumatra, such as Medan, Bukittinggi, or Palembang, or to Java or elsewhere.

The Bataks have a strong sense of ethnic identity. Although many of them travel to Java and other Indonesian islands to seek employment and improve their standard of living, most retain ties with their families. Even when a Batak leaves his homeland, he does not lose his family affiliation or his property rights. A man who has not lived in the hamlet for decades may still return to collect his share of the harvest. Bataks who have left the homeland return frequently for important family ceremonies, vacations, and holidays; and a man who has traveled abroad usually returns to his homeland to seek a Batak wife. Traditionally, the Bataks are an independent people and, until recent years, they remained remarkably free from outside influence. They are suspicious of outsiders, particularly the Atjehnese and Malays as well as the Javanese and Sundanese immigrants who border on their territory. Animosities also spring up between different Batak subgroups, most notably between the Tobas and the Karos. The rancor which exists between these two subgroups was a factor in the 1958 PRRI rebellion, as most of the Tobas (as well as the Mandailings) sided with the rebels while the Karos remained loyal to the central government.

The Bataks in general have been characterized as tough, crafty, and smart, as well as outspoken and lacking in refinement and polish. Reportedly, they distrust the Javanese because of their sophisticated mannerisms.

The Bataks also have been characterized as cruel (perhaps because of their former cannibalistic practices), untrustworthy, and easy to anger. They like to argue, gamble, and play chess, and they are regarded as highly logical people. They are also musical and artistic, expressing the latter skill in the extensive ornamentation on their houses. The Karo Bataks are reported to be particularly explosive and are feared by other tribes. When times are tough the Karos commonly turn to banditry.

In contrast to many of their Sumatran neighbors but in common with the Minangkabaus, the Bataks are politically conscious of their place in Indonesian affairs. They have representatives in many key governmental positions. General Abdul Haris Nasution, Chief of Staff of the Indonesian Armed Forces, is a Moslem Batak.

Within the Batak ethnic group are elements that have a definite potential for use in paramilitary operations. The large number of Tobas and Mandailings that sided with the rebel forces during the abortive PRRI rebellion are familiar with modern firearms and still resent the Djakarta-based government; these two factors make them particularly well suited for use in paramilitary operations. The Karos, although also well versed in the use of modern arms and reportedly more warlike than other Batak subgroups, are generally more loyal to the Djakarta government.

3. Chinese

About 600,000 of the 800,000 Chinese on Sumatra and associated islands live on Sumatra, mostly in the northeastern lowland area around Medan and in the Palembang-Musi River region. There are few Chinese in other parts of Sumatra. On the off-lying islands, nearly half the people of Bangka and Billiton are Chinese; the islands of Bintan, Lingga, and Singkep also have fairly sizable Chinese communities; and the Natuna and Anambas groups have small Chinese communities. There are few Chinese on the islands off the west coast of Sumatra.

Although many Chinese in Sumatra are subsistence farmers, most of them are employed in other ways. Many are laborers in the tin mines of Bangka and Billiton and on the rubber and tobacco estates of the east coast. As elsewhere in Southeast Asia, the Chinese predominate as shopkeepers, traders, importers, and exporters. Most of the rural retailers are Chinese, although their activities have been considerably curtailed since an edict issued in 1959 by the

Indonesian Government forbade them to trade in rural areas. Some Chinese are smallholders of rubber, tobacco, or pepper; others are truck gardeners who sell vegetables in the urban areas of Sumatra. Before the trade boycott they sold their produce to the markets of Singapore and Malaya. Most of the doctors in Sumatra are Chinese, as are a large percentage of other professional men.

Even though most of the Chinese of Sumatra were born there and many look back on several generations on the island, they continue to speak the Chinese dialect of their parents. Only a few of the second or third generations abandon the Chinese dialects and speak Bahasa Indonesia exclusively. Hakka is the major Chinese dialect spoken on Bangka, Billiton, and in eastern Sumatra; Hokkien is spoken by most of the Chinese of western Sumatra; Cantonese is spoken by most of the Chinese of central and southern Sumatra and by a few on Bangka; and Teochiu is commonly spoken in the eastern part of Sumatra and in the Riau Islands. In addition to speaking their own dialect, most Chinese in the business and professional fields can communicate in Bahasa Indonesia or in a closely related Malay tongue. Reportedly, however, many of the Chinese merchants speak and understand only enough Bahasa for bargaining in the market.

Although barriers of dialect, customs, and prejudice based on district of origin often divide elements within the Chinese community, there still is a strong group conciousness among the Chinese in Indonesia. This cohesiveness has been reinforced by the upsurge in Chinese nationalism in recent years and by the generally hostile attitude of the Indonesian majority against the economically more successful Chinese. This attitude and the accompanying unfriendly acts toward the Chinese community have generated considerable ill will between the two groups. During the first half of 1960, after the edict forbidding Chinese retailers to trade in rural areas was announced, an estimated 10,000 Chinese left Sumatra for China. Because opportunities in China were poor, however, most Chinese remained in Sumatra in spite of the economic sanctions against them and the generally hostile attitude of the people. Although the Chinese do harbor resentment against the central government because of its discriminatory practices against them, as a group they are not considered to have sigificant potential for paramilitary activities.

4. Gayos

The Gayos are a primitive people who inhabit the territory

between the Atjehnese and the Bataks in the interior part of Atjeh Province. They number about 90,000. They practice slash-and-burn agriculture with dryland rice as the major crop. The Gayos reportedly live in communal longhouses. They have very little potential for paramilitary operations.

5. Indians

About 30,000 Indians live in northern Sumatra, the majority of them in Medan. About 10,000 are Indian citizens; the rest were born in Indonesia of Indian parents and are, in effect, stateless. Most Indians are employed in commercial enterprises. Although there was some official protection of the Indians during the period of discriminatory measures against alien rural traders (chiefly Chinese) introduced in 1959, the Indians also suffered from these sanctions. In general, the Indians have integrated more into the Indonesian way of life than have the Chinese. Many have intermarried with the Atjehnese and with the Malays. They do not have significant paramilitary potential.

6. Javanese and Sundanese

Most of the Javanese and Sundanese* who were encouraged first by the Dutch colonial government and more recently by the Indonesian Government to leave overcrowded Java went to Sumatra. Most of them settled in southern Sumatra, chiefly in Lampung Province; very few went to the northern part of the island. They probably number well over 500,000 in Lampung and form fairly large communities in the area south of Palembang, on the west coast near Bengkulu, and on the eastern lowlands around Medan, where they comprise 20 percent of the population.** Aside from transportation to Sumatra, the government gives these settlers free land (usually 2-1/2 acres per family) and free housing, as well as seeds, tools, and food until their first crop is harvested. After the initial subsidies, however, the central government pays little attention to the settlers and many of them have drifted back to Java; others have remained in Sumatra but have taken jobs on the east coast plantations, in the mines of Bangka and Billiton, or in the Sumatran oilfields.

* The Javanese occupy roughly the eastern two-thirds of Java, the Sundanese the western one-third.

** Many of the Javanese and Sundanese living outside Lampung Province, particularly those in the Medan region, did not come to Sumatra as part of government resettlement programs; they came to work on the plantations and in the oilfields.

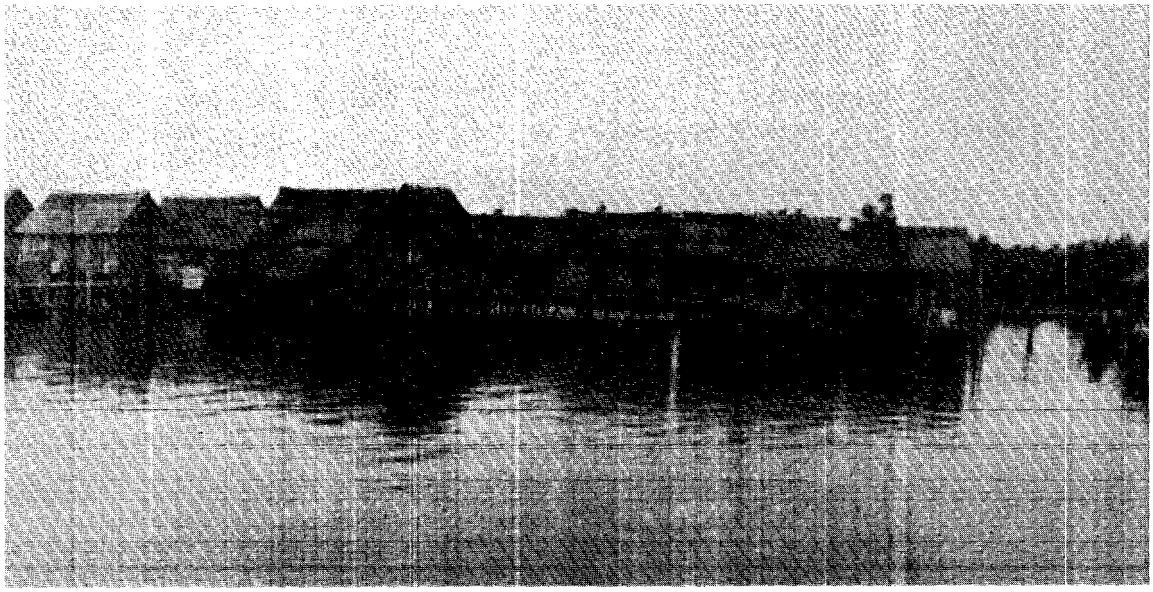


Figure 30. Chinese village along a river north of Medan.

Figure 31. A resettlement center in southern Sumatra. Such settlements provide temporary housing for Javanese settlers.

The Javanese and Sundanese in Sumatra generally have tried to reproduce the agricultural patterns of their homeland. In the new settlements, enclaves of relatively large villages ringed by wetland ricefields are surrounded by jungle, cogon grass, and patches of land cleared for dryland rice by the Lampunger shifting cultivators. Metro, the largest of the Javanese communities on Sumatra and a fairly modern city, was initially such a settlement. Unlike the soils of Java, however, those of Sumatra are not suited to intensive agriculture, and they deteriorate rapidly under cultivation of wetland rice; crop yields decrease in a relatively short time. The settlers need irrigation facilities and fertilizer, and neither has been adequately provided by the government. This has contributed significantly to the dissatisfaction of the settlers and has turned them toward cooperative buying and growing commercial crops, such as coffee or rubber, on the land that is unsuitable for wetland rice, but generally these ventures also have been unsuccessful.

The Javanese are nominally Moslem but are characteristically less orthodox than other Moslem peoples of Sumatra. The Sundanese are fervent Moslems. Although the immigrant settlers from Java have significantly different social customs and laws from their neighbors in Sumatra, the generally cool relationships between the two groups have not flared into open hostility. The indigenous people resent having the Javanese and Sundanese move into their area and take over what these local people consider to be their land. They also resent the economic assistance that is given to the settlers by the government. Ironically, the settlers themselves usually resent the lack of help from the government after the initial subsidies have been provided.

The Javanese on Sumatra are a nonmilitant people who, in spite of being neglected by it, are generally loyal to the Djakarta government. They have little potential for use in paramilitary operations. In view of the participation of the Sundanese of western Java in Darul Islam terrorist activities, some of the Sundanese now living in Sumatra may be potentially useful for paramilitary operations.

7. Kubus

The Kubus are a primitive people who live in the eastern swampy region of Sumatra between Djambi and Palembang. They number about 20,000. Although perhaps most of them are now sedentary farmers, many are still nomadic and subsist by collecting wild fruits and vegetables and hunting and

trapping animals. The nomadic Kubus are organized into small bands that comprise several family units. There is no social organizational unit above the band. They live in makeshift huts, some of which reportedly have been built in trees. Their language is similar to the languages of the Malays and Minangkabaus. The Kubus have been characterized as a shy and furtive people. They have no paramilitary potential.

8. Lampungers

The Lampungers, who number over 400,000, occupy the southern tip of Sumatra. Most of them are rice farmers. Those who live in the well-drained parts of the interior practice slash-and-burn agriculture, but the farmers in the coastal areas, who have come in contact with the wetland farmers from Java, are slowly adopting methods of irrigated agriculture. The Lampungers practice little commercial agriculture other than occasionally growing pepper and coffee as cash crops, nor do many participate in nonagricultural commercial pursuits. The Lampungers are nominally Moslems. Their language, which is related to that of the Malays, is written in the Indian script. The Lampungers probably have little paramilitary potential

9. Malays

The Malays, who are estimated to number between 4 and 5 million on Sumatra, occupy the eastern lowlands from the border between Atjeh and Sumatera Utara Provinces (north of Medan) almost to the southern tip of the island. They also occupy the islands of the Riau-Lingga Archipelago (where they number nearly 250,000), the Natuna and the Anambas Islands in the South China Sea, and the islands of Bangka and Billiton. Although all of these people share a common cultural heritage, the Malay ethnic group is not a uniform nor a cohesive one. A wide range of cultural elements of language, economy, and social customs contributes to its heterogeneity. Although the religious fervor of the Malays does not approach that of the Atjehnese, the Islamic religion is by far the most powerful unifying element in the lives of the Malays and has produced a group consciousness among them.

The majority of Malays are sedentary farmers who grow wetland rice as their major crop. Many Malays (particularly those living in the islands) are fishermen, many are traders, others are smallholders growing rubber, tobacco, and other cash crops, and still others are laborers on the east coast plantations. Before Indonesia increased its antismuggling patrols, many Malays in the Riau Islands were engaged in

Figure 32. Lampunger people in ceremonial attire.

Figure 33. Typical native dwelling on Bangka Island.

Figures 34 and 35. Malays of Palembang area in traditional dress.

smuggling rubber and copra to Singapore. Some continued to smuggle in spite of the patrols -- probably with the tacit approval of the Indonesian Government -- but after Malaysia's ban on barter trade with Indonesia in August 1964, all but the most foolhardy stopped the practice.

The language of the Malays has several mutually intelligible dialects. The languages of the Atjehnese and Minangkabaus are similar to Malay, and a speaker of one probably can make himself understood to a speaker of another. The Malay language, which has a strong affinity to various regional languages throughout Indonesia but not necessarily mutual intelligibility with them, has provided the basis for Bahasa Indonesia. Traditionally the Malay language has been written in Arabic script, but now the Latin alphabet is commonly used.

Although numerically superior to all other ethnic groups living in the eastern lowlands, the Malays historically have had a feeling of insecurity because of the more aggressive nature of other peoples of the region, particularly the Bataks, the Javanese, and the Chinese. The Malays dislike and fear the Bataks and Javanese who have come into the eastern lowlands during this century and have taken lands and jobs previously held by Malays. The resentment against the Chinese has been created primarily by the superior economic position of Chinese businessmen who have forced many Malays into a debt-ridden existence.

Because the Malay ethnic group of Sumatra is so large and heterogeneous, it probably contains a sizable number of persons who could be effectively used in paramilitary operations. As a group, however, the Malays are not a militant people and have no history of armed dissidence; few of them took part in the rebellions of the 1950's. In the event of continuing hostilities between Indonesia and Malaysia, the close ties between the Malays of Sumatra and their ethnic brothers across the Strait of Malacca could make the Malays of greater significance in terms of their possible use in future paramilitary operations.

10. Mentawaians and Engganese

The population of the Mentawai Islands totals about 30,000 and is evenly distributed over the four main islands -- Siberut, Sipura, Pagai Utara, and Pagai Selatan. The population of Enggano is under 500 and reported to be decreasing. Some of the people living in the coastal areas of the Mentawai Islands are recent immigrants from Sumatra

(mostly Minangkabaus); on Siberut a few of the coastal people have recently come from Nias.

Although some of the coastal people grow wetland rice, most of the islanders have a very primitive economy, and sago, bananas, sugarcane, coconuts, and root crops such as taro form the staples of their diet. Unlike the landlubbers of Nias, the people of the Mentawai Islands have a seafaring tradition. Neither the Mentawaians nor the Engganese have any potential for use in paramilitary operations.

11. Minangkabaus

Almost all of the approximately 2.3 million people listed in the 1961 census for the province of Sumatera Barat are Minangkabaus. The contiguous regions of the neighboring provinces of Sumatera Utara, Riau, and Djambi as well as the Nias and Mentawai Islands along the west coast of Sumatra also have sizable Minangkabau populations. Combined, the Minangkabaus in all of Sumatra probably number close to 3 million. Their major area includes the western uplands and adjoining coastal stretches extending from just north of Sibolga southward as far as Lake Kerintji. The most densely populated Minangkabau regions are the valleys around Bukittinggi and near the coastal city of Padang. Many Minangkabaus have left their homeland and gone to the larger cities of Sumatra and other islands of Indonesia, particularly Java, as well as to Malaysia and Ceylon.

Most Minangkabaus on Sumatra are farmers who grow rice on a subsistence basis. In recent decades, however, there has been a significant shift from subsistence crops to commercial crops -- sugarcane, coffee, tobacco, rubber, coconut, and palm oil -- which has contributed to a rice deficiency. Most farmers grow wetland rice, but dryland rice is cultivated on the steeper slopes where irrigation is not feasible.

The Minangkabaus are enterprising traders and astute businessmen. Except for the Atjehnese, they are the only people on Sumatra who can compete successfully with the Chinese, and therefore fewer Chinese merchants come to Minangkabau territory than to other parts of the island. The Minangkabaus have provided a disproportionately high percentage of Indonesia's professional men and intellectual leaders -- physicians, lawyers, novelists, poets, and religious leaders -- as well as traders and merchants. Few of these men who tend to form a new middle class have remained in their homeland. Instead, they have settled in the larger cities throughout Indonesia. Many of the

Figure 36. Girls of the Mentawai Islands.

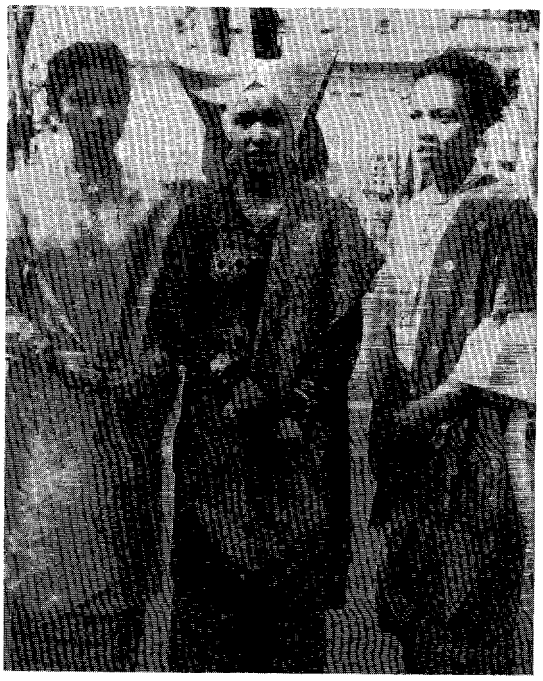
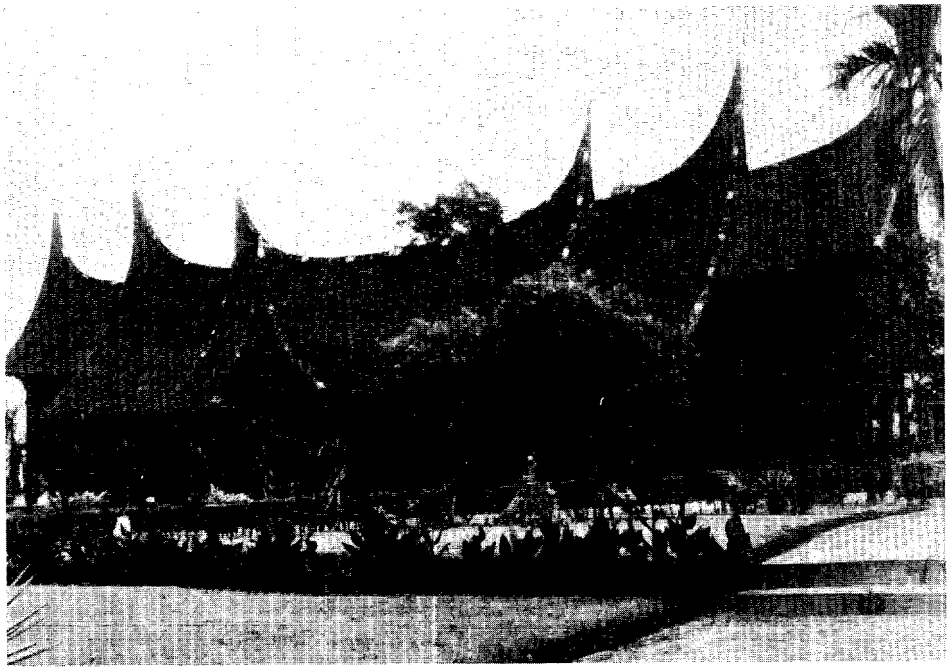


Figure 37. Minangkabau women. The strangely shaped Minangkabau headdress is unique among Sumatran women.



Figures 38 and 39. Two Minangkabau houses. Ornamentation indicates that these buildings house wealthy families.

intellectual elite among the Minangkabaus were revolutionary leaders against the Dutch during the struggle for Indonesian independence. Ex-Vice President Hatta and ex-Prime Minister Natsir are Minangkabaus.

Traditionally, the social system of the Minangkabaus has been matriarchal and matrilineal, but it has been significantly undermined in this century. In traditional Minangkabau society, lineage defines not only kinship and inheritance, but provides the basic organizational principle for the community. The husband, who moves into his wife's home, is still obligated to his original village and never acquires property rights in his wife's village. The Minangkabau man is often dissatisfied with his lot in this type of society; he may therefore be receptive to recruitment for paramilitary operations or for any employment in places where he will have a better chance to attain wealth.

Minangkabau houses are distinctive and easily recognizable (see Figure 38). They are rectangular in plan and are raised on piles. The ridge line of a Minangkabau house, like that of a Batak house, is saddle-shaped and has ends terminating as points that resemble the horns of a water buffalo. The houses are expanded as the number of occupants increases, and the additions often are narrower and higher above the ground than the main house. Until recently, roofs have been thatched, but now galvanized tin or iron sheets are commonly used. Houses of poorer families generally have bamboo walls; those of wealthier families have walls of timber, which may be beautifully carved and painted in intricate patterns. A communal living room extends the full length of one side of the house. The other side is partitioned into individual family apartments (each with one or more rooms), arranged in order of rank. The headwoman usually occupies the center apartment. The number of apartments in a Minangkabau house varies but may be as many as 16 family units. As the number of units increases, annexes may be built nearby to house new members.

With few exceptions, Minangkabau houses are clustered together in small groups to form a hamlet. The inhabitants of the hamlet are at least distantly related. Until recently, marriage within the hamlet was not allowed, but since the hamlets are becoming so large, special consent is given for endogamous marriages in some instances. In addition to the family houses, the hamlet includes rice granaries and a communal house used for meetings and as sleeping quarters for the boys of the hamlet.

The language of the Minangkabaus is closely related to that of the Malays and is written in Arabic script. Because of their early accommodation to Dutch rule, the Minangkabaus had a headstart over other Indonesian ethnic groups in the development of a system of education based on a Western model. As a result, the Minangkabaus as a group are better educated than their Sumatran neighbors and the literacy rate is relatively high among them. Although there is one university in Minangkabau territory (Bukittinggi), most of the Minangkabaus who have received an education above the secondary level have studied in Java or the Netherlands. Although most Minangkabaus are Moslems (they were converted by the Atjehnese) and adhere to the demands of that faith (observance of fasts, acceptance of Allah, calls to prayer, and abstinence from eating pork and drinking alcoholic beverages), they still retain vestiges of an animistic religion.

The Minangkabaus are characterized as a vigorous and ambitious people with a strong sense of group identity. They have been severe critics of the central Indonesian Government and of the apparent official neglect of the Outer Provinces in favor of Java. The Minangkabaus have been determined agitators for self-government, and their desire for greater regional autonomy led to the PRRI rebellion in Minangkabau territory during the 1950's. Since 1959, when the resistance was reduced to sporadic guerrilla action, the central government has tried to "integrate" and "normalize" the Minangkabaus, but resentment against the Djakarta regime still prevails. Relations between the Minangkabaus and the Javanese government officials and army personnel in western Sumatra are reported to be peaceful but cool.

Although little hostility is apparent on the surface, a reservoir of ill will toward the Djakarta government still exists among the Minangkabaus. This antipathy as well as the restrictive aspects of their social system would make the Minangkabau ethnic group particularly receptive to recruitment of individuals for paramilitary operations. Their familiarity with modern firearms, gained largely during the PRRI rebellion, would make the Minangkabaus especially useful.

12. Natuna and Anambas Islanders

Little information is available on the people of the Natuna and Anambas Island groups. The population is mixed but is comprised mostly of Malays. There are Chinese communities on the larger islands, and reportedly, some Javanese, Minangkabaus, and Buginese (a seafaring people from Celebes)

also live on the islands. The original inhabitants were the Orang Lauts (see subsection K-14), but on all except the more remote islands, they have been assimilated into the Malay community. The population of the Anambas Islands is estimated at about 12,000; that of the Natunas is reported to be about 10,000, most of whom live on Great Natuna, the largest island in the group. The Natuna population includes several hundred Chinese and a military contingent stationed at the airfield south of Ranai. Most of the people of the islands live in small coastal villages and are engaged in subsistence farming. Lack of information precludes an accurate assessment of the paramilitary potential of the inhabitants of these islands, but it is believed to be insignificant.

13. Niassans

According to 1961 census figures the population of Nias, the most densely settled island off the west coast of Sumatra, is about 315,000. Little information is available about the people occupying Simeulue Island, north of Nias, or those of the Batu Islands, south of Nias. A few Atjehnese live on Simeulue. The Batu Islands reportedly are occupied by about 20,000 people culturally similar to the peoples of southern Nias. Most Niassans are subsistence farmers who grow rice and sago as the staples of their diet. In the south, cash crops such as coffee, copra, and cloves are raised. Although the Niassans have a reputation for feuding among themselves, their isolation from Sumatra limits their potential for paramilitary uses.

14. Orang Lauts (Sea Nomads)

The Orang Lauts live in boats along the shores of the islands of the Riau Archipelago, Bangka, Billiton, and the Anambas and Natuna Archipelagoes, and along the east coast of Sumatra opposite the Riaus. During foul weather they build shelters along the shore. Many have settled permanently along the east coast of Sumatra and on adjacent islands, where they cultivate plantations of coconuts. Like that of the Kubus, the social system of the Orang Lauts is simple and has no organizational unit above the band. Most Orang Lauts are nominally Moslems. They are not believed to have significant potential for paramilitary operations.

15. Redjang-Lebongers

The Redjang-Lebonger people number about 400,000. They are considered by some authorities to be one group, and by

Figure 40. Niassans in ceremonial attire.

Figure 41. Orang Laut houseboats on the Musi River near Palembang. They are a familiar sight along Sumatra's east coast and along the shores of islands east of Sumatra.

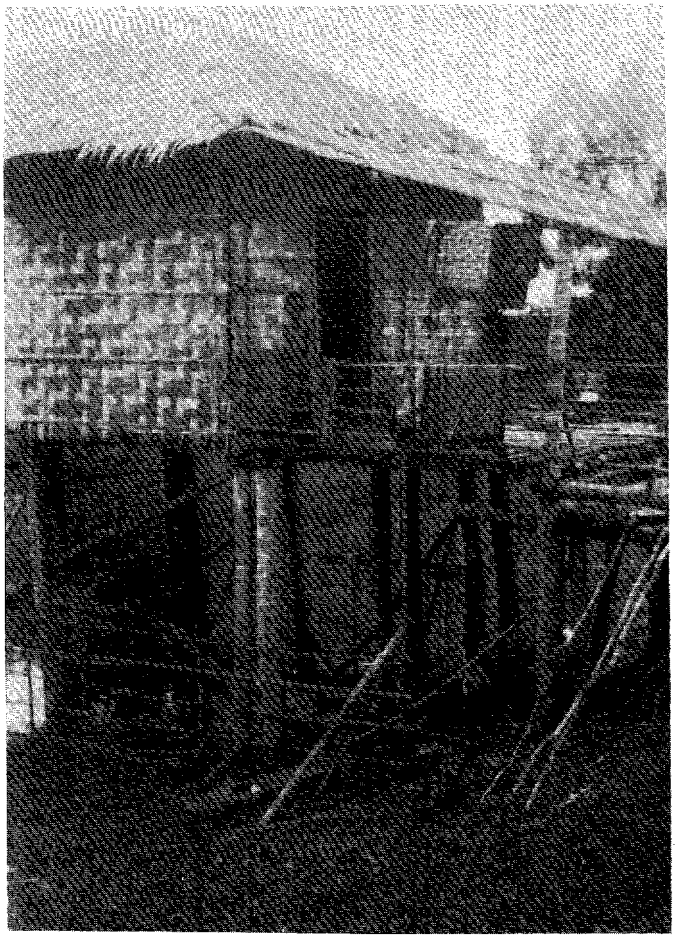


Figure 42. House of type occupied by Lampungers and Redjang-Lebongers.

Figure 43. Girls of the Redjang-Lebonger ethnic group in traditional dress.

others two closely related groups. They occupy the upland area of southwest Sumatra and the adjacent coastal stretch centered on the city of Bengkulu. The Redjang-Lebonger group has close cultural affinities with the Minangkabaus and the Malays, their neighbors on the north and east, respectively. The Redjang-Lebongers are not as advanced culturally, however, and they have a relatively primitive economy. Most of them are shifting cultivators of rice.

The Redjang-Lebongers are nominally Moslems, although they retain many elements of their earlier animistic beliefs and are lax in their Moslem religious observances.

The language of the Redjang-Lebongers uses an Indian script in which a fairly extensive literature has been written. Many of the Redjang-Lebongers, particularly those living in the region contiguous to the Minangkabaus, can speak the language of the Minangkabaus. The Redjang-Lebonger group is not believed to have significant potential for use in paramilitary operations.

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V. Politics and Government

A. Current Problems

The departure of the Dutch left Indonesia unprepared for the problems of independence. There was only a small pool of technical and administrative personnel, and the principal problem was to unify a largely illiterate, geographically dispersed, ethnically diverse, and regionally oriented population into a single nation. The problem was complicated by chronic insurgency during most of the 1950's. Considerable progress has been made since 1949 in raising literacy levels, developing a national language, and bringing about social and political unity, although none of these problems has been completely solved.

Indonesia's greatest internal problem is its stagnant economy. Since independence, the economy has suffered from inattention, mismanagement, a swollen military budget, inflation, declining foreign exchange earnings, and shortages of food and basic necessities. The greatest obstacle to economic progress is President Sukarno himself, who, together with his closest advisers, has little understanding of economics and persists in giving his own and the nation's political prestige first priority.

Sumatra suffers from all these deficiencies, although living standards there are considerably above those on over-crowded Java. Sumatra has been especially hard hit by the decline in export prices, especially rubber. The confrontation with Malaysia has cut off a primary market and source of revenue for the island. There also remains considerable animosity between various tribal and religious groups on Sumatra. This has hindered political and social unity. Friction between Sumatra and the central government and the existence of bitter anti-Javanese sentiment on Sumatra is discussed in detail under Section G.

B. Structure of Government

Sumatra, including associated islands, is divided into seven provinces. Their names and capitals are: Atjeh (Banda Atjeh); Sumatera Utara (Medan); Sumatera Barat (Bukittinggi); Riau (Pakanbaru); Djambi (Djambi); Sumatera Selatan (Palembang); and Lampung (Telukbetung). Called first-level regions (Daerah I), the provinces are divided into from 3 to 14 regencies (Kabupaten) which together with the cities, are called second-level regions (Daerah II).

The highest provincial official is the Regional Executive Authority instituted by an executive decree of 14 September 1964. Except in the province of Riau, where the provincial governor holds this post, executive provincial authority has been vested in the area army commander. The executive authority is responsible directly to President Sukarno and to the two "super-government" councils, both of which are chaired by Sukarno -- the Supreme Operational Command (KOTI -- essentially a military council) and the Supreme Economic Operational Command (KOTOE).

The executive authority is required to consult with the five-man administrative team of each province known as the Pantja Tunggal (Five-in-One-Command). The Pantja Tunggal consists of the governor, the highest military commander in the area (of the army, navy, or air force), the provincial police chief, the provincial representative of the attorney general, and the chairman or deputy chairman of the National Front. The decree states that the executive authority "must as much as possible" reach unanimous decisions with the Pantja Tunggal.

The provincial governors and the heads of the regencies and cities are appointed by the central government and also serve as chiefs of the central government's civil service. The provincial legislative councils are appointed by the central government upon the nomination of the governor, and the regency legislative councils are appointed by the provincial governors upon the nomination of the regents. At present the legislative councils, which are merely rubber stamps, are made up 50-50 of representatives of political parties and functional groups. Small (normally 3 to 5 man) Daily Executive Boards are appointed by the province and regency heads and perform the main administrative tasks. The planned governmental structure for third-level regions -- sub-districts and villages -- (Daerah III) has not been fully implemented throughout Sumatra, and the village-level organization tends to vary according to traditional boundaries and customs such as among the Marga of South Sumatra, the Negeri of the Minangkabaus in western Sumatra, and the Kampong of some Malay areas. Village leaders are often selected for a more or less permanent tenure.

The judicial system consists of a National Supreme Court and state courts. There is a first-level state court at Medan, and a second-level state court is located in each regency. There is a superior court of appeals at Medan. Village officials also dispense justice according to local customs, and traffic and juvenile courts exist in some areas.

C. Current Administration

The names of the present provincial governors on Sumatra are as follows:

Atjeh - Col. Njak Adam Kamil (Acting)
North Sumatra (Sumatera Utara) - Ulung Sitepu
West Sumatra (Sumatera Barat) - K.D.R. Basa
Riau - Col. Kaharuddin Nasution
Djambi - Lt. Col. Abdul Rachman
South Sumatra (Sumatera Selatan - Brig. Gen. Iazid Bustomi (Acting)
Lampung - Kusno Danupojo (Acting)

Very little is known of the political orientation of the Sumatran officials. Ulung Sitepu, governor of North Sumatra, is reported to be unfriendly to the US and sympathetic to Communism, and in 1964 was reported [redacted] 25X1
25X1 [redacted] to be active in a Communist paramilitary group comprising pro-leftist Karo Bataks and Chinese Communists. Although a native Sumatran, Sitepu was loyal to the central government during the rebellion.

Governor Kamil of Atjeh is also a native Sumatran and is highly respected in Atjeh. He speaks no English but has been reported as friendly to Americans. Governor Kaharuddin Nasution of Riau is reportedly anti-Communist and friendly to American officials, although he speaks little English. Governor Rachman of Djambi, who speaks excellent English, is also believed to be friendly to the West.

Among the military commanders, Lt. Colonel (Navy) J. Saelamet, head of KODAMAR I* (Atjeh, North and Central Sumatra) and Colonel (Army) M.I. Djuarsa have received advanced training in the US and are friendly to the US. Colonel (Army) Darjatmo, Commander of KODAM II* (North Sumatra) and Lt. Colonel (Air Force) Kardono, Commander of KORUD I* (Medan) are also US-trained. Major General Mokoginta, commander of the Sumatra and Interregional Command, is pro-West, is US-trained, speaks good English, and is friendly with Americans.

D. Foreign Relations

The formulation of foreign policy is a function of the central government, and the provincial governments play no part in the process. The Indonesian Government claims to follow an "active and independent" foreign policy aimed at maintaining friendly relations with all powers and blocs, but in practice

* See Chapter IX

its policy leans toward the Communist Bloc. Relations with other Asian nations are generally friendly, except for its confrontation with Malaysia and a coolness toward India. Indonesia's relations with North Korea, North Vietnam, and Communist China are more cordial than with South Korea, South Vietnam, and Nationalist China.

Indonesia's colonial experience and the incidents of its independence movement have given its foreign policy a strong anti-Western bias. Its basic aim in the UN is to oppose colonialism. The nationalist leaders were strongly influenced by Marxian socialist theory which provides both a rational explanation of Western colonialism and an ideological weapon against it. Capitalism and free enterprise are identified with exploitative colonial practices and are attributed to imperialist motives. The failure of parliamentary government in Indonesia is widely regarded as due to Western principles of political liberalism which encouraged factionalism and led ultimately to a Western-supported rebel movement in 1958. As a result of these interpretations of their history, Indonesians do not identify their interests with those of the non-Communist Western nations. Sukarno's analysis of world politics as a struggle between the old colonial forces and the "new emerging forces" parallels Communist themes and further identifies Indonesia's foreign policy objectives with those of the anti-Western nations. The anti-Malaysia campaign, although expressed in terms of anti-colonialism, is essentially a manifestation of Indonesia's hope to establish eventual hegemony over all the Malay peoples in the area.

E. Political Parties

Political parties in Indonesia, all of which are influenced to some degree by Marxism, have been relegated to a minor role by President Sukarno's "guided democracy" concepts. In early 1960 a National Front was formed under Sukarno's leadership for the purpose of amalgamating political parties and special interest groups into one semi-official organization to provide mass support for state policies. At the same time, the number of political parties was reduced from 40-odd to 10, and all were required to affirm their allegiance to the government. The largest political party, the Masjumi, a Moslem, anti-Communist organization whose leaders supported the rebellion on Sumatra, and the anti-Communist Socialist Party of Indonesia (PSI), were among those banned. All local political parties were abolished. With key political posts subject to approval by the central government, and with elections repeatedly postponed, the remaining political parties have been hard put to maintain a meaningful existence.

The "big three" of the legal parties are the Indonesian Nationalist Party (PNI), the Moslem Scholars (NU), and the Communist Party (PKI). The minor legal parties are: Indonesian Party (Partindo); Proletarian Party (Murba); Islamic Union Party (PSII); Islamic Unity Party (Perti); Catholic Party (Partai Katolik); Christian Party (Parkindo); and Association of Supporters of Indonesian Independence (IPKI).

The PNI reflects the mainstream of secular nationalism, its original leaders having been among the prewar revolutionary elite. It is anti-capitalist and neutralist, and occasionally cooperates with the Communists. It tied the banned Masjumi for the highest number of seats (57) in the 1955 parliamentary elections but slipped to third in the local elections of 1957-58 and is still declining. The present chairman is Ali Sastroamidjojo, a moderate leftist and opportunist.

The PKI, which supports Peiping on most issues in the Sino-Soviet dispute, may now be the largest political party in Indonesia. Centered on Java, the PKI polled the fourth largest vote (16.4 percent) in the 1955 elections and improved its position considerably in local elections held in 1957. The PKI is organized on standard Communist lines. It avoids direct criticism of President Sukarno. About 25 percent of the appointed national legislature and top advisory agencies created during 1960 are PKI members or are susceptible to Communist direction. Approximately 80 percent of the membership in the Secretariat of the National Front is oriented toward the PKI. In August 1964, Second Deputy Party Chairman Njoto was named one of four ministers attached to the presidium -- a body comprising the three Deputy Prime Ministers, who are chiefly responsible for administering the government. Chairman of the Party is D.N. Aidit. Regional PKI leaders on Sumatra are: Atjeh, Muhammad Samikidin; North Sumatra, Djalaludin Nasution; Riau, Abdullah Alihamy; Djambi, Ademan Rachman; and South Sumatra, A. Imron.

The NU (Moslem Scholars) is the "religious conservative" wing of the Islam movement which broke away from the "religious-socialist" Masjumi in 1952. It won the third highest number of seats in the 1955 elections, but now probably ranks in second place. The party believes that Islam should be the basis for the Indonesian state but is less rigid than the other Islam parties on religious principle. It takes an anti-Communist stance but has not rejected Communist support. The NU was divided in loyalties during the rebellion in Sumatra and did not play a major role in that struggle. With the exception of Atjeh which is a Masjumi-Darul Islam stronghold, the NU probably is the strongest party in Sumatra. Chairman of the NU is Idham Chalid.

Among the minor parties, the PSII (Islamic Union Party) is a leftist Moslem party which has not taken a strong stand against the Communists. It won eight seats in the 1955 elections. Its leader, Arudji Kartawinata, frequently opposes US policy in the Far East and has participated in Communist fronts. Perti (Islamic Unity Party), headed by Hadjis Abbas, is Communist-controlled. It won four seats in the 1955 elections, all from Sumatra where it was founded. IPKI (Association of Supporters of Indonesian Independence), which originally was established as an anti-Communist party with army influence, is now split into left and right wings headed by fellow-traveler Mrs. Ratu Aminah Hidajat and Sugirman respectively. Murba (Proletarian Party) is a "national" Communist party which won two seats in 1955. It has very little influence on Sumatra. Partindo (Indonesian Party) was formed in 1958 by the defection of a large pro-Communist segment of the PNI and is under tight control of crypto-Communists. The Catholic and Christian Parties, headed by Frans Seda and Tambunan respectively, represent their religious faiths.

Despite its illegal status, Masjumi influence, particularly in Sumatra, remains strong. It is continuing to maintain some influence through such front organizations as the social-religious Muhammadijah and the Islamic University Students Association.

F. Influence Groups

The three centers of power in Indonesia are President Sukarno, the Army, and the Communist Party. Sukarno continues to hold a preeminent position in Indonesia even though his popularity and area for political maneuver have diminished. He has permitted the Communist Party to develop impressive strength and is gradually offering the Communists increased influence at provincial and national levels of government. Although he still uses the army as a check against the party, in the past year he has reduced the army's political role and its freedom to take anti-Communist action. Neither the Communists, however, nor national economic difficulties -- which Sukarno largely ignores -- appear to constitute an immediate threat to him.

The key positions in government and society are controlled by only a few hundred of the ruling elite, most of whom played an active role in the revolution against the Dutch, have advanced Western-style education, and are connected with the Javanese aristocracy. The elite control the government, the military, the political parties, the mass organizations, and the mass media, but divisions and power struggles tend to limit their power. Their influence is supplemented at the local level by the intellectuals, teachers, religious leaders, military commanders, and the village

heads. Business leaders are less influential than in most countries since the government's heavy involvement in the economy makes them dependent on the politicians. Students participate in political activities through youth organizations. The students in the past have been politically apathetic but are beginning to assert themselves.

Mass organizations and local associations are important channels for government efforts to mold public opinion. In addition to the government's Communist-dominated National Front, mass organizations are sponsored by the army, the political parties, religious groups, and labor federations, all of which must curry Sukarno's favor to survive. The Communist-controlled labor federation (SOBSI), with a claimed membership of 3 million, dominates the labor field. The Moslem-oriented GASBIINDO, the NU-sponsored SARBUMUSI, and the Army-sponsored SOKSI labor organizations are anti-Communist. The KBM and the KBKI are nationalist labor organizations. Other labor federations include the small, Moslem-based organization GOBSI-Indonesia and the Murba-dominated SOBRI. Youth, women's, and peasants' organizations, usually associated with a political party, are extensively utilized as pressure groups.

The closing in 1960 of the opposition press, President Sukarno's condemnation of anti-Communism, and Communist domination of the government news agency Antara has created a strongly Communist-influenced press. Among the national press, the Harian Rakjat (the PKI official newspaper), Warta Bhakti, Bintang Timur, Warta Berita, and Economic Nasional are pro-Communist. The Berita Indonesia is pro-Murba (national Communist). The SOKSI-backed Pelopor, army-subsidized Semesta, Parkindo-oriented Sinar Harapan, and the NU organ Duta Masjarakat, although anti-Communist, are restrained in criticizing the Communists. The PNI daily, Suluh Indonesia, is fuzzy in its political outlook and is frequently used as a government outlet. The Chinese press was closed in 1962, but since late 1963 a few leftist Chinese newspapers have been permitted to reopen. All the major cities in Sumatra produce several newspapers, usually oriented toward a political party or a cultural group, but an evaluative list is not available. The two largest Sumatran newspapers, both published in Medan, are the nationalistic Waspada with a circulation of 33,000 and the Mimbar Umum, an independent paper with a circulation of 17,000.

G. Subversion and Insurgency

1. General

Subversive and dissident activity in Indonesia has been the legacy of the long struggle for independence, of the competition

of political forces in the post-revolutionary period, and of the nation's geographic and ethnic complexity. The establishment of a stable government has been retarded by the presence in the revolutionary leadership of competing groups motivated by Islamic, Communist, secular, regional, and ethnic principles.

Dissident activity in Indonesia has been nearly continuous since 1950. Leaders of irregular forces who had won considerable local power by their revolutionary activities against the Dutch resisted the Indonesian Government's efforts to centralize control. The predominance of Javanese among the bureaucracy, both civil and military, fanned ethnic resentment in non-Javanese areas. The growth of Communism in Java contributed toward stiffer regional resistance to the central government. The inept performance of a legislature absorbed with political rivalry and inattentive to economic deterioration encouraged both open rebellion in parts of several areas of Indonesia, including Sumatra, and the replacement during 1959 and 1960 of the parliamentary system with an authoritarian form of government.

Widespread surrenders of rebel bands in 1961 were concluded in a conciliatory atmosphere designed to heal domestic rifts in order to present solid national support for the campaign to wrest West New Guinea from the Dutch. Likewise, the political fortunes of the anti-Sukarno politicians declined following the arrest of many of them on trumped-up charges of plots against the state. Among them were prominent leaders of the independence movement, former prime ministers, and anti-Communist political party leaders. The reaction by non-Communist elements has been a deepened pessimism and apathy rather than an attempt to organize more forceful opposition to Sukarno's programs.

Although separatist sentiment is no longer strong in Sumatra, old rivalries between Sumatra and Java continue to smolder. The emphasis placed by Islam and Christianity on personal effort to gain salvation, and the entry of these religions into Sumatra through foreign missionary activity and international trade have promoted among the Sumatrans a stronger sense of individualism, a wider acceptance of foreign influences, and a greater value for commercial activities than exist in Javanese society. Discontent on Sumatra stems from a variety of grievances: the disproportionate influence of Javanese in the local bureaucracy; the arbitrary arrests of Islamic political leaders; increased central government control over education; the central government's toleration of the growth of Communism; the inadequate allocation of tax revenues and foreign exchange to Sumatra; and the deterioration in the Sumatran economy due both to inept government and to the ban on trade with Singapore and Malaya. As a result, there are many dissatisfied groups on Sumatra, including regional groups opposed to centralized rule, religious

extremists, ex-rebels, certain occupational groups, private entrepreneurs, poorly-paid bureaucrats, and harassed Chinese businessmen. However, these groups are divided by ideological and ethnic differences and by personal disputes among the leaders.

In early 1964 there were reports of increasing terrorism and banditry among the Darul Islam (DI) in Atjeh and among the ex-rebels in West Sumatra. Unconfirmed reports indicate that a substantial number of army troops throughout Sumatra deserted during 1964 with their weapons, including at least two entire battalions. Although some of these desertions were probably for the purpose of banditry, the reports indicate that there is considerable discontent among the troops over treatment of the ex-rebels and a lack of sympathy for the anti-Malaysia campaign which the Sumatrans feel is a "Javanese" war. In September, elements associated with the outlawed Masjumi Party were reportedly organizing ex-rebels (PRRI and DI) in Sumatra and elsewhere with the aim of overthrowing the Sukarno Government. Another clandestine group, comprising ex-rebels and coastal Malays, was reported to be advocating Sumatra's secession from Indonesia. These groups are known to the Indonesian authorities, however, and their prospects are probably limited.

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2. Communist Party (PKI)

The PKI is the major subversive threat to the state. Believed to be the largest Communist party outside the Bloc and with a membership of 2 to 2-1/2 million, the PKI is well-organized, well-financed, and capably led. With its front organizations, it probably could muster from 10 to 12 million persons susceptible to its direction, and would probably win from 35 to 40 percent of the vote in an election at this time. It is supported domestically by strong front organizations and assisted from abroad by financial support and by large amounts of Bloc military and economic aid. It has heavily infiltrated the government at both national and local levels. In addition to one Communist attached to the presidium, two pro-Communists are serving as Ministers of Justice and Labor. The National Front, designed to harness all organizational activity behind the government's programs, is a major target of penetration. The party also has a clandestine structure which is probably capable of maintaining the party's existence in an illegal status.

The Communist Party has twice (1926 and 1948) attempted a forceful overthrow of the government, but failed because of inadequate preparation. The party's paramilitary capabilities today are limited by an apparent lack of arms, although elements of the PKI's peasant and youth fronts have participated in military training programs. Unable to challenge the army, the party has emphasized cooperation with Sukarno's programs, the development of popular support, and the building of its capability for disruptive activity through a widespread net of legal mass organizations. The Communists have repeatedly proved their ability to organize large and angry demonstrations throughout Indonesia. The more important of the Communist-controlled front organizations are: All-Indonesia Central Labor Organization (SOBSI); People's Youth (Pemuda Rakjat); Indonesian Peasants Corps (BTI); Indonesian Women's Movement (GERWANI); a veterans'organization, Movement for the Development of Indonesia (Gerpi); Indonesian Federation of Student Youth Organizations (IPPI); People's Art and Culture Society (LEKRA); and the Indonesia Peace Committee. The Indonesian Citizenship Consultative Body (BAPERKI) is a Communist-controlled organization ostensibly formed as a non-political body to protect the rights of Indonesians of foreign descent, in reality the Chinese, and has branches throughout all of Indonesia.

The wide range of PKI organizational and propaganda activities indicates heavy subsidization from foreign Communist sources, the greater part apparently being provided by China either directly or through the Chinese minority. There is some discontent within the party over the party's tactical support of Sukarno, and factional differences between adherents of Peiping and Moscow. The party is pro-Peiping on the issues in dispute between Communist China and the USSR. Domestically, however, the party follows the Soviet line of cooperation with the "national bourgeois leadership."

Although growing, and strong in the major cities, the PKI is probably not yet the predominant party anywhere in Sumatra. This is because of the strongly religious base of some elements of the population, the relatively good living conditions, and the identification of the PKI with Java. However, the PKI is filling some of the vacuum left by the banning of the predominant Masjumi party, and is exercising considerable influence through pro-Communist Javanese officials assigned to Sumatra, as well as through SOBSI, the Communist-controlled fronts, and the mass organizations. 25X1

The Communist Party, [redacted] has a nucleus of paramilitary strength in Sumatra. It is strongest in the crucial spots in the economy such as on the

plantations and in the oil, transportation, and communications installations. The American-owned rubber estates have been a particular target for Communist agitators. No estimates are available as to Communist strength on Sumatra, except in the province of West Sumatra where local officials in mid-1963 estimated there were 120,000 party members in a 2 million population. Communist influence on Atjeh is virtually non-existent, but is strong in the Medan area of northern Sumatra where harassment of American plantations and official installations has intensified during 1964. Communist influence is also important in southern Sumatra due to the presence of large numbers of immigrants from Java.

3. Other Pro-Communist Parties

a. Proletarian Party (Murba) -- Murba is a "national" Communist party which aligns itself with the PKI on most issues. It exerts a political influence far in excess of its electoral strength because of the close personal relationship which its leaders enjoy with President Sukarno, several Murba-oriented Cabinet ministers forming part of the "palace clique." It differs from the PKI in its advocacy of evolutionary rather than revolutionary methods of bringing about socialism, its rejection of atheistic principles, and its advocacy of a neutral foreign policy. Skeletal branches of Murba exist in all major centers but the party is not strong on Sumatra. Front organizations include: Central Organization of Labor (SOBRI), Youth of the People's Republic of Indonesia, Union of People's Farmers (Perta), Murba Women's Union (Perwamu), and the Murba Student Movement (GMM).

b. Indonesian Party (Partindo) -- Partindo is a minor party under firm Communist control, and has close ties with both Sukarno and the PKI. Four of Partindo's five executive committee chairmen have Communist connections, and Communists are influential elsewhere in the party's bureaucracy. Front groups connected with Partindo include: Women of Indonesia (Wani), a Farmers' Union (Serati), a students'organization (Germindo), and a youth group (Permuda Partindo).

4. Non-Communist Subversive Activity

a. Territory of Islam (Darul Islam-DI) -- the DI is a loose federation of dissident movements in western Java, northern Sumatra,and southern Celebes with the stated aim of creating an Islamic Republic. The Sumatra wing of the DI movement, in cooperation with local Moslem leaders, launched a revolt in September 1953, led by Teungku Mohammad Daud Beureueh, a prominent Moslem teacher and former government official in

Sumatra. In 1959, the Atjehnese DI engaged in limited joint operations with the PRRI rebels (see b. below). While its activity ceased for all practical purposes in mid-1961, the movement officially terminated with Daud Beureueh's surrender in May 1962. At that time, he had about 1,000 men under arms. Although old and ailing, Beureueh is still the dominant figure in Atjeh, and is under close surveillance.

b. PRRI/Permesta Rebellion -- Long smoldering discontent broke out in northern and central Sumatra and in northern Celebes in late 1956 and early 1957 when the local military commanders assumed both military and civil powers in their areas without the consent of the central government. Open rebellion began in February 1958 when the government rejected the demands of the rebel leaders for cabinet changes, curbing of Sukarno's power, and anti-Communist action. The Revolutionary Government of the Republic of Indonesia (Pemerintah Revolusioner Republik Indonesia-PRRI) was formed in Sumatra, incorporating the "Universal Struggle Movement" of Northern Celebes (Permesta). Central government forces, moving rapidly and effectively, captured the PRRI strongholds of Padang and Bukittinggi. The PRRI forces fell back to their heartland, the mountainous areas of the Minangkabau people in west-central Sumatra and the Batak people south and west of Lake Toba, and continued guerrilla activities until July 1961. The rebellion aborted principally because of its failure to win expected widespread defections from military ranks, lack of support from powerful political figures in Java, and a lack of military strength and effectiveness. The PRRI had about 9,000 men under arms on Sumatra in early 1961.

c. The army -- the challenges to the central government which originated in army factionalism in the past have subsided, partly because the 1958 regional rebellion divested the army of its most vigorous anti-Sukarno element and partly because since 1957 the army has been permitted a substantial political role. Aside from the PRRI rebellion which was led by army territorial commanders, the most notable military challenge to the civil government occurred in October 1952 and climaxed a prolonged power struggle among both military and political factions. The challenge failed when Sukarno refused to capitulate to the army's demand that he dissolve parliament and assume personal governmental responsibility. This event chastened the army leaders, who apparently became convinced that Sukarno was too powerful to challenge directly.

The army's decision to remain loyal to the central government, despite considerable sympathy for the motives of the rebels in the 1958 revolt, was a major factor in consolidating Sukarno's present

dominant position. Sukarno in the past year has largely reduced the army from an independent power factor to an arm of the executive. His first move was to lift martial law, which had been in effect since 1957, and which had considerably expanded army powers. He subsequently replaced army commander Nasution (a Sumatran) with the more pliable General Jani, and then reduced the army's role in the cabinet. The army continues to be one of Sukarno's major props and the army leaders would be unlikely to move against him, except under extreme provocation, such as an attempt to reduce drastically the army's role, a complete breakdown in governmental authority, or a dangerous growth in Communist power.

d. Moslem organizations -- during the past year, several Moslem student and youth organizations have shown increasing determination to counter leftist, ultra-nationalistic and Communist agitation and to change the government's policy toward a more pro-Western course. To consolidate this task and to formulate Moslem religious policies, top-echelon leaders of Moslem political parties and associated groups from the youth, labor, and cultural fronts formed the Consultative Body of Islamic Organizations and Parties in May 1963. In the late spring Moslem students, with at least the tacit support of younger army elements, reportedly organized and implemented the waves of anti-Chinese demonstrations which swept Indonesia. These outbursts were apparently the result of a combination of anti-Chinese prejudice, enmity toward the Communists, pent-up anti-Sukarno sentiments, and economic frustrations.

In July 1963, Sukarno banned the Islamic Youth Movement (GPII) which was closely allied with the banned but still quietly active Masjumi Party. The GPII was an active anti-Sukarno, anti-Communist, and Western-inclined organization. It was particularly strong in Sumatra, having an estimated 48,000 members in central Sumatra alone. Although it may continue a sub-rosa existence, the banning leaves the Islamic University Students Association (HMI), a Masjumi front organization with links to the NU, and the Muhammadijah, a Masjumi-oriented charitable and educational organization, as the two principle rallying points for Moslem youth.

Other organizations associated with the Masjumi are the Indonesian Federation of Moslem Trade Unions (GASBIINDO), a labor federation some 125,000 strong; the Federation of Islamic Peasants of Indonesia (STII), a rural affiliate of undetermined size; and the Federation of Islamic Merchants of Indonesia (SDII), a small but effective cooperative movement at the village level.

5. The Chinese

The Chinese minority, estimated at 3 million, is regarded by the Indonesians as a potential subversive threat because of its overseas ties with either the Communist or Nationalist regimes. Alleged Nationalist support for the Sumatra-Celebes rebellion in 1958 intensified Indonesian distrust of the Chinese. The government's ban on alien retailers in rural areas in the fall of 1959 was directed primarily at the Chinese, and the resultant strain on relations between Indonesia and Communist China, which championed the interests of the overseas Chinese, brought out an unprecedented amount of anti-Communist comment. For the most part, the Chinese try to remain aloof from political problems because of the vulnerability of being identified with either Peiping or Taiwan and for fear of stirring up the racial antagonisms of the Indonesians. The Communists have a virtual monopoly on the distribution of literature to the Chinese community, however, using the resources of the Chinese diplomatic establishment including the consulate at Medan. Baperki, a Communist-controlled organization consisting primarily of Chinese, has branches and a youth affiliate throughout all of Indonesia. There are Chinese communities throughout Sumatra, but they are concentrated in northeast Sumatra and in the Riau Islands where they constitute 28 percent of the total population. There reportedly were 690,000 persons of Chinese origin in Sumatra in 1961.

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VI. Economy

A. General

Sumatra is economically the most important island of the Indonesian archipelago. The yields of its mineral resources, chiefly petroleum and tin, and agricultural estates contribute almost 70 percent of Indonesian foreign exchange earnings.

Northern Sumatra has extensive agricultural estates, which were initially established with European capital. These estates continue to produce cash crops for export, such as rubber, tobacco, tea, coffee, palm oil, and cinchona bark (used for quinine). Although foreign interests remain on the island, the Indonesian Government is gradually reducing their holdings and influence. British and US investment continues in the petroleum industry, but this will gradually be taken over under an agreement signed between the government and the (foreign) oil companies which provides for gradual compensated nationalization of these holdings. Dutch agricultural estates were taken over during 1957-58 at the same time other Dutch interests in the islands were seized. Currently, British estates are being subjected to threats of similar takeover.

The peasant economy is dominated by subsistence farming, although some of the peasants set aside small plots on which to grow cash crops. There is some cottage industry in the villages. Basically, however, the peasant economy is limited to agricultural pursuits. Smallholder production is increasing in importance throughout the island and the rest of Indonesia, but the estates continue to be the most efficient agricultural producers, and their products continue to be of better quality than those produced by smallholders.

The economic development of the island has been hindered by inept government policies. Little progress has been made in the industrialization of the island or in the improvement of production techniques to exploit the island's natural resources. The economic situation has been aggravated by the current confrontation of Malaysia. Confrontation has cut off the Malaysian ports to which almost all of Sumatra's exports were formerly shipped. There has been a consequent disruption in the normal flow of trade; new markets and processing facilities must be found to substitute for those in Singapore and Malaya.

B. Natural Resources

Petroleum is Sumatra's most important natural resource. Total Indonesian reserves are the largest in the Far East,

and Sumatran reserves account for about 90 percent of all Indonesian reserves. Although most of the $250 million annual export production is controlled by foreign dominated companies -- Caltex, Stanvac, and Shell -- Indonesian Government firms are becoming more important. Three small government firms -- Permina, Pertamin, and Permigan -- conduct operations in Sumatra.

Tin is mined on the islands of Bangka, Billiton, and Singkep. Although tin accounts for less than 5 percent of total Indonesian exports, Indonesia ranks as the third largest free world tin producer. The industry was nationalized in 1958 and has been troubled by inefficiencies in production since that time because of inept management and other consequences of the government's failure to establish a positive economic policy.

Bauxite mines have shown increasing production during recent years. Confined to the island of Bintan, Indonesian bauxite deposits are relatively insignificant as a world source. There are two coal mining regions, one at Bukit Asem, near Lahat, the other at Umbilin, near Muara, in central Sumatra.

Mineral deposits which are not exploited commercially include gold, silver, lead, copper, iron, antimony, cobalt, naptha, sulfur, alum, and saltpeter. Iron deposits may be commercially exploited when the Soviet-financed steel project at Tjilegon, Java, is completed.

C. Industry and Electric Power

There is little industrial activity in Sumatra. Agricultural and mineral products are processed, and cement, fertilizer, textiles, and other consumer goods are manufactured. Two important foreign-owned petroleum refineries are the island's only heavy industry. Shell operates a refinery at Pladju, and Stanvac operates one at Sungaigerong, both in the Palembang area. There are several saw milling centers and rubber processing facilities. A hydroelectric power plant and aluminum project financed by the USSR is to be constructed on the upper Asahan River southeast of Lake Toba.

Sumatra has few electric power facilities which are found primarily in the Medan, Padang, and Palembang areas. Most of the electrical supply is generated by small thermal plants. Hydroelectric power generating potential exists in the uplands region of Sumatra, especially in the Lake Toba region. This potential may be developed under Soviet credit as mentioned above.

D. Agriculture

Agriculture in Sumatra consists of three types -- peasant (subsistence), smallholder, and estate. The peasants' main crop is rice, grown by both wet land and dry land methods. The amount grown is insufficient and large quantities must be imported annually. Maize is also grown for home consumption. Smallholder cash crops include copra, spices (pepper, cloves, and nutmegs), coffee, tobacco, betelnuts, peanuts, cinchona bark, and cotton.

Estate agriculture, primarily European, produces rubber, tobacco, tea, palm oil, hard fibers, and to a lesser extent cinchona bark, coffee, gambier, and coca. The most extensively cultivated area is in northern Sumatra around Medan. Although grown throughout Sumatra and on Bangka Island, most of Sumatra's rubber yield comes from large estates in the eastern parts of Atjeh and Sumatera Utara Provinces.

E. Fishing and Forestry

Fishing is important to the economy of Sumatra and provides the main source of animal protein in the Sumatran diet. Most fishing is done in coastal waters, although inland fishing is gaining in importance, especially in the large rivers of northern Sumatra and in Lake Toba. The largest coastal fishing port is Bagan-Siapiapi. Other fishing centers are Sungsang, Bengkulu, along the coast of Lampung Province, and on the Bangka Island coast. Shell fish, trepangs (sea slugs), and prawns are also caught. Dried fish are exported.

Sumatra contains the finest timber producing forests in the Indonesian archipelago. About 60 percent of the island is covered with forests, containing hard wood and soft wood in great variety. Oak, chestnut, ebony, ironwood, camphorwood, and sandalwood as well as many species of resin and wild rubber producing trees are found. Much of the timber, however, is difficult to obtain because of inaccessibility.

F. Employment and Labor

About 70 percent of the Sumatran labor force is engaged in agriculture. Less than 10 percent of the labor force is engaged in industrial activities. Although industrial enterprises are very limited, Javanese laborers have been recruited to supplement the industrial labor force, which consists primarily of workers in oil refineries, textile mills, and other light consumer goods industries.

Sumatra, in common with all of Indonesia, has a severe shortage of capable managers, administrators, and technicians. During the colonial era, foreigners supplied these talents. As the result of the Indonesian desire to eliminate foreign influence, people with managerial skills have been eliminated. Lacking capable native managers, many Sumatran enterprises formerly managed by foreigners have deteriorated. The Chinese retain their place in small business ventures, but the government has imposed rigid controls over their activities.

There is an active, politically oriented labor movement in Sumatra. The unions have, in fact, mainly political functions, because strict government controls have limited their economic bargaining powers. Communist-sponsored SOBSI is the most influential labor federation, not only in Sumatra but in all of Indonesia. SOBSI affiliates, including Sarbupri, the plantation workers' union, have been active in the recent takeovers of British estates on Sumatra.

G. Foreign Trade

During 1961, Sumatra's exports were valued at $560 million, more than 70 percent of total Indonesian exports. Important exports include rubber, petroleum, tin, bauxite, copra, tea, coffee, palm oil, and tobacco. Sumatran imports, on the other hand, were $140 million, less than 20 percent of total Indonesian imports. These imports consisted primarily of consumer goods and foodstuffs, mostly rice.

The Indonesian economic confrontation with Malaysia, which began when the latter was formed in September 1963, has had important consequences for Sumatra and its associated islands. Prior to confrontation a large share of the island's exports were transshipped through Singapore or other Malaysian ports. Now, new markets and processing facilities, which could substitute for those formerly provided by Malaysia, are being sought. Smallholder rubber producers have been seriously affected because the low quality of their rubber has made marketing -- except to the processors in Singapore -- difficult. High quality estate rubber has always been shipped direct to consumers, and thus confrontation has posed little problem for the estate producers. Petroleum exports have been rerouted, but there has been a decline in exports. Tin ore exports have been shifted from Penang to the Netherlands for smelting and re-export to Western European markets. Even if new markets can be found for Sumatran exports, the problem of adequate port and shipping facilities remains.

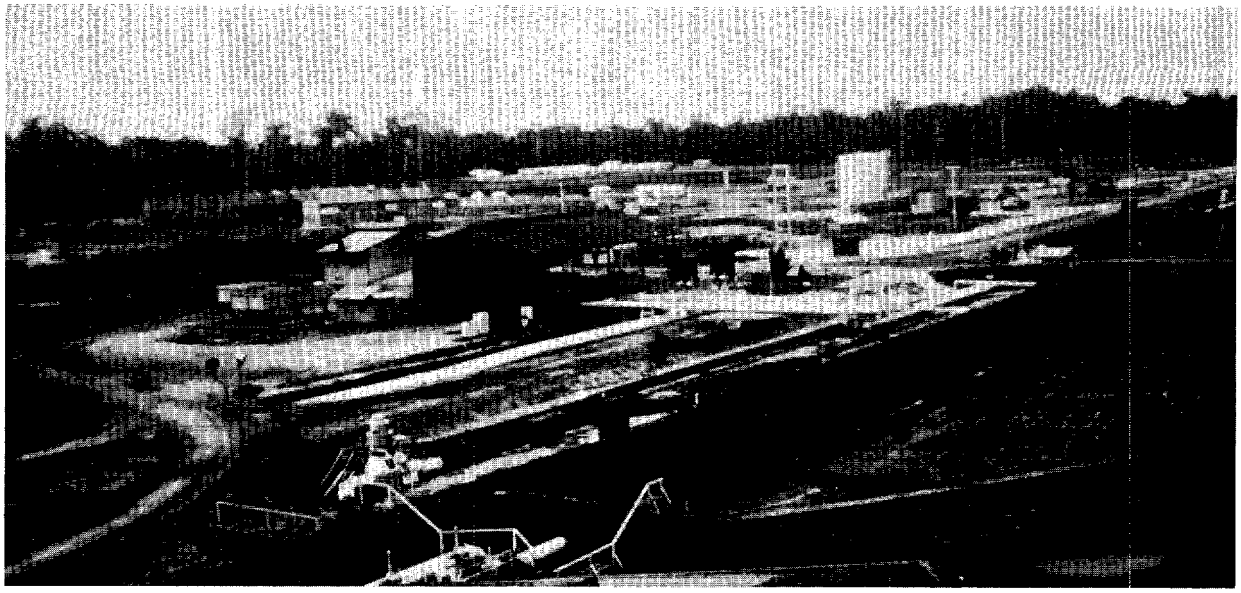
The United States and Great Britain are among the most important consumers of Sumatran exports. The Communist countries' share of trade, although increasing, is only about 14 percent -- consisting primarily of rubber and other tropical products in exchange for machinery and textiles.

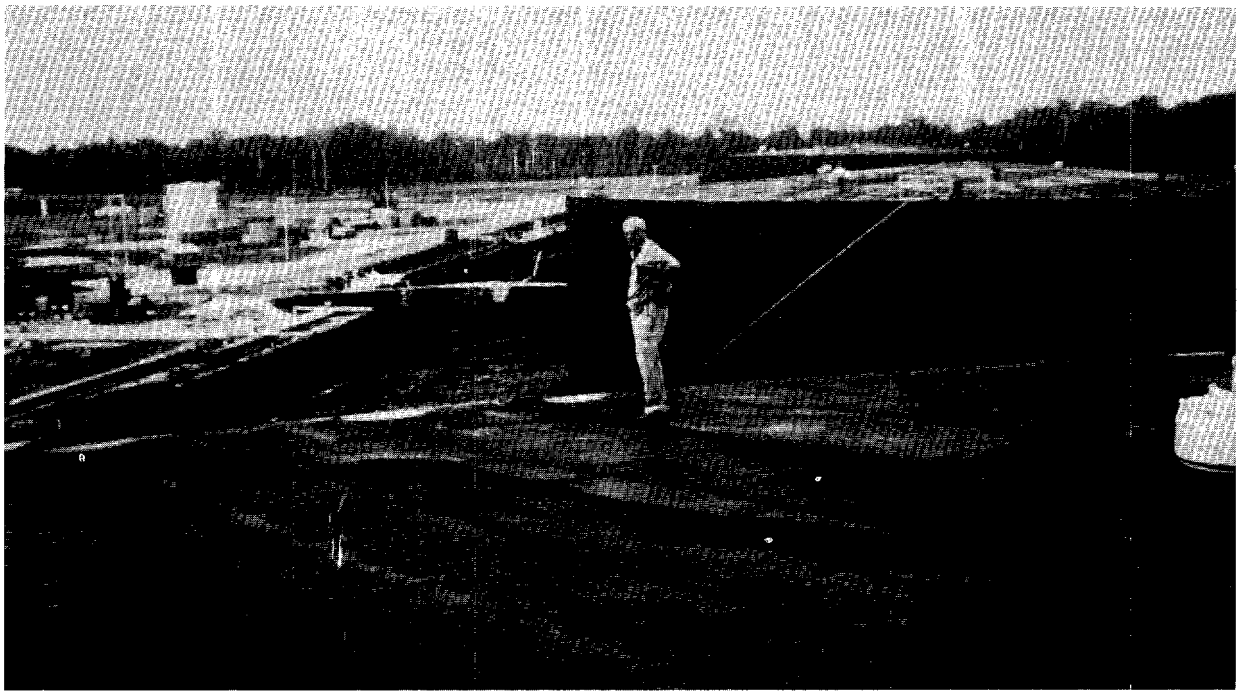
H. Foreign Loans and Aid

Little foreign aid has been contributed for the economic development of Sumatra. The limited amounts of aid that have been granted are for the most part unused, and prospects for the early completion of any major aid projects are faint. The most significant loans to the island are those of the Soviet Bloc, primarily the USSR. The USSR agreed to build a large hydroelectric power facility and aluminum project in the Lake Toba region of Sumatera Utara. This project has been surveyed, but further progress has been slow. Other Bloc projects scheduled include the rehabilitation of the Umbilin coal mine near Muara and the construction of a cement plant in Sumatera Utara, a sugar refinery in Atjeh, and a soda ash plant in Palembang. Aid from western nations includes construction of a blast furnace in Lampung Province and a new tin smelter at Muntok, Bangka Island, both financed by West Germany. Japan has cooperated in a production sharing venture with the Indonesian oil industry. United States aid projects include diesel electrification projects, a fertilizer plant at Palembang, harbor development and rehabilitation, malaria control programs, and agricultural extension services. As with welfare programs in Indonesia, the aid programs of Western and Bloc nations have been largely centered on Java. The same is true for government development plans, which consider the outer islands as producers of primary goods to provide capital for the industrialization of Java. This aspect of the government plans has tended to alienate many of the peoples in the outer islands, especially those on Sumatra.

I. Prime Economic Targets

The petroleum industry is the most important economic target on Sumatra. Its installations are exposed, concentrated, and unprotected. Oil fields, pipelines, refineries, and storage facilities are all possible targets for small units. Sumatran fields and refineries supply most of Java's petroleum needs, and if supplies were cut off for even a short time, transportation and military operations would be seriously hindered.





Figures 44 and 45. Oil pumping station at Dumai. New Caltex tanks under construction (June 1964).

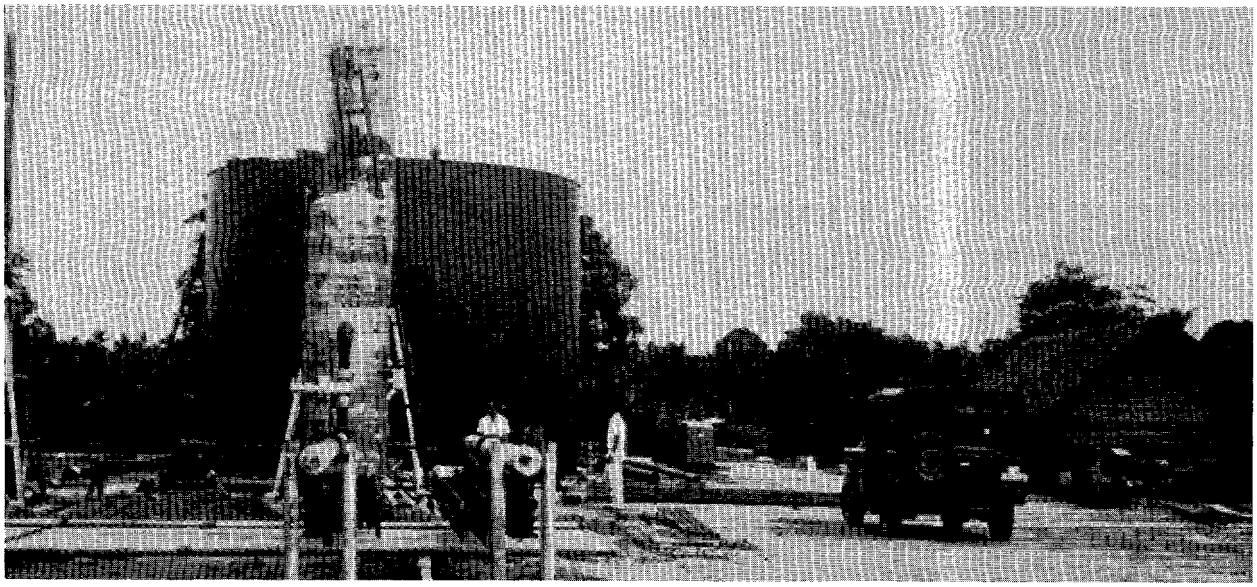


Figure 46. Permina oil collecting station at Rantau.

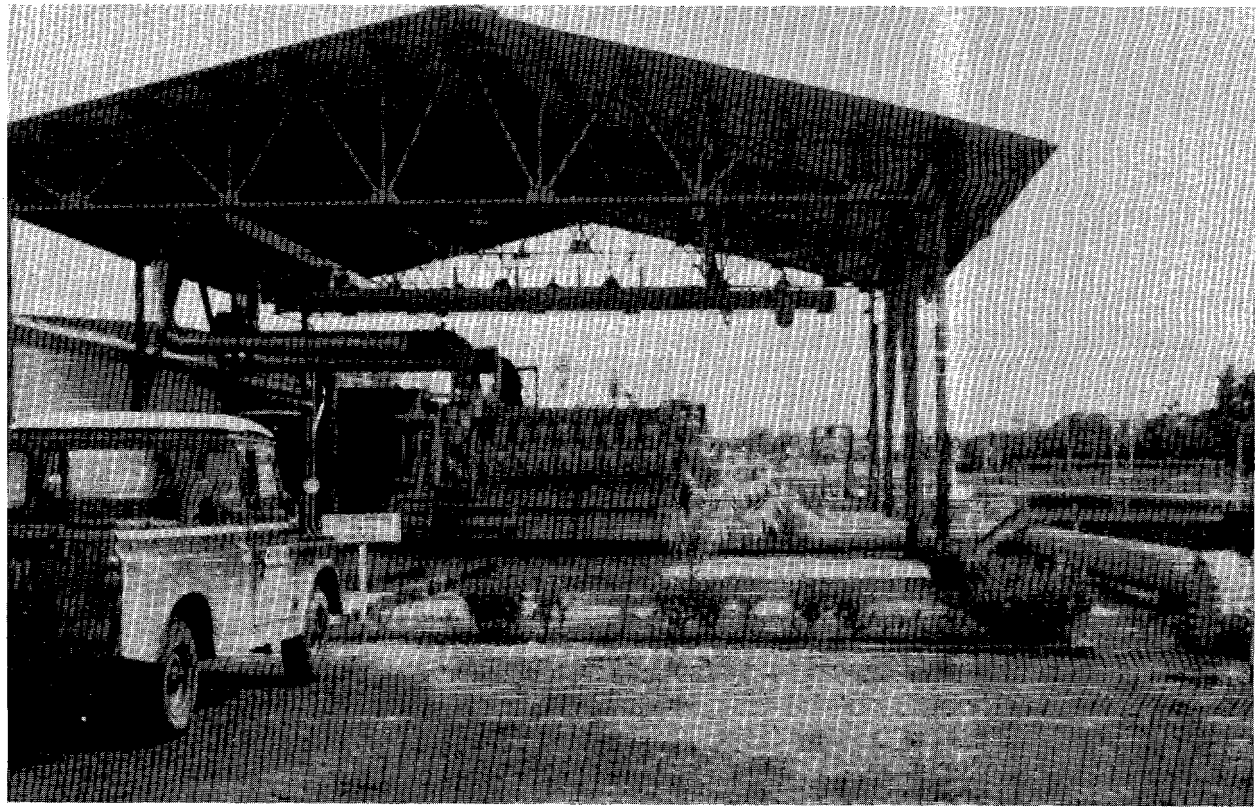


Figure 47. Oil pumping station at Duri.

Figure 48. A POL storage area on Sambu Island, Riau Islands.

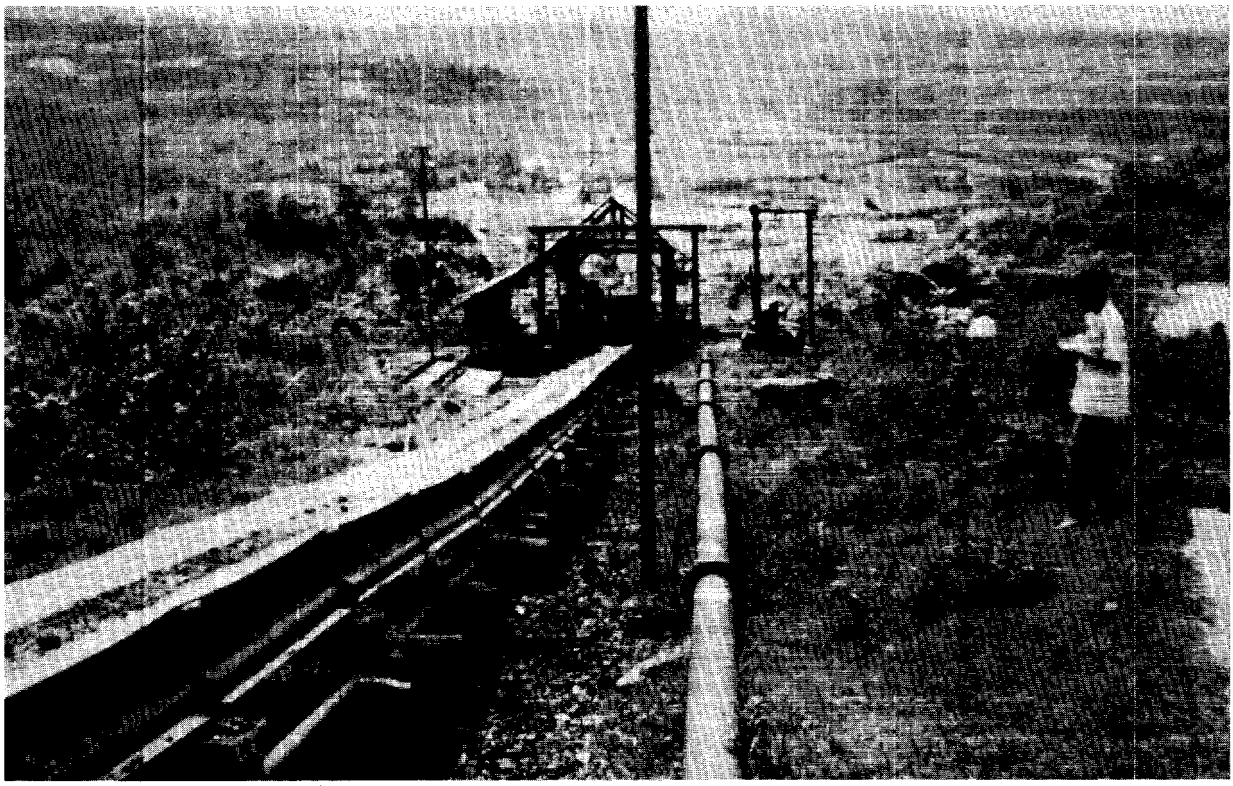


Figure 49. Conveyor belt system at Umbilin coal mine.

Important Oil Fields

Minas (Caltex)	00°52'N-101°29'E
Duri (Caltex)	01°20'N-101°15'E
Limau (Shell)	03°30'S-104°10'E
Pendopo (Stanvac)	03°20'S-103°50'E
Rantau (Permina)	04°25'N-98°10'E
Sago (Stanvac)	00°30'S-102°20'E

There are extensive pipelines between the oil fields and refining facilities and harbors. Caltex has pipelines between Duri and the port of Dumai (01°41'N-101°27'E), between the Minas and Duri fields, and between Minas and Perawang (00°38'N-101°35'E) on the Sungai Siak. Stanvac operates two parallel pipelines between the Pendopo oil field and the refinery at Sungaigerong (02°55'S-104°50'E). Shell has two parallel pipelines between West Prabumlih (03°30'S-104°20'E) and its Pladju refinery (02°59'S-104°50'E), as well as a pipeline between Tempino (01°47'S-103°30'E) and the Pladju refinery. There are important POL storage facilities at Dumai, Sungaipakning (01°20'N-102°09'E), and Palembang (03°00'S-104°46'E).

Electric power facilities are also particularly vulnerable to sabotage because of the simplicity of their distribution and generating systems. However, only the main towns have any power facilities, and the oil companies operate their own generators.

Mining operations could be a target for the small unit. The only mining activity, however, that contributes directly to the domestic economy is coal mining. Coal mines are located at Umbilin (00°35'S-100°52'E) and at Bukit Asem (03°45'S-103°50'E).

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VII. Transportation

A. Inland Waterways

Streams flowing eastward through the lowlands into the Strait of Malacca and the Java Sea provide the most important -- and in much of the central area the only -- means of transportation on Sumatra. These streams are generally navigable far inland by large vessels, and most of the centers of population in eastern Sumatra are located on their banks. Westward-flowing rivers draining into the Indian Ocean, on the other hand, are normally navigable by shallow-draft vessels for only short distances inland.

Rivers that form the inland waterways of Sumatra have had only minor dredging and clearing. Manmade navigational obstructions, such as dams or bridges, are rare. Natural hindrances to navigation, however, are common. They include sandbars, especially at the entrances of major streams; rapid silting of channels; and tidal bores, especially in the Kampar and Rokan Rivers. Tidal effects are felt for varing distances upstream on all major rivers. In spite of some seasonality, the rainfall of Sumatra is always sufficient to keep the inland waterways deep enough for navigation.

Numerous types of craft operate on the rivers of Sumatra. Sampans, bamboo rafts, dugouts, and many other shallow-draft vessels engage in local trade. Most are powered by hand or sail, but an increasing number are driven by outboard motors. Ocean-going vessels and interisland coasters navigate far into the interior on most major rivers. Other large craft, including stern-wheel and screw-driven types, launches of various sizes, lighters, and barges, are also common on the lower courses of major rivers. Oil tankers are common on the Hari, Musi, and Siak Rivers.

B. Roads and Trails

1. Roads

The highway network on Sumatra is sparse and, except in the plantation areas, poorly maintained. At present there are approximately 15,500 miles of road, of which 1,500 miles are paved with asphalt, 10,000 miles are surfaced with gravel, stone, or clay, and 4,000 miles are unsurfaced.

Usefulness of the roads is limited by their narrowness,

poor surfacing, susceptibility to flooding and landslides, sharp curves and steep grades in the mountains, and abundance of single-lane bridges, ferries, and fords (see Figure 50 through 52). Heavy rainfall makes flash floods and wash-outs so common that very few roads are suitable for all-weather travel (see Figure 53). Generally poor maintenance outside of urban areas has resulted in a steady deterioration of the road system. Encroaching vegetation makes some roads impassable.

The most important road extends the entire length of the island from Banda Atjeh (Kutaradja) to Kalianda, a distance of 1,657 miles. Most of the major cities not on this main road are connected with it, directly or indirectly, by feeder roads. The main route extends southward from Banda Atjeh along the Atjeh River Valley, across a mountain range east of Seulimeum, and along the east coast to Medan. South of Medan the roadway turns to the west and gradually ascends into the Main Range near Lake Toba. The road continues southward through the major intermontane basins of the Main Range to Solok, where it turns to the southeast and ultimately follows the upper course of the Hari River to Muaratembesi. South of Muaratembesi the road generally follows the low eastern foothills of the Main Range. Near Baturadja, Kotabumi, and Telukbetung the road again passes through rugged terrain. Most of the main road is surfaced with asphalt or crushed stone but is badly maintained. Its condition is generally fair near Medan but reportedly poor in the section to the north. South of Lake Toba are some poorly maintained sections, notably the Tarutung-Bukittinggi section. Bridges may be bottlenecks throughout the route because they usually have only one lane and are of low capacity. Steep grades and sharp curves restrict traffic in the mountainous parts of the main road.

Recently the central government announced an ambitious plan to construct a two-lane, divided highway from Banda Atjeh to Pandjang that will generally follow the present north-south road. Announced plans call for construction to begin late in 1964.

A relatively dense network of roads in the vicinity of Medan connects local plantations with the railroad and nearby ports. Also, a well-traveled road parallels the coast southward from Banda Atjeh to a point south of Bakungan and then extends inland to the Lake Toba area.

Few of the associated islands have improved roads; the

Figure 50. Mountainous section of road from Bukittinggi to Pakanbaru. Steep gradients and sharp curves are characteristic of roads through the Main Range.

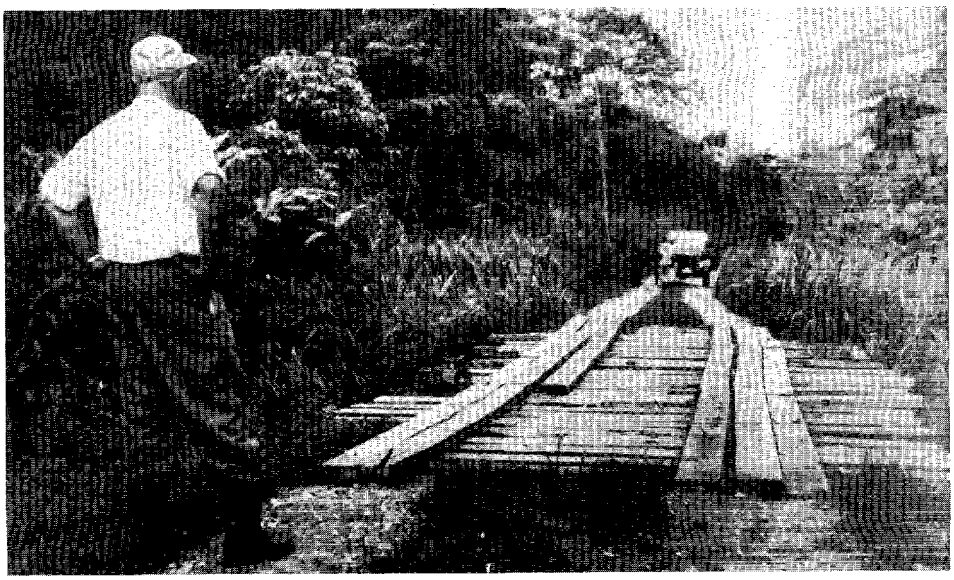


Figure 51. Road bridge in central Sumatra. This bridge has a small capacity and is unsafe for large vehicles. Note the dense vegetation along the roadway.

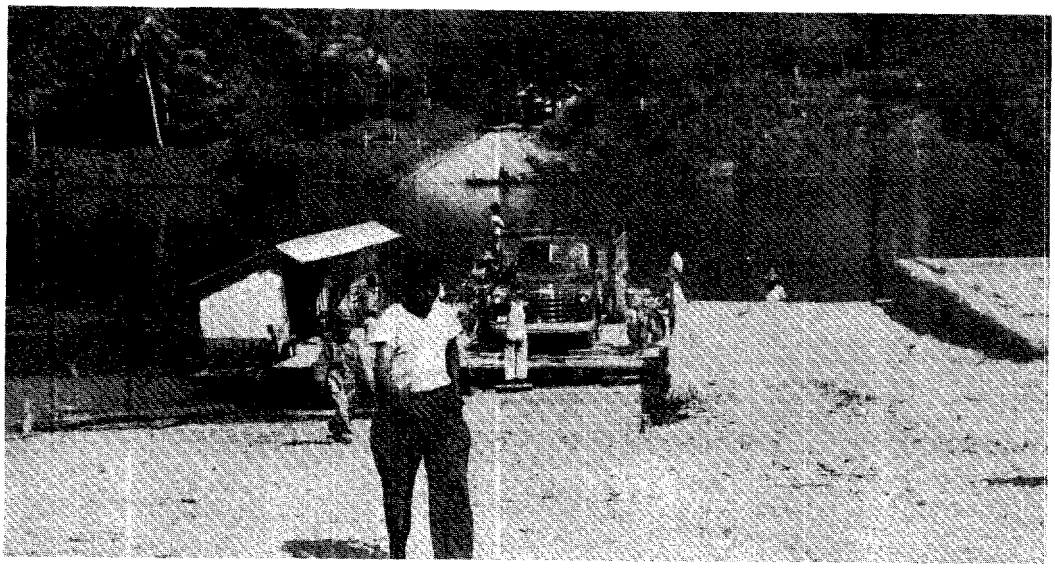


Figure 52. Auto ferry at Pulautarap (00°18'N-100°56'E). Such ferries are major bottlenecks during periods of heavy rainfall.

Figure 53. Typical road in central Sumatra. Travel by road is extremely difficult or impossible during the wet season.

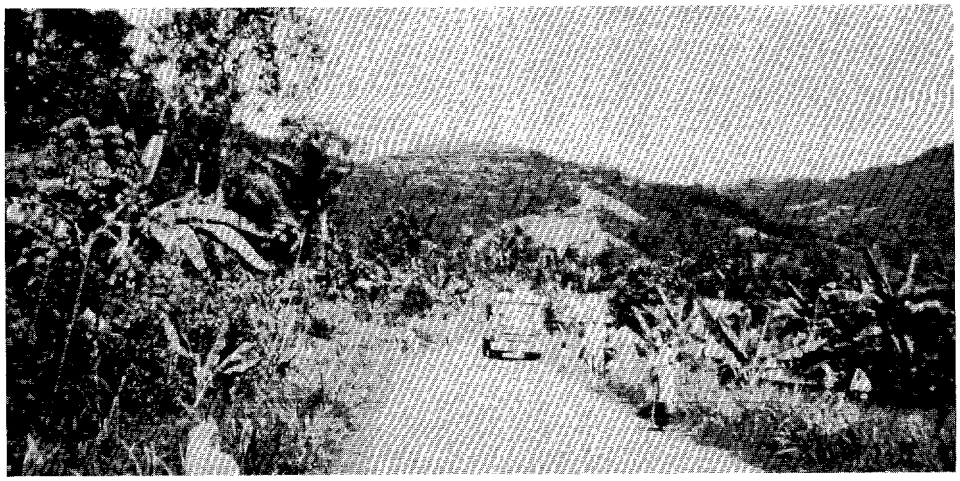
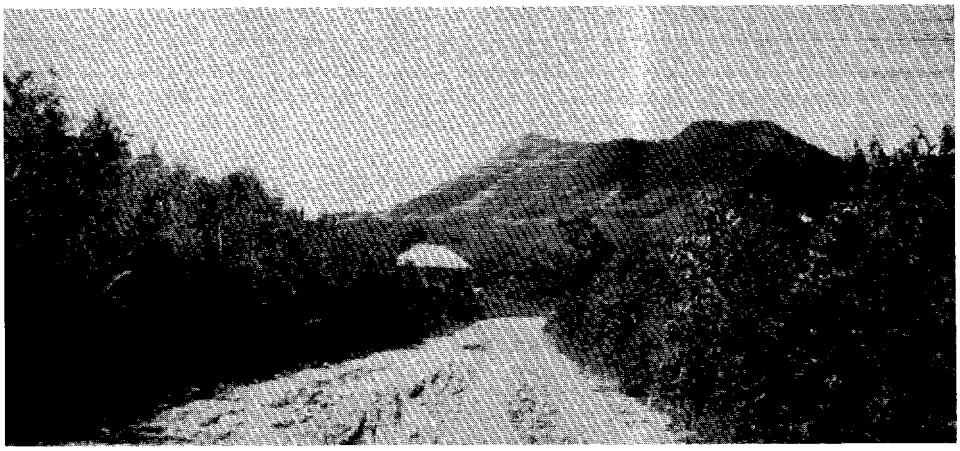


Figure 54. Bukittinggi-Pakanbaru road near Tandjungpauh (00°13'N-100°47'E), 56 miles E. of Bukittinggi.

Figure 55. Bukittinggi-Pakanbaru road 62 miles E. of Bukittinggi. This unsurfaced road would probably be impassible during the rainy season.



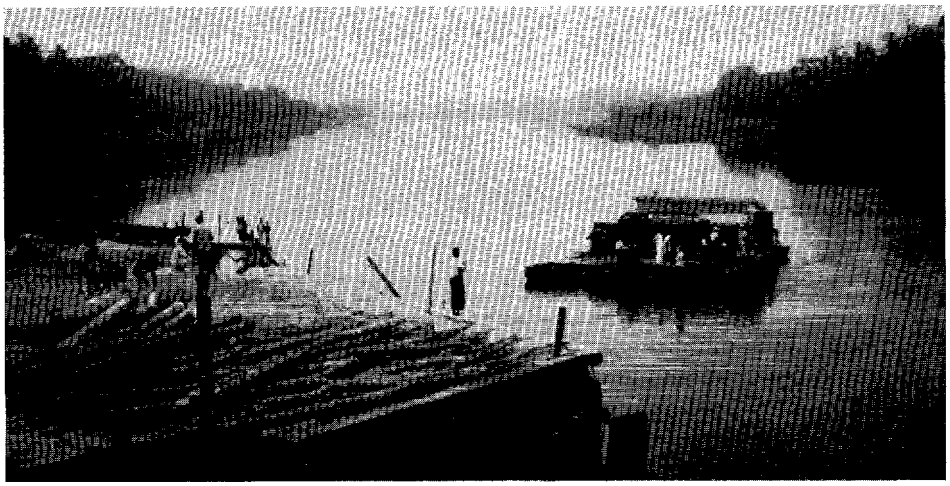


Figure 56. Bukittinggi-Pakanbaru road ferry on Batang Kampar Kanan at Danaubengkuang (00°21'N-101°14'E).

systems on Bangka and Billiton are best. A road of varying quality follows much of the coast of Nias Island. The few other island roads are generally limited to the vicinity of coastal villages.

Off-road, cross-country wheeled movement is impossible throughout most of Sumatra. In general, the eastern lowland is too swampy for off-road movement except for some natural levees. Approximately three-fourths of the Main Range is either too steep or too densely forested.

In 1959, Sumatra had 54,521 registered motor vehicles. Most of these were trucks (17,658) and motorcycles (17,283), but some were passenger cars (12,812) and buses (6,768).

2. Trails

Trails provide remote areas of Sumatra with access to roads or navigable waterways and normally connect heads of navigation with villages not served by other means of transportation. The trail pattern is sparse in rugged parts of the Main Range but somewhat denser and less restricted by topography in the eastern foothills of the range. Trails in the rugged areas are usually confined to river valleys, but where valley walls are too steep they traverse ridgetops. Trails are most numerous north and south of Lake Toba and in the vicinity of Samosir Island, particularly on the western shore. A number of trails also cross the floors of the drier intermontane basins.

In the eastern and western lowlands the network of trails is much more sparse than in the Main Range. Vast areas of swampland preclude the development of overland transportation of any type, and trails are restricted to isolated areas of high ground and natural levees. Near Medan an extensive trail pattern connects numerous plantations and small villages. A dry area west of Palembang and a few dry areas in the southeast corner of Sumatra have a number of interconnecting trails.

Ease of travel on the trails varies greatly. In remote areas many trails are narrow paths used primarily by hunting parties. Encroaching vegetation may impede passage on these and other trails that are used infrequently. Trails in mountainous areas tend to be very narrow and steep. In more heavily populated areas of Sumatra movement on trails is easy, but the risk of encounter with the local population is much greater because the trails are commonly used by farmers hauling produce to village markets.

C. Railroads

Sumatra has about 1,220 miles of railroad, some of which are out of operation. The railroad system consists of three discontinuous administrative divisions -- the Northern, Southern, and Western -- under the jurisdiction of the Indonesian State Railways (Djawatan Kereta Api).

The Northern Division contains most of Sumatra's track mileage. It crosses generally level land, although grades are steep in the north. A continuous track of 572 miles connects Uleelheue, port for Banda Atjeh, with Rantauparapat to the south. Between Bukitkubu and Rantauparapat the gauge is 3 feet 6 inches, but from Uleelheue to Bukitkubu it is 2 feet 5-1/2 inches. A number of short spur lines serve minor ports on the Strait of Malacca. The 6-mile spur line from Pangkalansusu to Bukitkubu is dual gauge (3 feet 6 inches and 2 feet 5-1/2 inches) and has transshipment facilities at each terminal. Between Belawan and Medan the railroad is the only double-tracked line in Sumatra. The Atjehnese Rebellion during the 1950's was especially damaging to the Northern Division, whose rolling stock, bridges, and physical plants were special targets for sabotage. Military activity made it impossible to provide routine maintenance, and the result was serious deterioration of equipment and right-of-way, with a reduced overall capability that has not been overcome to this day.

The Southern Division comprises a main line that connects Palembang with Pandjang, 249 miles to the south. A branch line extends southeastward from Lubuklinggau to Perabumulih, 141 miles away. A few short spur lines connect coal mining activities with the main line. The entire division is single tracked and has a gauge of 3 feet 6 inches. A railroad ferry operates between Pandjang and Merak, Java.

The Western Division is located in very rugged country and contains some of the sharpest curves and steepest grades in Sumatra. Rugged terrain necessitates the use of rack sections at several points (see Figure 58). The 145-mile division connects Telukbajur, the port for Padang, with the interior. A branch line serves Bukittinggi, Pajakumbuh, and Talaga; another branch serves Sawahlunto and Muara. The Western Division has a gauge of 3 feet 6 inches and is single-tracked. A rack-operated spur line that serves the coal mines near Sawahlunto has a gauge of of 1 foot 11-1/2 inches.

Sumatra must depend on outside sources for railroad

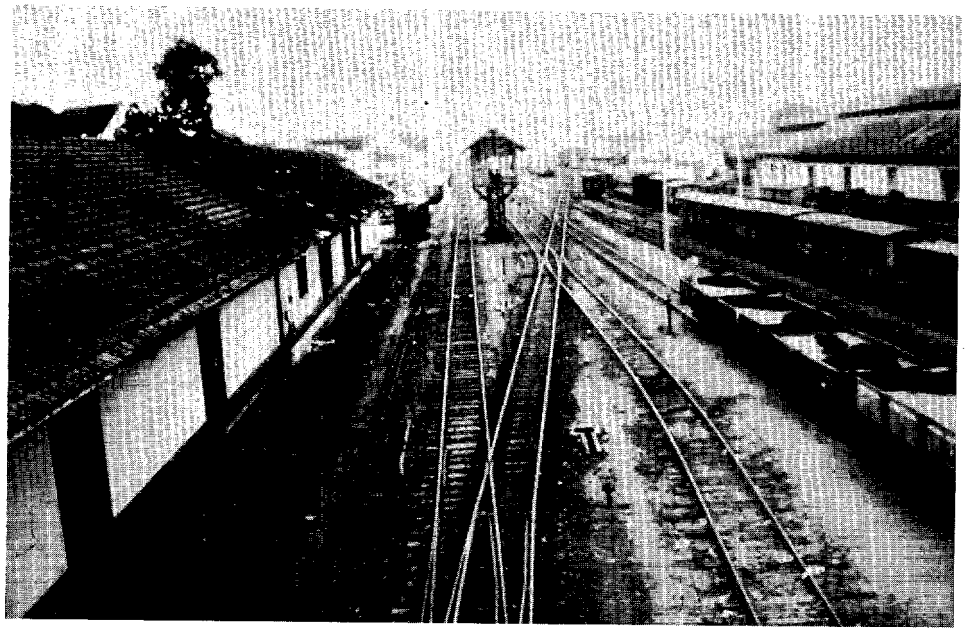
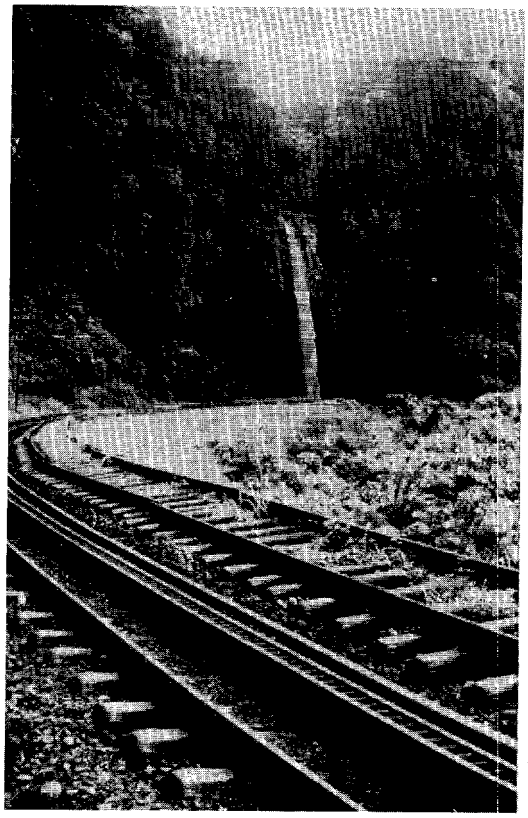


Figure 57. Railroad yards in Medan (Northern Division).

Figure 58. Rack section on railroad north of Lake Singkarak (00° 37'S-100°33'E). Such systems are necessary to ascend steep slopes.



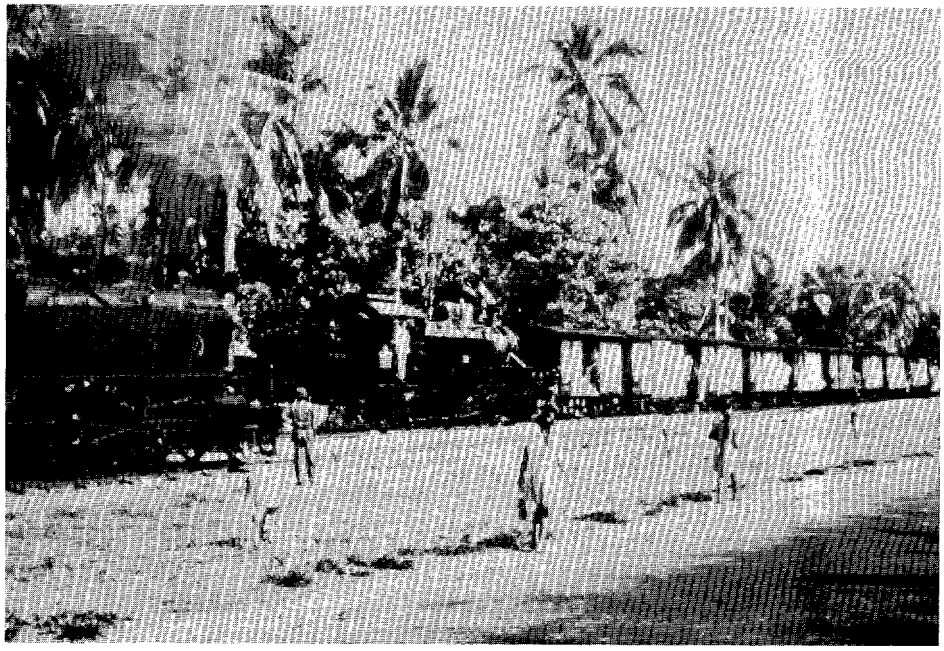


Figure 59. A portion of the Western Division near Tabing (00°19'N-100°34'E). Note the old steam engines and antiquated cars.

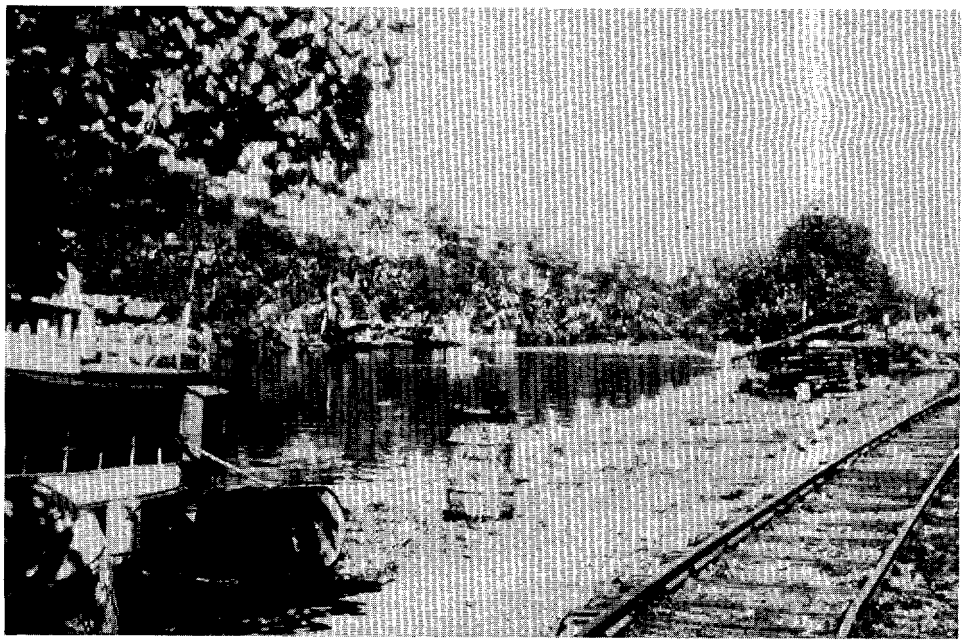


Figure 60. Railroad along the Batang Arau near Padang.

equipment. Much of its present rolling stock is old equipment that has been discarded by Java (see Figure 59). Only steam engines are used in Sumatra; there are no diesel or electrified lines. Old, rundown equipment and dependence on outside sources for spare parts are major deficiencies in the system.

In spite of their inadequacies, railroads on Sumatra are important to both the local economy and the economy of the Republic of Indonesia. The Southern and Western Divisions transport most of the coal exported from Sumatra, and the Northern Division serves estates that produce rubber, palm oil, and tobacco.

Locally, a number of private enterprises operate narrow-gauge lines to serve their own industrial requirements. These are mainly Decauville lines, although they are moved so seldom that they can properly be considered permanent railroads. They are found largely on the rubber and palm oil estates on Sumatra and in the tin mining areas of Bangka, Billiton, and Singkep Islands.

D. Marine Transport

1. Merchant Marine

Most of Sumatra's merchant marine is owned and operated by the Government of Indonesia and is normally administered by the National Indonesian Navigation Company (PELNI) and other governmental agencies. In June 1963, 418 ships exceeding 100 gross registered tons and mostly less than 5 years old were registered in Indonesia. The number of these ships based in Sumatra is unknown. A lack of trained personnel and spare parts has rendered many ships inoperative for long periods of time, and some government dockyards reportedly are faced with closure. Chartering of foreign shipping is essential to maintain interisland services.

The number of native craft engaged in commercial activities cannot be determined. Of the Indonesian total of 10,698 vessels registered in 1957, Sumatra had 2,542. Many native craft in Sumatra are presumed to be unregistered. These have been engaged in traditional smuggling activities across the Malacca Strait and in the Riau Islands.

2. Ports

Indonesia's policy of confrontation against Malaysia has had a direct effect upon the ports of Sumatra. Legal

traffic with Malayan ports (including Penang and Singapore), which formerly handled approximately one-third of Indonesia's exports, has been halted. The Indonesian Government hopes to compensate for this loss by creating rival free ports and free-trade zones in Indonesian territory. Sabang has been declared a free port, and a free-trade zone has been established at Belawan. Indonesia is reportedly considering the establishment of free-trade facilities at Great Karimun, an island near Singapore. Sumatran ports are near the principal shipping route from Europe to the Far East, in an advantageous location for direct competition with the western ports of peninsular Malaysia, but at present they cannot compete successfully because they do not have adequate cargo-handling and warehouse facilities. Neither do they have the banking and insurance facilities that are readily available in Malaysia.

Most river ports other than Djambi and Palembang are capable of handling only local agricultural products and similar cargoes. Details for selected ports on Sumatra and associated islands are given below.

Port	Length of Berth (feet)	Alongside Depth (feet)	Storage (sq.feet)	Remarks
Belawan	6,200	7-31	600,000	Serves Medan. Facilities include 26 lighters, 2 tugs and barges, 1 floating derrick of 40-ton capacity, and various cranes. Low-water depth over bar at river's mouth is 26.2 feet. Capacity for storing approximately 140,000 barrels of oil. Port clearance by road, railroad, and inland waterway. Port expansion project scheduled for completion in 1964 to include approximately 2,000 feet of docks, an oil wharf, and warehouses.
Djambi	500	20-30	23,350	Facilities include one crane and several

Port	Length of Berth (feet)	Alongside Depth (feet)	Storage (sq.feet)	Remarks
				small lighters and towing launches. Low-water depth over bar at river's mouth is 3 feet. Port clearance by road and inland waterway.
Dumai	750	36	Unknown	Primary oil port for Caltex. Can accommodate 60,000-ton tankers. Storage capacity of 1,000,000 barrels of petroleum. Served by pipeline. Port clearance by road.
Palembang	3,500	21-25	320,000	Low-water depth over bar at river's mouth is 9-1/2 feet. Facilities include numerous lighters, tugboats, and cranes. Twelve oil wharfs 4 miles downstream; coaling wharf 6 miles upstream. Oil storage capacity of 7,121,770 barrels in Palembang area. Port clearance by road, railroad, and inland waterway.
Pandjang	1,400	24	47,800	Unlimited anchorage available. Harbor craft include lighters and native craft. Ferry service available to Java. Port clearance by road and railroad.
Sabang (We Island)	1,400	7-24	257,200	Several mooring buoys in use. Facilities

Port	Length of Berth (feet)	Alongside Depth (feet)	Storage (sq.feet)	Remarks
				include several cranes and shops for minor repairs. Storage for petroleum and coal. Port clearance by road.
Tandjungpandan (Billiton Island)	Unknown	Unknown	Unknown	No berths available. Oceangoing vessels anchor 5 miles offshore and are served by lighters. Harbor unsafe from November to March owing to monsoons. Port clearance by road.
Tandjunguban (Bintan Island)	Unknown	13-41	Unknown	Oil transshipment port. Six oil jetties. Ninety-foot anchorage available.
Telukbajur	1,500	17	120,000	Most important port on west coast. Serves Padang. Unlimited anchorage. Harbor craft available. Port clearance by road and railroad.
Uleelheue	Unknown	Unknown	22,000	Unlimited anchorage, but no deep-water wharfs. Harbor facilities include general harbor craft and a

Port	Length of Berth (feet)	Alongside Depth (feet)	Storage (sq.feet)	Remarks
				berth for small vessels. Port clearance by road and rail-road.

E. Air Transport

Civil air service is an important supplement to the surface transportation system of Sumatra. It is provided by the Indonesian Government through Garuda Indonesian Airways. Within Sumatra domestic service is available between Banda Atjeh, Bengkulu, Djambi, Kotadabok (Singkep Island), Mandah, Medan, Padang, Pakanbaru, Palembang, Pangkalpinang (Bangka Island), Rengat, Tandjungpandan (Billiton Island), and Tandjungpinang (Bintan Island). Garuda also links Sumatra with the rest of Indonesia. The policy of confrontation has resulted in the cancellation of flights between Sumatra and Malaysia. International flights are available from Medan.

The expulsion of the Dutch from Sumatra in 1958 removed the primary source of trained personnel for Garuda and resulted in a reduction of about one-half in scheduled air service. An accelerated training program for Indonesian personnel, however, is gradually increasing Garuda's capabilities. In April 1964 Garuda's inventory of aircraft was reported to include 23 DC-3's (20 operational), 3 Convair 990 jet aircraft, 3 Lockheed Electras, 8 Convair 240's (4 operational), and 8 Convair 340's. Garuda also has an unknown number of Twin Pioneer and De Haviland Beaver aircraft. Many of the airfields of Sumatra cannot be used by large aircraft because they are too short or their surfaces cannot withstand heavy weight (see Map 39136 and Appendix A for details on airfields). As part of a current airfield-improvement program, the airfield at Medan has been expanded to a length of 8,038 feet. Sumatra has several airfields longer than 5,000 feet, but only the one at Medan is usable by jet aircraft.

F. Targets

Significant transportation targets in Sumatra are few. The road system offers some possibilities. The destruction of bridges and ferries, especially during the rainy season, could temporarily disrupt vehicular traffic. Road traffic

was severely hampered by these tactics during the PRRI Rebellion of the late 1950's (see p. 88). The three divisions of the railroad system offer a variety of targets. Bridges and tunnels on each of the lines would be good targets. Destruction of the rack sections in the Western Division would also hamper operations. During the Atjehnese Rebellion the Northern Division was inoperative for months owing to the sabotage of bridges and other facilities. The disruption of railroad traffic would be most effective in the Southern and Western Divisions because it would halt shipment of coal for export.

Among the possible railroad and highway targets are the following:

Location	Length (feet)	Remarks
Railroad Bridges		
Martapura (4°19'S-104°22'E)*	606	Three-span bridge across Komering River
10 miles E of Lahat (3°49'S-103°32'E)	525	Four-span bridge across Lematang River
5 miles SE of Tebingtinggi (3°36'S-103°05'E)	328	Three-span bridge across Musi River
3 miles SW of Padangpandjang (0°27'S-100°24'E)	354	Four-span bridge
12 miles SE of Pangkalansusu (4°06'N-98°11'E)	300 (est.)	Bridge crosses Babalan River
27 miles SE of Idi (4°57'N-97°46'E)	318	Combined rail-highway bridge
12 miles SE of Idi (4°57'N-97°46'E)	331	Combined rail-highway bridge across Peureulak River

* Coordinates locate town mentioned, not bridge or tunnel.

Location	Length (feet)	Remarks
18 miles NW of Idi (4°57'N-97°46'E)	377	Combined rail-highway bridge across Arakundo River
39 miles NW of Idi (4°57'N-97°46'E)	300 (est.)	Combined rail-highway bridge
86 miles E of Sigli (5°23'N-95°57'E)	340	Combined rail-highway bridge
80 miles E of Sigli (5°23'N-95°57'E)	328	Combined rail-highway bridge across Peusangan River
23 miles E of Sigli (5°23'N-95°57'E)	330	Combined rail-highway bridge across Pante Radja River
39 miles ESE of Banda Atjeh (5°34'N-95°20'E)	379	Seven-span viaduct over ravine; height 66 feet
36 miles ESE of Banda Atjeh (5°34'N-95°20'E)	420	Eight-span viaduct over ravine; height 115 feet
14 miles SE of Banda Atjeh (5°34'N-95°20'E)	705	Combined rail-highway bridge across Djreue River
Railroad Tunnels		
Near Lahat (3°49'S-103°32'E)	1,186	
4 miles SW of Padangpandjang (0°27'S-100°24'E)	5,250	Rack railroad
3 miles N of Muarakalaban	2,707	On spur line to Sawahlunto (0°41'S-100°47'E)

Location	Length (feet)	Remarks
Highway Bridges		
36 miles NW of Telukbetung (5°27'S-105°16'E)	324	Nine-span bridge across Seputih River
Baturadja (4°08'S-104°10'E)	327	Five-span bridge across Ogan River
23 miles SE of Baturadja (4°08'S-104°10'E)	451	Four-span bridge across Komering River
16 miles W of Muaraenim (3°39'S-103°47'E)	525	Four-span bridge across Lematang River
11 miles SE of Meulaboh (4°09'N-96°08'E)	560	Bridge crosses Seunagan River
1 mile SE of Meulaboh (4°09'N-96°08'E)	475	Bridge crosses Meureubo River
48.5 miles NW of Meulaboh (4°09'N-96°08'E)	370	Bridge crosses Masen River
57.2 miles NW of Pantonlabu (5°07'N-97°27'E)	350	Combined rail-highway bridge across Peusangan River
Highway Tunnels		
4 miles NE of Sibola (1°44'N-98°46'E)	Unknown	90° turn inside tunnel
4.3 miles NE of Sibola (1°44'N-98°46'E)	Unknown	Short tunnel through rock
26.5 miles S of Pematangsiantar (2°57'N-99°03'E)	150	Through granite; road curves inside tunnel

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VIII. Telecommunications

A. General

The telecommunications system of Sumatra is owned and operated by the government and provides all civil telephone, telegraph, and radiobroadcasting services. Telephone and/or telegraph service is available in most inhabited areas of Sumatra and radiobroadcasting service is available throughout Sumatra and associated islands.

B. Telephone and Telegraph Services and Facilities

1. Domestic

The Administration of Posts, Telegraphs, and Telephones (PTT) for Indonesia, subordinate to the Ministry of Communications, operates the telephone and telegraph systems. The services provided by the PTT are restricted by antiquated facilities and adverse climatic and topographical conditions. There are 20,000 telephones in use in Sumatra, one third of which are automatic. More than forty percent of the telephones are located in Medan, Padang, and Palembang. Conventional telegraph service is provided throughout Sumatra. The larger cities have automatic subscriber telegraph (TELEX) exchange facilities, used principally by business and government, which afford direct connections with Djakarta. Interurban telephone and telegraph connections are made by open wireline and high frequency (HF) and very high frequency (VHF) radio facilities. (See Map 39511.)

2. International

The only direct international circuit -- a HF radiotelegraph connection between Medan and Singapore -- is not currently in operation. All international connections are made through Djakarta.

C. Broadcasting Facilities and Services

The Radio Republic Indonesia (RRI) broadcasting system, which is controlled by the Ministry of Information, provides service to approximately 220,000 radiobroadcast receivers in Sumatra. Regional and local broadcasting service is furnished by transmitters located at Medan (20 kilowatts, 7.5 kw, and 1 kw), Padang (10 kw, 10 kw, and 1 kw), and Palembang (10 kw and 1 kw). Transmitters at Sibolga (1 kw) and Tandjungpinang (5 kw and 1 kw) provide local service and relay regional programs that originate in Medan. In addition, local service is

provided by transmitters located at Bukittinggi (.3 kw and .3 kw), Banda Atjeh (1 kw and .1 kw), and Pakanbaru (.1 kw). All stations broadcast in Indonesian (Bahasa Indonesia) with the exception of Banda Atjeh which regularly broadcasts programs in Atjehnese.

D. Specialized Networks

1. Army

The army uses facilities of the PTT for long-distance service and operates its own HF and VHF radio equipment for tactical purposes. A modern tropospheric scatter network that is to provide service throughout Sumatra and Java is under construction for the army. The scatter circuit between Palembang and Djkarta is to be completed early in 1965; the remainder of the network in Sumatra most likely will be operational in 1966 or 1967.

2. Aeronautical

The Department of Civil Aviation (DCA) and the air Force operate HF point-to-point and VHF ground-to-air radio facilities at most airports in Sumatra.

3. Maritime

Maritime radiotelegraph and radiotelephone service is provided by the PTT, the navy, the Caltex Pacific Oil Company (Caltex), and the Bataafse Petroleum Maatschappij (BPM).

4. Police

The State Police Force operates HF radiotelegraph facilities that connect major towns in Sumatra. VHF radiotelephone facilities are used for city, mobile, and marine service.

5. Other

The Standard-Vacuum Petroleum Company (Stanvac) and BPM have radiotelephone connections between their refineries at Sungaigerong and Pladju respectively and oilfields in South and Central Sumatra. Caltex has radiotelephone facilities in its Central Sumatra oilfields.

E. Prime Telecommunications Targets

1. The destruction of the open wireline network would effectively disrupt local telephone and telegraph service. In

almost all areas the wirelines follow roads and railroads. (See Figures 61 and 62.)

2. The destruction of HF radio transmitting and receiving stations of the PTT located in Medan, Palembang, and Padang would virtually curtail interurban and interisland telephone and telegraph service. At Medan these facilities are located in the southern outskirts of town near the airport; at Palembang they are located in the eastern outskirts of town between the airport and the Musi River. At Padang they are located in the southeastern outskirts of town. (See Figures 63 and 64.)

3. The destruction of the RRI transmitters at Medan, Palembang, and Padang would halt all regional radiobroadcasting service. At Medan the transmitters are located 3-1/2 miles from the center of town on the road to Bindjai. At Palembang the transmitters are located 2-1/2 miles north of town on the Sudirman road. At Padang the transmitters are located in the southeastern outskirts of town. (See Figure 65.)

Figure 61. Open wirelines along the Tebingtinggi-Medan highway and railroad route 14 miles south of Medan.

Figure 62. Open wirelines along the Bengkulu-Palembang highway, 120 miles from Palembang.

Figure 63. Administration of Posts, Telegraphs, and Telephones radio receiving station near Medan airport.

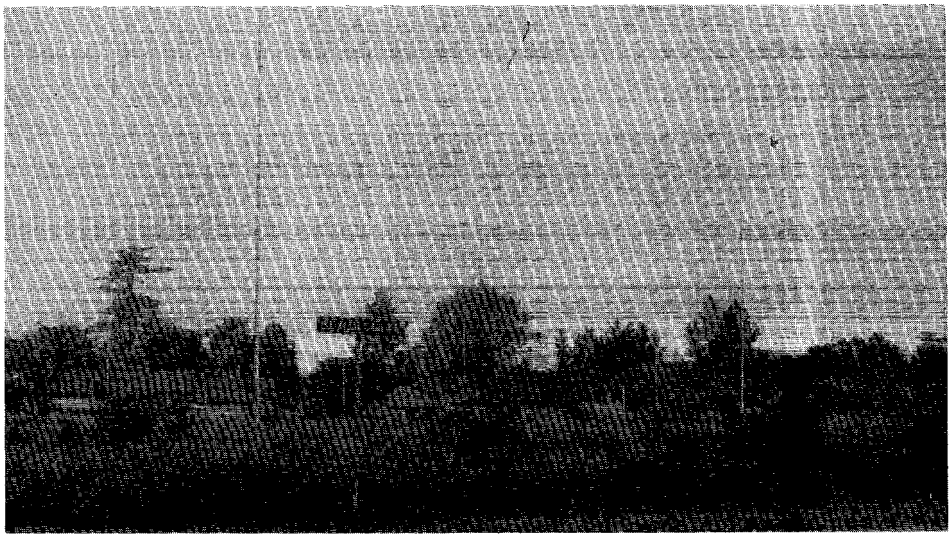

Figure 64. Administration of Posts, Telegraphs, and Telephones radio transmitting station near Medan airport.

Figure 65. Radio Republic Indonesia transmitting facility at Medan, along the highway to Bindjai.

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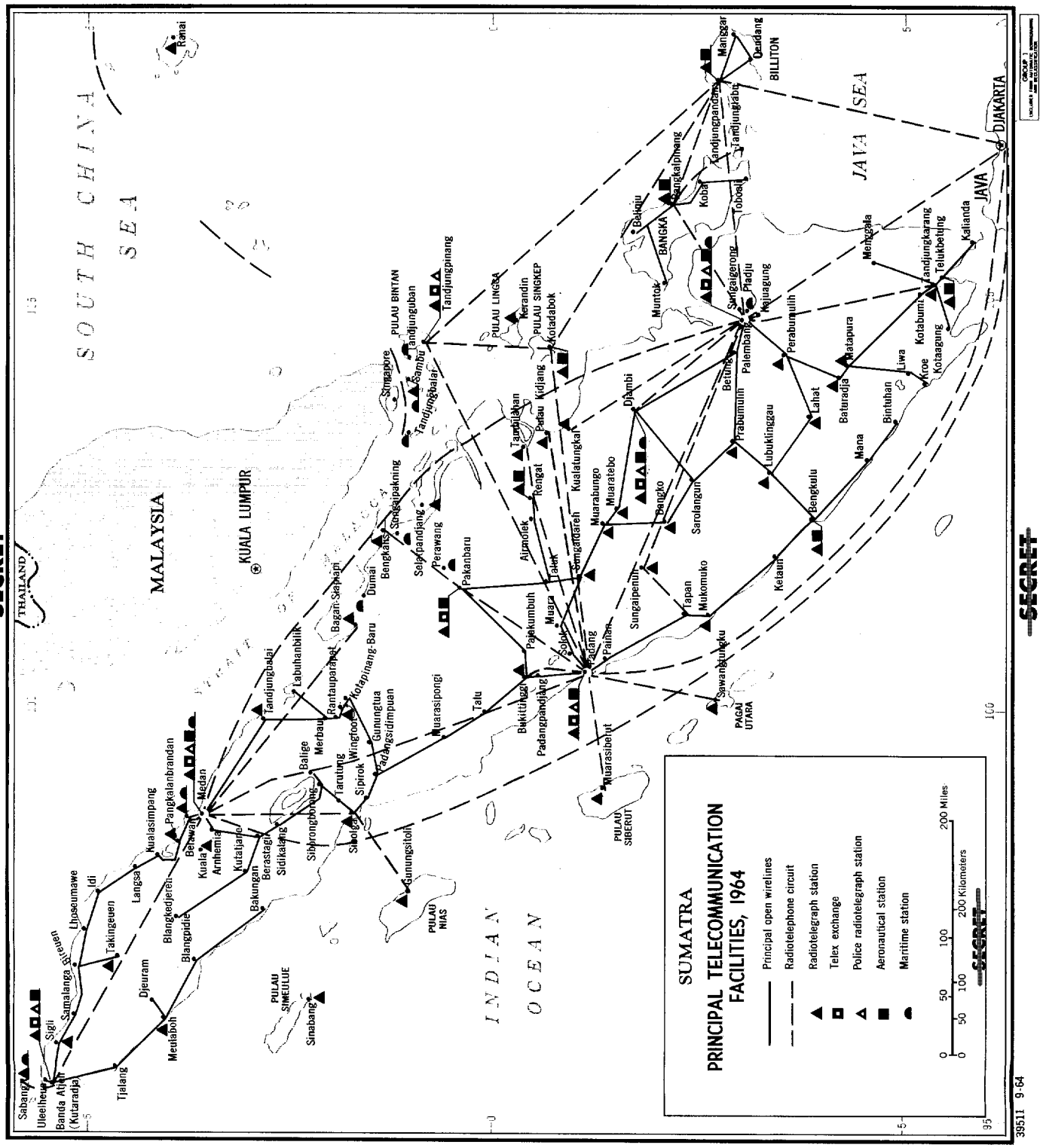

IX. Military and Internal Security Forces

A. General

The Indonesian military services are known collectively as the Armed Forces of the Republic of Indonesia (Angkatan Perang Republik Indonesia - APRI) and consist of the Ground Forces (Angkatan Darat Republik Indonesia - ADRI), the Air Force (Angkatan Udara Republik Indonesia - AURI), and the Naval Forces (Angkatan Laut Republik Indonesia - ALRI). Determination of national defense policies is the responsibility of the National Security Council. Coordination of activities of the armed forces is the responsibility of the Chief of Staff, Armed Forces under the direction of the Coordinator Minister for Defense and Security. The Commanders of the three services act as advisors to the Coordinator Minister and command their respective services.

President Sukarno is ex officio Commander in Chief of the Armed Forces. The Coordinator Minister for Defense and Security, and concurrently Chief of Staff, Armed Forces, is General Abdul Haris Nasution. The total personnel strength of the Armed Forces (as of October 1964) is about 353,625, broken down as follows: Army 295,000; Navy 24,650; Marines 13,150; and Air Force 20,825. Supplementing the army in military operations are the 23,000 men of the Brigade Mobile of the National Police.

The APRI is capable of maintaining internal security. It has only a limited capability to wage an offensive war, and it could not repel a major attack against the Indonesian archipelago. However, equipment obtained primarily from the Soviet Bloc during the past two years, together with experience gained in the conduct of joint operations, gives the APRI the potential to become the most powerful military force in Southeast Asia. Indonesia has a manpower reserve of about 13.4 million males fit for military service. A common religion, physical stamina, mental alertness, individual loyalty, and obedience -- at least through the battalion level -- favor the development of effective forces. These assets are offset, however, by command problems, poor leadership, some ethnic and linguistic diversities, the low level of formal education, and inadequate troop training. Also, a lack of spare parts, a shortage of funds, technical and logistics deficiencies, and dependence on foreign sources for weapons and equipment will continue to be limiting factors in the realization of the APRI's total military potential. Present airlift and sealift equipment could support a force of no more than 12 battalions.

The armed forces are subject to considerable Communist propaganda and penetration efforts from the large Indonesian Communist Party (PKI). Higher echelons of the armed forces and police are anti-Communist but are more nationalistic than pro-Western. Leftist attitudes are apparent among some junior officers and among the enlisted ranks in all services. Predominant Western influence on the navy is being diluted by Soviet Bloc programs. The introduction of equipment, ships, and aircraft from the Soviet Bloc has resulted in the presence of Communist (mostly Soviet) instructors and technicians, and this, coupled with training programs in Bloc countries, is offering further opportunities for Communist penetration and indoctrination.

The military budget for the year ending 31 December 1963 was $1,762,000,000 (on the basis of the official exchange rate: 45 rupiahs equals $1.00). This represented 26 percent of the total budget and 12 percent of the GNP.

Morale within all services is generally high. This stems from pride in the military's role in achieving independence for the nation, in ending the 1958 rebellion, and in winning the struggle for West New Guinea, as well as from the prominent role of the armed forces in current national programs. Membership in the armed forces provides both prestige and privilege, and despite low pay, haphazard promotions, corruption among senior officers, and poor living conditions, provides a higher standard of living than does civilian life. Although there is some dissatisfaction within the services over President Sukarno's policies, the armed forces are essentially loyal to him and would be reluctant to pursue an independent course.

B. Army (ADRI)

The army is the major stabilizing force in the nation and through its senior officers plays a direct political and administrative role in the government. Military officers or former military officers occupy key positions at both the national and regional level, in the diplomatic service, and in various industrial enterprises. The army is engaged in an ambitious civic action program designed to increase its prestige and influence and to reduce Communist penetration at the village level through civil development programs, indoctrination of village leaders, and rehabilitation of surrendered dissidents. The army has a considerable degree of unity, reasonable standards of discipline, pride, and a capacity and intention to counter Communism.

Operational control is exercised by the Army Chief of Staff through 17 Military Area Commands or KODAMs. KODAMs I, II, III, and IV are located in Sumatra, with headquarters at Banda Atjeh, Medan, Padang, and Palembang respectively (see Map 39136 - Army Order of Battle). For administrative convenience an inter-regional command (IRC) was established for these KODAMs at Medan. The interregional commander is a deputy army chief of staff and acts within his area as the representative of the ADRI commander. The KODAM commander exercises control over all troops in his area and is responsible as well for training, administrative and logistic support, and for some recruitment.

The battalion is the largest tactical unit normally employed offensively, although the brigade is expected to replace the battalion as the major tactical unit. Sixteen brigades have been formed, including the 7th Brigade in KODAM II (North Sumatra) and the 8th Brigade in KODAM IV (South Sumatra). The Strategic Army Command (KOSTRAD), a mobile strike force organized on the brigade system, draws units from the KODAMs as required. The standard infantry battalion has a TOE strength of 874, but actual strengths vary considerably. The army is credited with 180 battalions (140 infantry). There are 34 battalions stationed on Sumatra -- 28 infantry, 2 cavalry, 2 field artillery, and 2 engineer battalions. Locations of army headquarters on Sumatra are also shown in Section F. Elements of a brigade were reported in late May 1964 to be stationed on Billiton and Bangka Islands in connection with the Malaysia crisis. The approximate number of troops in the four Sumatra KODAMs is: KODAM I, 3,000; KODAM II, 14,000; KODAM III, 18,000 and; KODAM IV, 13,000.

The army is equipped with a varied assortment of weapons from most European countries, the US, Japan, and the Communist Bloc. Equipment provided by the USSR includes small arms, heavy and light machineguns, 82mm mortars, 82mm and 107mm anti-tank recoilless guns, 122mm howitzers, anti-tank rocket launchers, 57mm AA guns, armored cars, amphibious tanks, surface-to-air missiles, and vehicles. Maintenance standards are poor, and there is a marked shortage of spare parts. The units on Sumatra are poorly trained and are equipped for the most part with obsolete Western weapons. Various army uniforms are shown in Figures 66 through 68

Numerical designations of infantry battalions reflect their geographical origin. The 100 series battalions originated in North and Central Sumatra, while the 400 series battalions (some of which are stationed on Sumatra) originated in Central Java. Battalions numbered 110-119 are based in KODAM I, 120-129 in KODAM II, 130-139 in KODAM III, and 140-149 in KODAM IV. Since the Indonesian soldier has a strong attachment to his native area, troops are assigned to units as close as possible to their homes.

Figures 66,67,68.
Indonesian army
uniforms.

Figure 69. Rebel sentry on mined airfield at Bukittinggi, 1958. Pointed bamboo stakes are to discourage paratroop landings (see p. 88).

Figure 70. Rebel patrol -- Sumatra, 1958.

Figure 71. Students being drilled by rebel officer -- Bukittinggi, 1958.

Figure 72. Rebels surrender to government forces -- Sumatra, 1958.

The Javanese units on Sumatra would be generally more loyal to the central government than the local units, where loyalties tend to be tied to individual commanders.

C. Air Force (AURI)

The AURI is an autonomous organization under the control of the Minister/Chief of Staff, Air Force and has 13 operational squadrons, made up of 2 medium bomber, 2 light bomber, 2 fighter, 2 fighter-bomber, 2 transport, 1 reconnaissance, 1 air-rescue, and 1 helicopter squadrons. Overall strength is: fighters 130 (including 87 MIG's); bombers 82 (including 17 IL-28's and 25 TU-16's); transports 59; trainers and miscellaneous 254. All units are based on Java because of budgetary restrictions, but detachments are sent to the outlying provinces for specific operations. Headquarters of Air Regional Command I (KORUD I), which is responsible for all air force matters in Sumatra, is located at Medan.

The AURI's tactical capability is satisfactory against undefended ground targets and in supporting ground operations against dissident forces. Its transport capability is approximately 1500 paratroopers. Its air defense capability is improving as a result of deliveries of Soviet MIG-19 and MIG-21 aircraft, antiaircraft guns, surface-to-air missiles, and radar; nevertheless, air defense is still limited. The TU-16's have given AURI a small strategic capability. Piston and jet fighters operating out of Medan and possibly from Palembang could cover the whole of Malaya and Singapore. Jet fighters and medium jet bombers could cover at least some of Sarawak from Palembang. AURI's greatest weakness is in logistics. Procurement and control of supplies are poorly managed and are complicated by the diverse origins of the aircraft. Also, limited inter-island shipping, roads, and railroads seriously hamper logistic support.

The air force has little political influence. Most of its senior officers are US-trained, although training has also been supplied by India, Egypt, Poland, Czechoslovakia, and the USSR. Training in so many foreign countries has resulted in a diversity of doctrines, methods, and techniques.

The air facility system on Sumatra and associated islands consists of 62 known airfields, 23 of which have runways over 2,000 feet. The Polonia/Medan airfield is one of eight in all Indonesia with a runway of at least 8,000 feet. Although there are no air force operational units permanently based on Sumatra, jet fighters and medium and light bombers have been seen at Polonia/Medan, jet fighters and light bombers at Paalmerah (Djambi),

and jet fighters at Talangbetutu (Palembang). Location and data concerning known airfields on Sumatra are shown on Map 39136 and in Appendix A.

There are six known ground control intercept sites on Sumatra utilizing Polish NYSA "B" or "C" radars with 100 mile GCI capability. Of 14 SAM sites called for in Indonesia's 1961 arms agreement with the USSR only three are operational; all are on Java. Missiles and equipment were observed at Medan, Sumatra in December, 1963.

D. Navy (ALRI)

The acquisition of large numbers of ships from the Soviet Union during 1961-62 has given the Indonesian Navy the most powerful indigenous naval force in Southeast Asia. It comprises the following ships: 1 light cruiser (CL), 7 destroyers (DD), 10 destroyer escorts (DE), 12 submarines (SS), 3 patrol escorts (PF), 28 subchasers (PC), 3 subchasers (SC), 21 motor gunboats (PMG), 21 motor torpedo boats (PT), 7 guided missile patrol boats (PTG), 16 minesweepers, 12 amphibious ships, and 37 auxiliary and service ships.

The primary mission of the ALRI is the prevention of smuggling and piracy. It is incapable of defending the country from attack by a modern naval force due to the island nature of the country. Other limitations include: 1) a continuing shortage of trained personnel; 2) lack of training and experience in submarine and mine warfare; 3) poor maintenance of ships; and 4) a shortage of spare parts due to the diverse origins of the ships and dependence on foreign sources of supply. These negative factors are partially offset by the energy and enthusiasm of the young officers who now lead the navy, the increased emphasis on fleet exercises and improved educational facilities, and efforts to improve outlying bases to enable them to support patrol craft for sustained operations.

During the early years of its existence, the ALRI was strongly influenced by the Netherlands Navy, but as this influence diminished the ALRI turned toward the United States Navy. Training and organization is now almost totally oriented toward the United States, but the large purchases of Soviet ships has tied the ALRI logistically to the USSR. This dependence is resulting in increased Soviet influence. The US, USSR, UK, India, Poland, Italy, Yugoslavia, and the Netherlands have provided training.

The Minister/Chief of Staff of the navy is the highest naval authority, and his functions are comparable to the

combined functions of the US Secretary of the Navy and the Chief of Naval Operations. He has three coequal deputies: the First Deputy who heads the operations staff, the Second Deputy who heads the administrative and technical staff, and the Commandant of the Marine Corps (Korps Komando). Directly subordinate to the First Deputy are the seven maritime area commands (KODAMARs) and the Fleet Command.

Three of the area commands have jurisdiction over Sumatran waters. The I Naval Area Command (KODAMAR I), with headquarters at Belawan, exercises control over the north and south coasts of the northwestern half of Sumatra and adjacent islands. The II Naval Area Command (KODAMAR II), with headquarters at Tandjungpinang, controls the northern coast of Sumatra along the Strait of Malacca, the areas in the vicinity of the Riau and Lingga Archipelagos, and the Anambas and Natuna Islands. The III Naval Area Command (KODAMAR III), with headquarters at Djakarta, controls the waters around the southeastern end of Sumatra.

Most of the fleet is based on Java. There are bases for patrol craft at Belawan, Sabang, and Palembang on Sumatra, and at Tandjungpinang, and Tandjunguban in the Riau Islands. These bases are capable of making only limited repairs to patrol craft. Larger ships make occasional brief visits to these installations, but, because of limited logistic and repair facilities, large-scale navy activity could not be sustained for long periods. There is a minor naval installation at Telukbajur (Padang), Sumatra, and several others are scattered throughout the Riau and Anambas Islands.

The navy has a small air arm comprising 240 personnel, 17 aircraft, and 15 helicopters with a primary antisubmarine warfare mission. All aircraft are based near Surabaja, Java. The Ministry of Sea Communications, the Sea Police, and the Ministry of Finance (customs) have small craft based throughout Indonesia on anti-smuggling duty.

The 13,700-man Marine Corps (Korps Komando) is an integral part of the navy, and its organization is patterned after that of the US Marine Corps. It is believed to be responsible for the development of amphibious doctrine, operations in support of naval forces, and for the conduct of security and guard duties at naval installations. The marines have no major units on Sumatra but in early 1963 had three platoons of security troops at Sabang and an unknown number at Palembang. There was also a platoon at Tandjungpinang (Riau Islands).

E. Police Forces

1. State Police Force (SPF)

The SPF's primary mission is to maintain law and order. SPF strength is about 110,000 officers and men, excluding the 23,000-man Police Brigade Mobile (see below). The Minister/ Chief of State Police is subordinate to the President, who, as Supreme Commander of the Police, directs the policies of the police. Besides directing the police force, the Chief serves, along with the Chiefs of Staff of the Army, Navy, and Air Force as a permanent adviser to the National Defense Council. The SPF faces a considerable task. Although some earlier uprisings have been suppressed, banditry and robbery are chronic problems. Small dissident groups are still active in parts of western Java, Celebes, and Sumatra, and the police, together with the Armed Forces, have not been able to bring them completely under control. SPF training is considered good mainly because of foreign assistance since 1954, principally by US personnel through AID, although efficiency and morale among the rank and file are still generally poor due in part to their low wages. Police on patrol duties are usually armed with rifles or carbines. Police weapons are of varied origin and include Dutch, Japanese, and those obtained from various foreign-aid programs. Although the majority are in poor condition, large quantities of small arms are available to the police.

Provincial police headquarters are located at Medan (north Sumatra), Bukittinggi (west-central Sumatra), Palembang (south Sumatra), and Tandjungpinang (Riau Islands). The basic unit is the three- to five-man patrol which operates principally from local police stations and receives its instructions from the local police chief. These patrols are stationed in the towns, village areas, and islands. The State Police Security Service is the intelligence and security arm of the police, while the Criminal Investigation Service has responsibility for prevention and detection of crime. Members of these two services are not normally uniformed. The Sea Police organization owns 123 assorted vessels and engages primarily in anti-smuggling duty.

2. Police Brigade Mobile (BriMob)

BriMob is a paramilitary element of the State Police Force and was formed in 1950 as a special force for maintaining internal security, particularly for controlling insurgency. It also provides bodyguards for the President and other officials. It is usually committed in situations too difficult for the regular police to handle. BriMob troops are capable of launching amphibious and airborne operations and of parachuting into enemy territory if the need arises. Morale and discipline in

BriMob are good and are better than in the army and regular police. The force is generally anti-Communist.

AID has been instrumental in training and equipping the BriMob. A large number of senior officers have received anti-guerrilla training in the US, Italy, the Philippines, and at the US Special Forces School in Okinawa. The training center in Porong, East Java is emphasizing jungle warfare training in addition to cavalry and amphibious operations.

Weapons are of World War II vintage and were obtained from Britain and the US. None of the equipment was new at the time of acquisition, and about 70% of it has been in active use since 1950-51. Weapons used by BriMob are normally the types issued to a light infantry company and include 81mm and 60mm mortars.

Provincial police headquarters in each province has control over all police activities in the area, including all BriMob units. BriMob is organized into 10 Area Commands and 12 mobile brigades. There are at least 32 battalions, each with three rifle companies of 177 men, one heavy weapons company with 118 men, and a headquarters company with 203 men. There are three area commands and six battalions in Sumatra. Headquarters for Area V (north Sumatra) is at Medan, with battalions at Banda Atjeh and Padangsidimpuan. Headquarters for Area VI (central Sumatra) is at Padang, with battalions at Bukittinggi and Pakanbaru. Headquarters for Area VII (south Sumatra) is at Palembang, with battalions at Palembang and Telukbetung.

Figure 73. Police at Bukitkubu (4°02'N-98°10'E).

F. Locations of Army and Mobile Brigade Units - Sumatra

Designation	Unit No.	Permanent Station
KODAM I (Atjeh Military Area)		
Hq KODAM I		Banda Atjeh
Mil Dist Comd (KODIM)	0101	Banda Atjeh
	0102	Sigli
	0103	Lhokseumawe
	0104	Langsa
	0105	Meulaboh
	0106	Takingeun
	0107	Tapaktuan
	0108	Banda Atjeh
Inf Bn	111	Sigli
	112	Meulaboh
	135	Bireuen
	136	Langsa
	443	Unlocated
BriMob Bn	15	Banda Atjeh
Escort Co		Banda Atjeh
Raider Co		Ketapang Dua
Conscript Co		Leupueng
Conscript Co		Indrapuri
Conscript Co		Sibree
Conscript Co		Simpangtiga
Training Center		Banda Atjeh

esignation	Unit No.	Permanent Station
ODAM II (North Sumatra Military Area)		
Hq Sumatra Interregional Command (IRC)		Medan
Hq KODAM II		Medan
Mil Dist Comd (KODIM)	0202	Bindjai
	0203	Kabandjahe
	0204	Pematangsiantar
	0205	Tandjungbalai
	0206	Rantauparapat
	0207	Gunungsitoli
	0208	Tarutung
	0209	Sibolga
	0210	Padangsidimpuan
	0211	Sidikalang
	0212	Tebingtinggi
Inf Brig Hq	7	Pulo Radja (near Medan)
Inf Bn	121	Medan
	122	Medan
	123	Sidikalang
	124 (7th Brig)	Sibolga
	125 (7th Brig)	Rantauparapat
	126	Rantauparapat
	133 (7th Brig)	Tebingtinggi
	137	Padangsidimpuan

Designation	Unit No.	Permanent Station
	138	Sei Silau
	139	Sidikalang
	Bukit Barisan I	Pematangsiantar
Arty Bn	II	Medan
	VII	Medan
Cav Bn	6	Pangkalanbrandan
Eng Bn	I	Medan
BriMob Bn	17	Padangsidimpuan
Escort Co		Medan
Escort Co		Pematangsiantar
Escort Co		Padangsidimpuan
Escort Co		Pulo Radja
Escort Co		Balige
Guerrilla Warfare Center		Simpang Raja
KODAM III (Central Sumatra Military Area)		
Hq KODAM III		Padang
Mil Dist Cmd (KODIM)	0301	Pakanbaru
	0302	Rengat
	0303	Bengkalis
	0304	Bukittinggi
	0305	Sukamananti
	0306	Pajakumbuh
	0307	Batu Sangkar
	0307B	Tepi Selo
	0308	Pariaman

Designation	Unit No.	Permanent Station
	0309	Solok
	0309B	Alahanpandjang
	0310	Sawahlunto
	0311	Painan
	0312	Padang
Regt Cmbt Team	II	Bukittinggi
	III	Solok
Inf Bn	130	Padangpandjang
	131	Pajakumbuh
	132	Bukittinggi
	440	Padangpangakajan
	442	Painan
BriMob Bn	18	Bukittinggi
	19	Pakanbaru
Cav Det		Padang
Arty Bty		Padang
Cmbt Engr Det		Padang
FA Bty		Solok
Cmbt Engr Co		Bukittinggi
Mil Police Co		Pakanbaru
KODAM IV (South Sumatra Military Area)		
Hq KODAM IV		Palembang
Inf Brig Hq	8	Tandjungkarang
Inf Bn	141	Djambi
	142	Sungaipenuh

Designation	Unit No.	Permanent Station
	143	Lahat
	144	Muaraenim
	145 (8th Brig)	Baturadja
	146 (8th Brig)	Tandjungkarang
	147	Tjurup
BriMob Bn	20	Palembang
	21	Telukbetung
Cav Bn	5	Palembang
Cmbt Engr Bn	II	Palembang
Raider Co		Palembang
Arty Bty		Palembang
Constr Engr Co		Palembang
Inf School		Tjurup
Battle Training Center		Palembang
Inf Depot		Palembang

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X. Survival Factors

A. Food and Water

1. Plants

A traveler on Sumatra or any of its associated islands should have little trouble living off the land if he is willing to eat unfamiliar foods. The best places to search for food plants are in forest clearings and along trails and streams. The commonest edible vegetation consists of wild fruits (breadfruit, durians, bananas, papayas, pineapples, figs, oranges, mangoes, raspberries, and passion fruit), various types of nuts, plant leaves, roots, tubers (taros and yams), grasses, and shoots of ferns, bamboo, palms, and other trees.

Taro is most plentiful in damp places. Its tuberous root should be cut into small pieces and thoroughly baked or boiled to remove the acrid taste. Young taro leaves, though slightly acid, also are edible if boiled thoroughly in several changes of water. The yam is found at the base of the stem of a twisting plant with ivylike vines. Most species are edible, but those with an acrid taste should be considered poisonous. Fern fronds and stalks, which occur almost everywhere in the forests, and the roots and tubers of the water chestnut, water lily, and bulrush can be eaten raw or cooked. The stem and root shoots of wild rice, which grows in poorly drained areas, can be eaten raw. Coconuts are a good source of food -- growing wild most commonly along better drained coastal stretches, and cultivated in or near native villages. The pith of the trunk of the sago palm -- a large thorny palm with huge leaves, generally found in moist regions -- is edible when crushed to a pulpy mass and then washed and dried. The white kernel inside the nut of the nipa palm also is edible; the nipa palm grows behind the mangroves along the east coast and along rivers as far upstream as they are influenced by the tide.

Some general rules to follow with respect to wild plant food are:

a. Discard all beans and fungi.

b. Consider all milky or otherwise discolored sap or juice as poisonous.

c. Taste all plant food before eating it in quantity. If

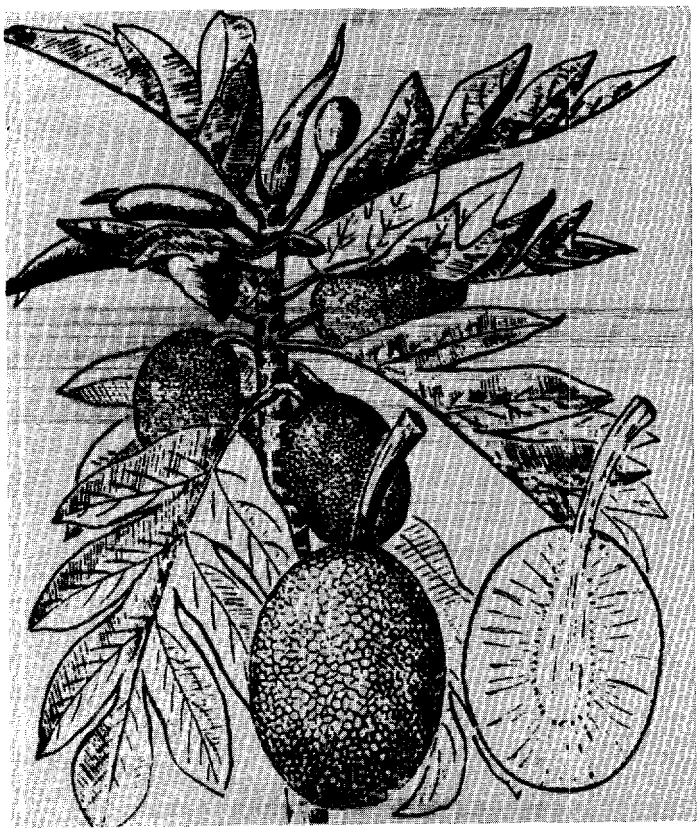


Figure 74. The fruit of breadfruit can be boiled, baked, or fried; seeds should be boiled or roasted.

Figure 75. The taro plant, found in moist shady places, is entirely edible either raw or boiled.

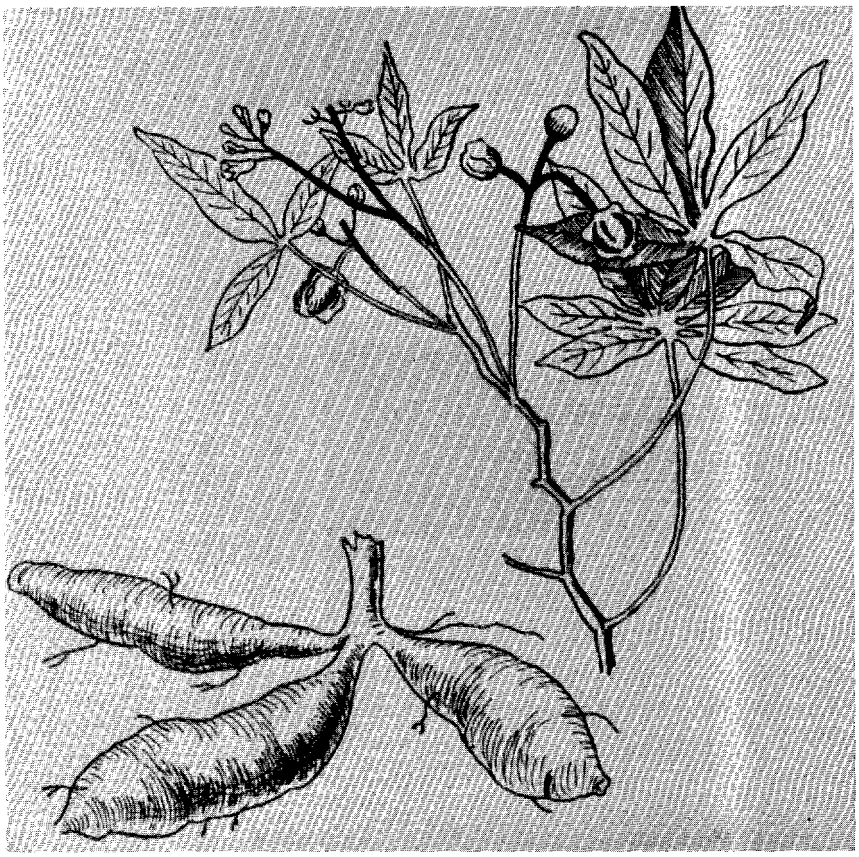


Figure 76. Manioc.

Figure 77. Seeds of immature fruit of the nipa palm taste like coconut.

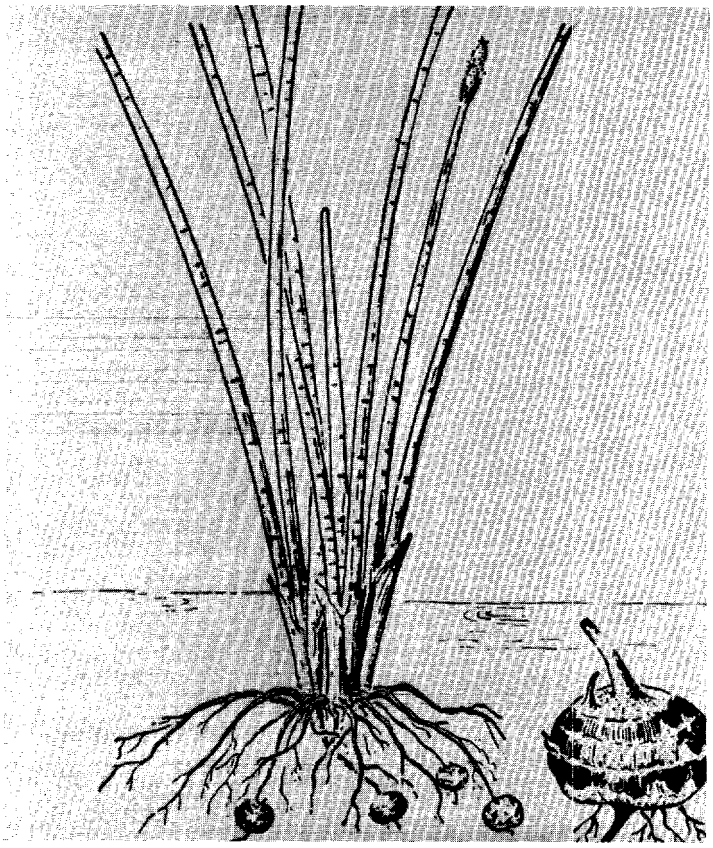


Figure 78. Nuts of the water chestnut are under ground and should be boiled or roasted before they are eaten.

it has a pronounced bitter or soapy taste or if it is hot and irritating to the tongue, it should not be eaten.

d. Avoid toadstools and mushrooms; many are poisonous.

e. Regard most leaves, fruits, and tubers that can be eaten by birds or mammals as safe to eat. (Some travelers in the jungle use monkeys to test wild berries and other vegetation for safety for human consumption.)

Wetland rice is the common crop near native villages in the lowlands and in some of the valleys of the uplands; dry-land rice and corn are the staple foods at higher elevations. Small fruit and vegetable gardens are located in or near villages, and large truck gardens in northern Sumatra supply urban markets. Extreme caution should be exercised to avoid detection when pilfering crops from native fields, as the fields are closely watched for predatory birds and animals during the ripening period. In fields of the highlands these marauders commonly are detected and scared away by observers who manipulate extended wires from tall platforms. A person in or near the fields could be observed from such posts. The outsider should also beware of village dogs. The best approach to the fields is from the downwind side after dark, preferably near midnight rather than in the early evening.

2. Animals

Meat is abundant throughout Sumatra and all but the smallest of its associated islands. Most animals, birds, reptiles, and fish are edible, and their meat is generally more nourishing than wild plant food. It might be possible to kill one of the many wild pigs or deer that often accompany herds of grazing elephants without antagonizing the elephants, but it would be very risky. Attempting to kill any of the large animals that abound on Sumatra would be dangerous and not worth the risk involved. The small animals such as monkeys, badgers, otters, martens, squirrels, and foxes are easier to catch than the large ones, and for the most part, are tastier. All native villages have poultry and other domestic animals, but it would be hard to steal them without being detected. Sumatra has many species of birds, all of which are edible. Included are pheasants, hornbills, swifts, mynahs, and kingfishers. All of the many varieties of snakes on Sumatra, including the poisonous species, can be eaten safely if the head -- where the poison sacs are located -- is removed.

The rivers, tidal flats, and coastal waters of eastern Sumatra contain a wide variety of fish, amphibia, and reptiles including frogs, turtles, lizards, and crocodiles. Crabs, crayfish, and clams are found near the shore, particularly in the mangrove areas. A variety of carp is very common in Lake Toba and is netted by the Bataks who live on the lakeshore.

The flesh of many salt-water fish, including the pufferfish, porcupine fish, triggerfish, and parrot fish, which frequent rocky or coral reefs and muddy or sandy shores, is poisonous. It is difficult to distinguish a poisonous fish from a nonpoisonous one by appearance. In general, however, poisonous fish have round or boxlike bodies with hard shell-like skins covered with bony plates or spines. Their mouths are small and parrot-like, gill openings are small, and belly fins are small or absent. Generally all fresh-water fish and amphibians are safe to eat, although they should be well cooked because of the prevalence of flukes and other parasites.

Fish can be caught with the fishing equipment in standard survival kits, with crude improvised equipment, or -- in inland waters -- by spreading poison on the water. Fishhooks can be made from pins, needles, wire, wood, or bone; lines can be made from bark, roots, or the leaf and stem fibers of various trees and plants; spears can be made from bamboo or saplings. Poison can be derived by crushing the parts of several types of plants (notably the tuba plant) or by extracting lime from burned coral or seashells. Fish are usually easiest to see in small shallow streams, but they are most numerous in pools of deep calm water, particularly when streams are low.

Edible grubs are found in rotten logs, in the ground, and under the bark of dead trees. Edible termites are common throughout the jungles. Both can be eaten raw without ill effects, although cooking is probably preferable. Caterpillers should not be eaten, as some are poisonous.

3. Water

Water is readily available on most of Sumatra and associated islands, but finding a supply that is safe to drink can be a serious problem. Water supplies, except in major urban areas, are not controlled and should be regarded as contaminated. Dysentery, cholera, and typhoid are the commonest of the water-borne diseases; blood flukes and worms also can be picked up from drinking contaminated water.

Other than rainwater, which is safe to drink if collected in a clean container, the safest water supplies are streams at high elevations -- above the sources of contamination. The most dangerous sources of drinking water are still or slow-moving bodies of water near native villages. Water should be purified by using chemical water purifiers or by boiling for 20 minutes. For most of the length of the east coast of Sumatra and extending inland up the rivers for several miles, only brackish or salt water is available and a desalter kit must be used to provide fresh water.

Fluids can be obtained by chewing the fruits, growing tips, leaves, stems, and buds of many plants. Water can be extracted from some varieties of bamboo and from many of the woody vines in the forests. The vines should be cut into 2-foot or 3-foot lengths and allowed to drip. Water can be drained from larger bamboo shafts by cutting into each segment just above the joint. Potable liquids also are obtainable from the trunks of banana trees and many palms, from the lower part of nipa palm fronds, and from coconuts. The milk of ripened coconuts contains an oil that may cause diarrhea. The milk can be drunk safely by allowing it to stand, as the oil will seperate from it and can then be drained off.

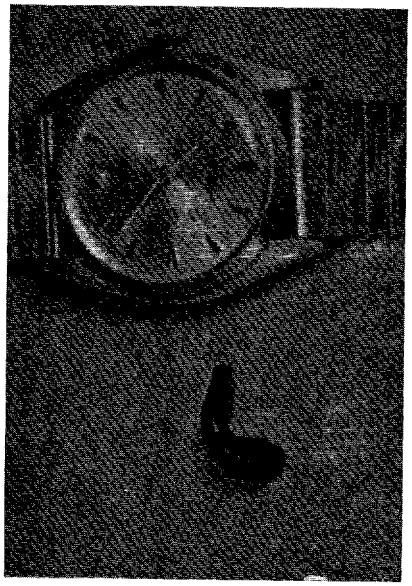
B. Environmental Hazards

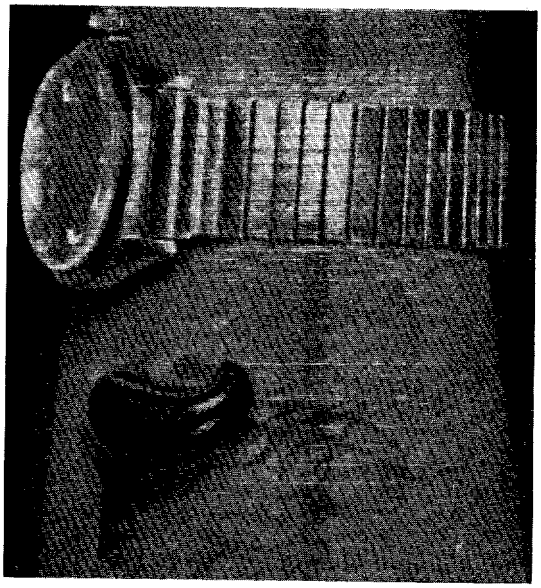
1. Animals

Large animals are a potential hazard on Sumatra and associated islands but usually are not a serious threat to the traveler because they tend to avoid humans. Although they rarely attack a man unless provoked, it is inadvisable to attempt to kill them except in self-defense. Large animals are most likely to be encountered in the denser parts of the jungle, where their trails may provide the best routes for movement on foot.

Elephants are found throughout Sumatra and are particularly numerous in the south; they also inhabit islands of the Riau Archipelago. They travel in large herds and remain mostly on relatively high, dry ground. Rhinoceroses still live on Sumatra and the Riau Islands, although their numbers are rapidly diminishing. Both elephants and rhinoceroses charge if provoked. Tigers are found throughout Sumatra. Among the various types of apes on Sumatra, potentially the most dangerous is the orangutan, which lives only on Sumatra and Borneo. Orangutans are large and powerful and usually travel in small bands. They

Figure 80. Drinking bamboo water. When one segment runs dry, another may be tapped.





Figures 81 and 82. Thin leech becomes gorged with blood in 10 minutes.

Figure 79 (opposite). Tapping bamboo for water by slashing with a knife.

rarely trouble those who do not bother them but, like most other large animals, can be extremely disagreeable when provoked. Other potentially dangerous animals include panthers and leopards. Tapirs (large hoglike animals) are common on Sumatra but are not considered dangerous to man. Monkeys are numerous throughout the area and, like the tapirs, are not dangerous. They do, however, have a troublesome habit of stealing small unguarded items from campers.

2. Reptiles

Several of the numerous species of snakes that occur on Sumatra and associated islands are dangerous to man. The krait, cobra, and adder are the most dangerous of the poisonous snakes. The python and boa constrictor, large nonpoisonous snakes that crush their prey, are not uncommon. Crocodiles are found in the rivers of Sumatra.

Usually snakes move out of the way and strike only if frightened or provoked. All snakes should be avoided on the assumption that they are poisonous; a bite from a nonpoisonous snake may be a source of secondary infection or serious illness. To minimize the chance of being bitten by a snake, basic precautions should be observed at all times. Extreme caution should be taken in gathering firewood, particularly around fallen trees and limbs. A traveler on rocky terrain should not place his hands on rocks or ledges above his head or step down into shadowed rock crevices without first visually examining the site. During the heat of the day, all areas with deep shadows should be regarded as potential shelters for snakes. Clothing and equipment should be hung on tree limbs rather than left lying on the ground. Instead of sleeping on the ground, a hammock or sleeping platform should be improvised.

3. Insects

The danger of bites and stings from insects varies considerably from place to place and from individual to individual. As precautionary measures, contact with all insects and other small animals such as leeches should be avoided whenever possible, and repellents should be used.

Mosquitoes are common in most of Sumatra and associated islands. At best their bite is unpleasant; at worst it can lead to delirium and death. Many species are vectors of malaria; others carry dengue and filariasis. Although a

malaria eradication program has been underway on Sumatra for a number of years, little progress has been made; incidence of the disease is still high. Malaria-carrying mosquitoes are most prevalent in poorly drained lowland areas, where they breed in pools open to the sun, but they are also found at elevations as high as 5,000 feet, where they breed in mountain streams, particularly in slow-moving backwaters open to the sun. A traveler in mosquito-infested areas should use suitable clothing and netting to keep the amount of exposed skin to a minimum, particularly after sundown when mosquitoes are most likely to bite.

Several species of flies are found on the island. Their bites may cause swelling and intense itching and may result in secondary infection if scratched. Near infested villages they may carry intestinal diseases and trachoma. One can usually escape flies by moving out of the vicinity, because most flies travel only short distances from their breeding areas.

Fleas, numerous in native villages, carry many diseases. Rat fleas are vectors of plague and typhus. If it is necessary to kill rodents for food, the animals should be hung up as soon as killed and not handled until cold; fleas soon leave dead animals. Lice, also common among native groups, may transmit typhus and relapsing fever.

The bloodsucking land leech is perhaps the most irritating form of animal life on Sumatra and associated islands. Leaches are very difficult to avoid, especially in forested areas after heavy rain. They cling to blades of grass, leaves, and twigs and fasten themselves to the skin of passers-by. They can slip through coarse socks or the eyelets of shoes. Although their bites may cause discomfort, they generally are painless and often are discovered only after examination of the body. In leech-infested country the body should be examined regularly, as failure to remove leeches promptly will result in loss of blood. Leeches should be removed from the body very carefully in order to avoid secondary infection. They are best removed by applying a burning cigarette or a dehydrating substance such as salt, iodine, alcohol, or dry ashes.

Ticks and mites may carry scrub typhus. Additionally, they may cause secondary infections (tropical ulcers) if improperly removed from the skin. Ticks and mites are usually more

difficult to remove than leeches. If the substances recommended for the removal of leeches are not effective in removing ticks and mites, a steril instrument should be used to extract them. Repellents are fairly effective in keeping ticks and mites away.

Scorpions, which average about 1-1/2 inches in length but are sometimes as long as 8 inches, are found on Sumatra and associated islands. They should be carefully avoided because their sting, although rarely fatal to humans, is extremely painful. Scorpions usually hide under the loose bark of fallen timber, under boulders, and in dry, grassy areas during the daytime; they move about at night. Clothing (particularly shoes) and equipment should not be left on the ground, as scorpions are likely to crawl inside.

Spider bites, although not normally fatal to man, may cause severe pain and swelling. The bites of numerous other insects are poisonous but rarely serious. Because of the danger of secondary infection, however, care should be taken to avoid bites or stings from ants, centipedes, wasps, and other insects.

C. Climatic Hazards

1. Heat and Humidity

Temperatures vary little from month to month throughout Sumatra; the daily range is considerably greater than the yearly range. Temperatures are consistently high throughout most of the region and are relatively cool only at higher elevations. By far the most healthful climate is in the mountains. Combined with high relative humidity, the tropical heat that prevails throughout most of Sumatra is oppressive and enervating. Loss of body moisture through perspiration is high and has a debilitating effect unless the salt balance of the body is maintained. Men unaccustomed to tropical climates are particularly subject to intestinal and gastric infections. Young individuals in prime physical condition and with adequate diet usually become acclimatized in 1 to 2 weeks and retain unimpaired health for periods varying from 6 months to a year or more. Exertion of any kind, even for the acclimatized, is more taxing than in a moderate climate. Activities requiring exertion must be undertaken with caution; overexertion often results in heat exhaustion and temporary disability. Chronic overexertion may result in premature physical deterioration and, consequently, a shortened period of effectiveness.

Fungi and molds grow rapidly because of the high humidity and cause rapid deterioration of cloth and leather.

2. Precipitation

Rain falls during all months of the year in Sumatra and associated islands. Rainfall is highest on the western slopes of the Sumatran mountains and is considerably lower in the eastern lowlands and on the associated islands. Thunderstorms are frequent and commonly occur at night. Campsites should be well above stream level, particularly in narrow valleys, as a sudden rise in water level is common during heavy rains. Streams are hazardous to ford during and immediately after heavy rains, when they become raging torrents with swift currents and numerous whirlpools.

D. Cultural Factors

Contact with natives is hard to avoid on Sumatra and associated islands. Even in the sparsely populated swamps of eastern Sumatra, avoidance of contact is difficult because nearly all settlements are situated along rivers, which are the only practical travel routes through the region. Undetected movement is also difficult in the western half of Sumatra because, although a traveler is not confined to waterways, he is confined to less rugged valleys and gaps in the mountains, where people are most likely to live. In addition, western Sumatra is more densely populated than eastern Sumatra, and villages are generally close together. Throughout the islands, people are most easily avoided at night and in early morning, preferably from midnight until about an hour before dawn, when they are asleep. During Ramadan, however, Moslem villages become active earlier in the morning. (In 1965, Ramadan -- the month when Moslems fast from dawn until sunset -- occurs twice; it begins 5 January and 25 December and advances at the rate of about 11 days per year on the Christian calendar.)

The reception that a stranger is likely to receive from a Sumatran is difficult to predict. An encounter with a militant Communist or pro-Communist group could result in death. An encounter with military or police forces would result in interrogation and confinement. On the other hand, non-hostile reception could probably be expected from some Sumatrans, such as Christians and employees of American or British enterprises. Members of the isolated and less sophisticated tribes living in the interior are shy and suspicious, but if the traveler shows no antagonism toward his hosts, he should be able to establish good relations.

The Sumatran people are, for the most part, religiously tolerant and unlikely to be upset if any of their beliefs are violated. Nonetheless, a respect for religious beliefs is important, and any disrespect for the native's religion is likely to put the starnger in disfavor. To retain good relations with the tribal people, the outsider should watch carefully for native reactions and quickly attempt to rectify any blunder he may have committed. Among many pagans (and to a lesser extent among people who have adopted Christianity or Islam but still cling to many of their traditional beliefs), spirits are believed to be embodied in various animate and inanimate things such as animals, trees, mountains, rivers, automobiles, telephones, thunder, and lightning. The people are very careful to avoid antagonizing these spirits. Older people are especially spirit conscious. The tiger is the most revered animal and is referred to by evasive terms rather than by its real name to avoid offending its spirit. After killing a tiger, care is taken to mollify its spirit; offerings are placed before the carcass. Great care also is taken when felling trees to avoid cutting one that contains the spirit of an ancestor. Some natives formerly believed that to be photographed shortened one's life; the image received by the camera was thought to be one's soul, which was thereby placed under the control of the photographer. This belief may persist in remote areas.

A traveler is likely to win the respect of the natives most rapidly if he learns the natives' names and language and shows appreciation and understanding of their history, culture, and religion. The Bataks reputedly are good chess players. A visitor who plays chess with a Batak is likely to be regarded favorably, particularly if the visitor loses.

E. Medical Factors

Sumatra and its associated islands contain the health hazards common to typically tropical areas. Diseases are carried by mosquitoes, mites, ticks, and other insects and are also caused by contaminated soil and water (see Section F). Personal hygiene and cleanliness of camps and messing facilities are essential.

Grasses such as alang, Bermuda, panic, and couch differ from similar grasses in the United States and Europe and often produce allergenic reactions such as hay fever. Sensitive individuals should carry an antihistamine such as chlortrimeton (8 mg.).

The saps of some trees contain irritant poisons. These saps cause itching and blistering if they touch the skin. Treatment consists of washing the area of contact with strong soap or applying mild alkali.

Several foods eaten by the natives should be avoided or used with extreme caution. Cassava, from which a nutritious flour is made, contains cyanide. Improperly washed flour may produce cyanosis. Native foods consisting of certain molds may produce toxoflavin poisoning (symptoms: vomiting, perspiration, cramps, coma) if improperly prepared. A fermented native food called ontjom is prepared from peanuts and may produce a temporary jaundice. No specific antidotes for these poisonings are known.

F. Principal Diseases Encountered on Sumatra and Associated Islands

Carrier	Disease	Distribution	Prevention	Treatment	Comments
Infected humans	Yaws	Widespread	General cleanliness and penicillin	Penicillin	Infects up to 80 percent of population in some areas
	Broncho-spirochetosis	Unknown but appears general	Avoid close bodily contact	Penicillin	Produces a very tenacious pneumonia
	Asian influenza	Widespread during epidemics	Avoid crowded conditions; inoculation	Rest, anti-pyretics such as aspirin	No serious problem unless an epidemic develops
	Trachoma	Widespread	General cleanliness; avoidance of contact with infected persons	Tetracycline	Very common
	Smallpox	Widespread during epidemics	Inoculation	None	Fairly common
	Diphtheria	Widespread	Inoculation	Diphtheria antitoxin	Attack rate usually low, even in susceptible adults
Skin	Tropical ulcers	Widespread	General cleanliness and prompt attention to superficial wounds	Sulfonamide powders; tetracycline	Various bacteria on skin may infect an unattended wound, producing ulcer or open sore.

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Diseases (Cont.)

Carrier	Disease	Distribution	Prevention	Treatment	Comments
Wild dogs	Rabies	Widespread	Avoid or kill any wild dogs that may attack. Natives of Sumatra have an effective dog killing poison.	Thorough washing of wounds and institution of anti-rabies vaccine series	Antirabies vaccine treatment requires 2 weeks to a month and is impractical to carry out under conditions usually encountered by small forces. Evacuate bite victim as soon as possible.
Mosquitoes	Malaria	Widespread	Mosquito repellent and antimalarial prophylactic such as primaquine.	Chloroquine diphosphate	There are 11 species of mosquito vectors but most of the malaria produced is benign tertian and quartan malaria which are milder than malignant forms. Prevalence is greatest along the southwest coast of Sumatra.
	Filariasis	Widespread	Mosquito repellent	Hetrazan	Can produce elephantiasis
	Dengue fever	Widespread	Mosquito repellent	Bed rest, aspirin	Also called 5-day fever or 7-day fever
Unclean water, food, soil	Amebic dysentery	Widespread	Clean food and water	Diodoquin	Very prevalent
	Bacillary dysentery	Widespread	Clean food and water; sulfaguanidine if exposed	Aureomycin or sulfadiazine	Very prevalent
	Typhoid and paratyphoid fevers	Widespread	Inoculation	Chloromycetin	Very prevalent

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Diseases (Cont.)

Carrier	Disease	Distribution	Prevention	Treatment	Comments
Unclean water, food, soil (Cont.)	Cholera	Uncommon	Inoculation	Tetracycline and chloramphenicol	
	Hookworm and roundworm	Widespread	Wear shoes, use clean water and food	Tetrachloroethylene or piperazine	Very prevalent
	Tetanus	Widespread	Inoculation	None	Very prevalent
Mites, fleas, and flies	Scrub typhus	Rat-infested areas	DDT powder in clothing	Chloramphenicol	The vector mite inhabits fields of lalong grass and makes camping in such grassy fields hazardous.
	Murine typhus	Rat-infested areas	DDT powder in clothing	Chloramphenicol	Found mostly in crowded, rat-infested villages
	Plague	Rare	Inoculation	Streptomycin	Appears only sporadically. Vector is the rat flea.
	Visceral leishmaniasis	Rare	Fly repellent	Neostibosan	Also known as kala azar

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4. [redacted]

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APPENDIX A

MAJOR AIRFIELDS - SUMATRA

Airfield	Airfield Coordinates	Date of Latest Info	User	Longest Runway
Astra Ksetra (Menggala)	04 36 S-105 14 E	1963	AURI	5700 (earth)
Blang Bintang (Banda Atjeh)	05 30 N- 95 25 E	1962	Civil	4600 (concrete)
Branti	05 15 S-105 11 E	1962	Civil/AURI	4150 (earth)
Bulutumbang	02 45 S-107 45 E	1963	Civil	5577 (gravel)
Dabo	00 29 S-104 35 E	1963	Civil	3840 (gravel)
Gadut (Bukittinggi)	00 16 S-100 22 E	1960	AURI	3600 (gravel)
Iskandar (Bireuen)	05 07 N- 96 42 E	1960	AURI	5000 (gravel)
Karangendah (Palembang)	03 20 S-104 23 E	1963	Unknown	2790 (earth)
Kidjang (Tandjungpinang)	00 55 N-104 32 E	1962	Civil/AURI	3609 (gravel)
Lhokseumawe	05 14 N- 97 05 E	1960	Civil/AURI	4590 (earth)
Maimun Saleh	05 29 N- 95 14 E	1961	AURI	4920 (gravel)
Natuna	03 55 N-108 23 E	1963	AURI	4593 (coral)
Paalmerah (Djambi)	01 37 S-103 39 E	1962	Civil	3609 (gravel)
Padangkemiling (Bengkulu)	03 52 S-102 20 E	1962	Civil/AURI	4921 (gravel)
Pajakumbuh	00 12 S-100 34 E	1957	Civil/AURI	5000 (grass)
Pakanbaru	00 28 N-101 26 E	1962	Civil/AURI	3935 (gravel)
Pangkalpinang	02 10 S-106 08 E	1962	Civil	5250 (gravel)
Pekanheran	00 24 S-102 27 E	1962	Civil	3600 (sand)
Pendopo	03 18 S-103 53 E	1960	Civil	4265 (asphalt)

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APPENDIX A (Continued)

Airfield	Airfield Coordinates	Date of Latest Info	User	Longest Runway
Pinangsore	01 33 N- 98 53 E	1963	AURI	4920 (gravel)
Polonia/Medan	03 34 N- 98 40 E	1963	Civil/AURI	8038 (asphalt)
Rengat/Djapura	00 21 S-102 20 E	1961	Civil	4265 (oil)
Sabang	05 52 N- 95 20 E	1962	AURI	4590 (earth)
Tabing (Padang)	00 53 S-100 21 E	1962	Civil/AURI	5100 (concrete)
Talangbetutu (Palembang)	02 54 S-104 43 E	1963	Civil/AURI	5900 (asphalt)
	MINOR AIRFIELDS			
* Ack Loba	02 42 N- 99 38 E	1957		
* Adjamu	02 23 N-100 11 E	1957		
Bagan - Siapiapi	02 09 N-100 48 E	1954		
Belinju (Bangka Island)	01 36 S-105 48 E	1957		
* Brastagi	03 10 N- 98 31 E	1957		
Bindjai	03 33 N- 98 25 E	1946		
Blang Pete	05 24 N- 95 50 E	1949		
* Dali (Bindjai)	03 38 N- 98 30 E	1957		
* Gunungsitoli (Nias Island)	01 17 N- 97 37 E	1963		
Koba (Bangka Island)	02 29 S-106 24 E	1957		
Kota Pinang	01 47 N-100 01 E	1947		
* Liahbutar	02 23 N- 97 57 E	1957		
Lahat	03 46 S-103 32 E	1957		
* Langsa	04 27 N- 97 57 E	1957		

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APPENDIX A (Continued)

Airfield	Airfield Coordinates	Date of Latest Info
Lembak (Palembang)	03 21 S-104 21 E	1957
Lhokseumawe II	05 12 N- 97 08 E	1945
Mana	04 27 S-102 53 E	1957
Martapura	04 17 S-104 21 E	1957
* Meulaboh	04 11 N- 96 12 E	1957
Muntok	02 03 S-105 11 E	1963
* Negerilama	02 19 N-100 03 E	1957
* Rantauparapat	02 08 N- 99 48 E	1962
Sabokingking (Palembang)	02 57 S-104 47 E	1946
Samalanga	05 13 N- 96 25 E	1947
Sarolangun	02 20 S-102 43 E	1957
Pulau Seliu	03 14 S-107 32 E	1954
Seruwai	04 23 N- 98 09 E	1957
* Seumajam	03 57 N- 96 33 E	1957
Siborongborong	02 16 N- 98 58 E	1957
Sungaiiju	04 23 N- 98 07 E	1955
* Takingeun	04 35 N- 96 49 E	1957
Tandungbatu (Palembang)	03 23 S-104 39 E	1957
Teluk Kuali (Dusuntelukkuali)	01 16 S-102 15 E	1957

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APPENDIX A (Continued)

Airfield	Airfield Coordinates ° ° '	Date of Latest Info
Tempilang	02 07 S-105 38 E	1953
* Tjotgireh	04 51 N- 97 14 E	1957
Trumon	02 50 N- 97 38 E	1957
Uteuengathom	05 08 N- 96 46 E	1947

* Usable airfield less than 2000' in length (status of those not marked with * is unknown; listing should be used with caution).

Approved For Release 2007/02/23 : CIA-RDP80-01444R000100040001-4

APPENDIX B

RECOMMENDED MAPS

Four series of topographic maps at various scales cover Sumatra. Three of them are published in English by the Army Map Service and are available in quantity from AMS. The fourth series is published in Indonesia in the Indonesian language and is available in limited quantity from the CIA Map Library. In addition to depicting the terrain, these series provide information on vegetation, drainage, transportation routes, and location of cities and villages. Items 1 and 2 below provide a generalized picture of the physical characteristics of the region, whereas items 3 and 4 are recommended for detailed operational planning.

1. Army Map Service, International Map of the World, 1:1,000,000, Series 1301, 1954-61. 9 sheets cover Sumatra and associated islands.

2. Ikatan Motor Indonesia, Peta Djalan Mobil Sumatera (Road Map of Sumatra), 1:750,000, 1960. 3 sheets cover Sumatra and associated islands except the Anambas and Natuna groups.

3. Army Map Service, Indonesia, 1:250,000, Series T503, 1961-63. 57 sheets cover all of Sumatra and all associated islands except the Anambas Islands and the northern part of the Riau Archipelago.

4. Army Map Service, Sumatra, 1:100,000, Series T618, 1960-62. 366 sheets cover all Sumatra and associated islands except the Natuna and Anambas Islands and the northern part of the Riau Archipelago.

One aeronautical chart series provides coverage for most of the area. In addition to providing flight information, the aeronautical charts give a good general picture of the terrain and drainage pattern along with a fair amount of cultural information.

Aeronautical Chart and Information Service, USAF Operational Navigation Charts (ONC), 1:1,000,000, Sheets L-10, L-11, M-10, 1962-63. Sheets L-10, L-11, and M-10 cover all of Sumatra except the northern tip and all of the associated islands. Air information is current through 5 March 1962 for sheet L-10, through 14 March 1963 for L-11, and through 18 March 1963 for M-10.

APPENDIX C

RECOMMENDED FILMS

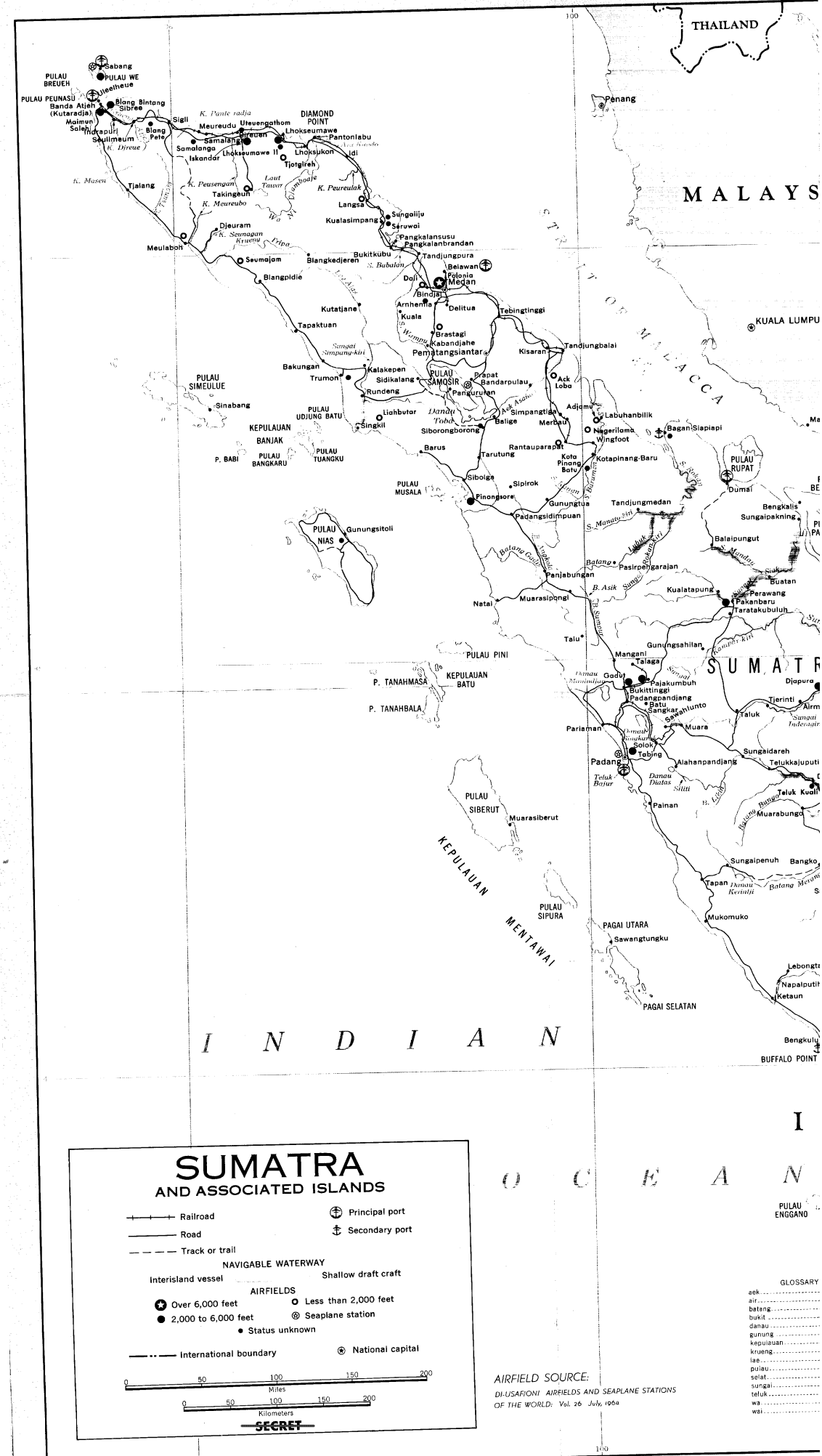
1. Conquering the Jungle. Goodyear Tire and Rubber Company, 1939, 16 millimeter, sound, black and white, 11 minutes. CIA film J6179.

2. Oil across Sumatra. Caltex Pacific Oil Company, 1959, 16 millimeter, sound, color, 28 minutes. CIA film P6763.

3. Letter from Indonesia. Indonesia area study, Churchill Wexler Productions, 1955, 16 millimeter, sound, color, 17 minutes. CIA film P6295.

4. Lost Continent. Indonesia area study, Astra Cinematografica, Leonardo Bonzi, 1954, 35 millimeter, sound, color, approx. 15 minutes (Sumatra section only). CIA film K6926.

5. Indonesia, Peoples and Customs. Amateur footage, 1950, 16 millimeter, sound, color, 65 minutes. Secret/CIA Internal Use Only. CIA film D6332.



SUMATRA
AND ASSOCIATED ISLANDS

Railroad
Road
Track or trail
Principal port
Secondary port

NAVIGABLE WATERWAY
Interisland vessel
Shallow draft craft

AIRFIELDS
Over 6,000 feet
2,000 to 6,000 feet
Less than 2,000 feet
Seaplane station
Status unknown

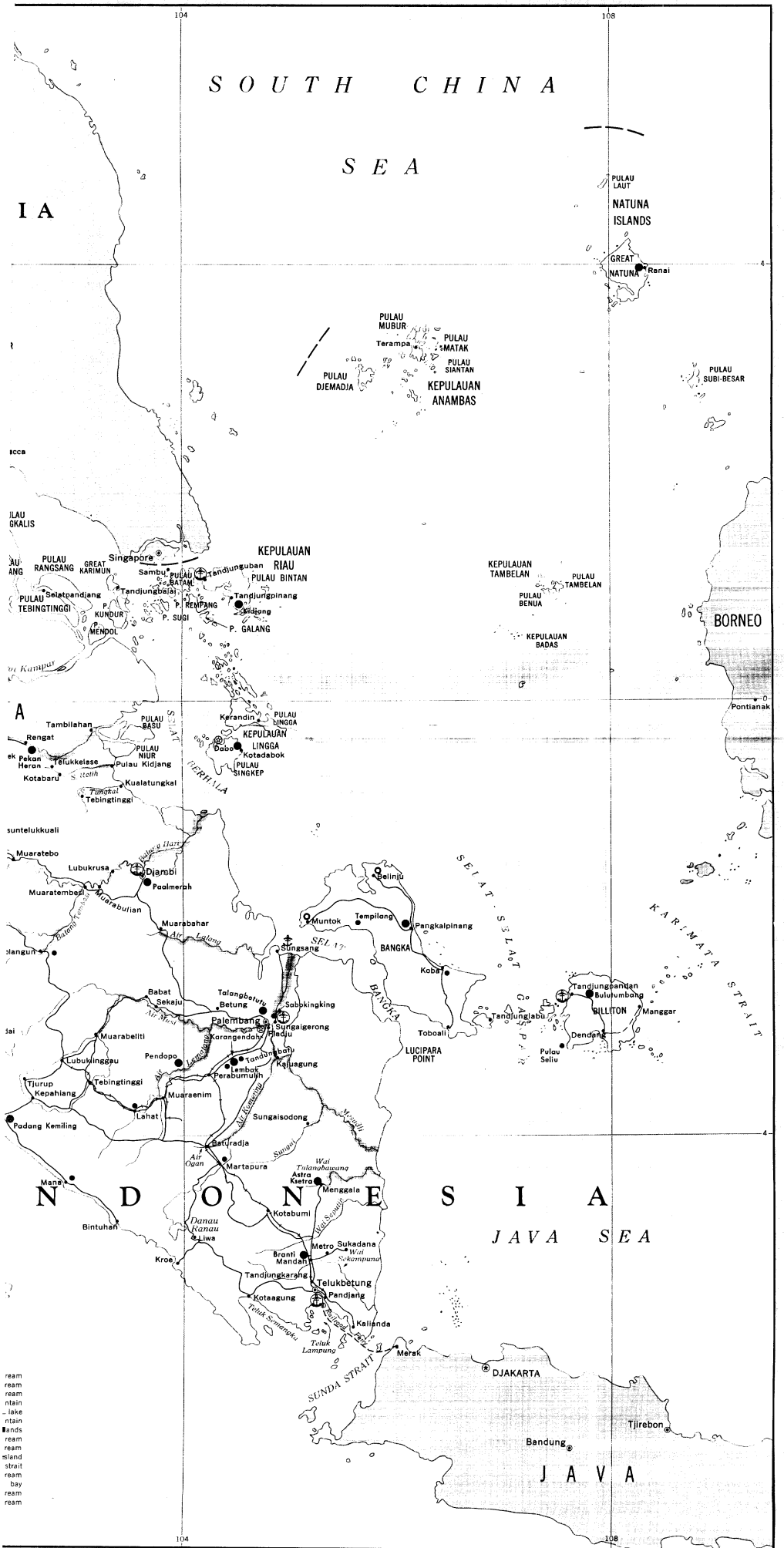
International boundary
National capital

0 50 100 150 200 Miles
0 50 100 150 200 Kilometers

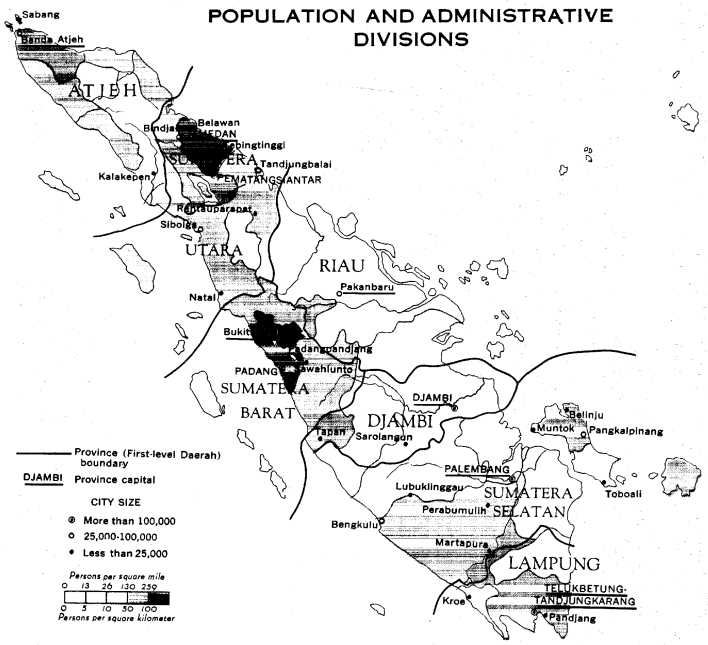
AIRFIELD SOURCE:
DI-USAFIONI AIRFIELDS AND SEAPLANE STATIONS OF THE WORLD: Vol. 26 July, 1964

GLOSSARY
aek
air
batang
bukit
danau
gunung
kepulauan
kruang
lae
pulau
selat
sungai
teluk
wa
wai

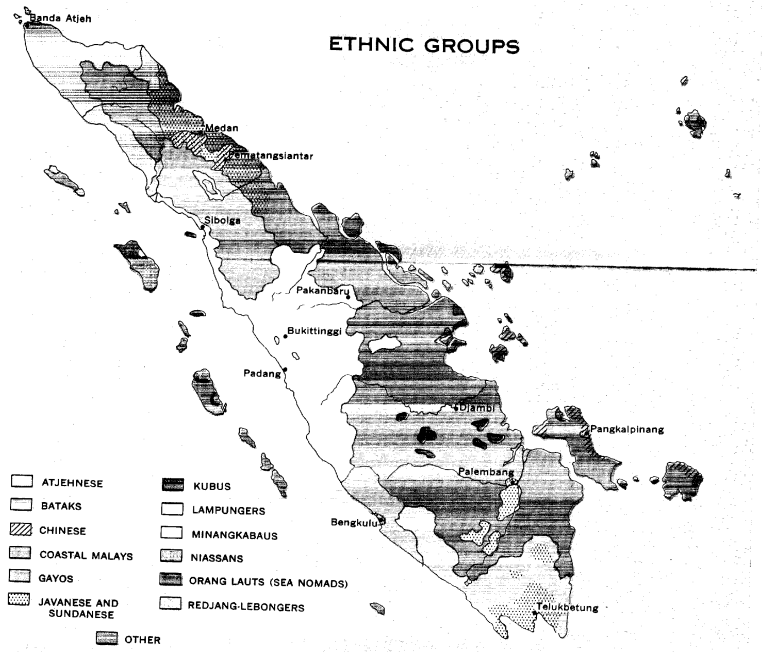
39136 9-64



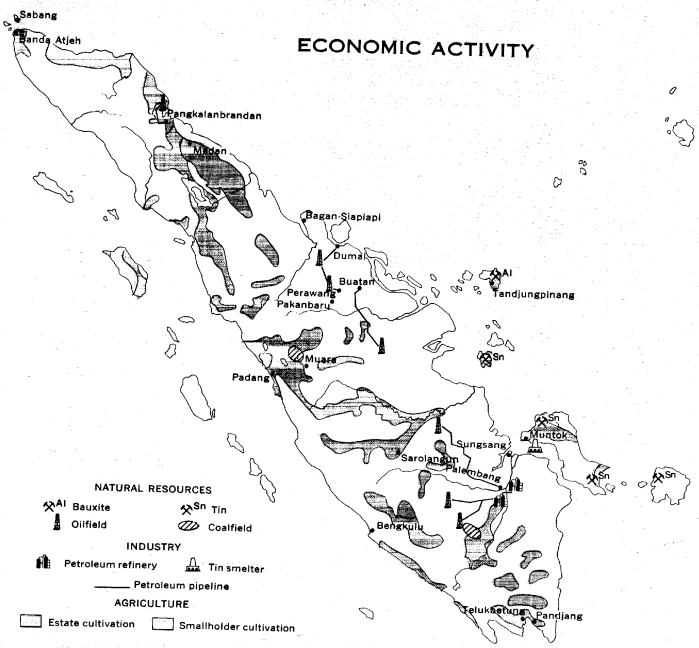
POPULATION AND ADMINISTRATIVE DIVISIONS



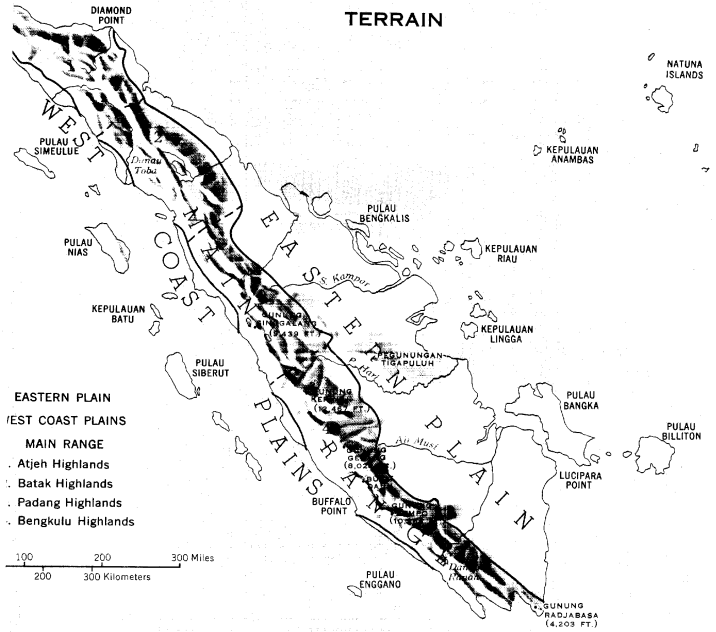
ETHNIC GROUPS



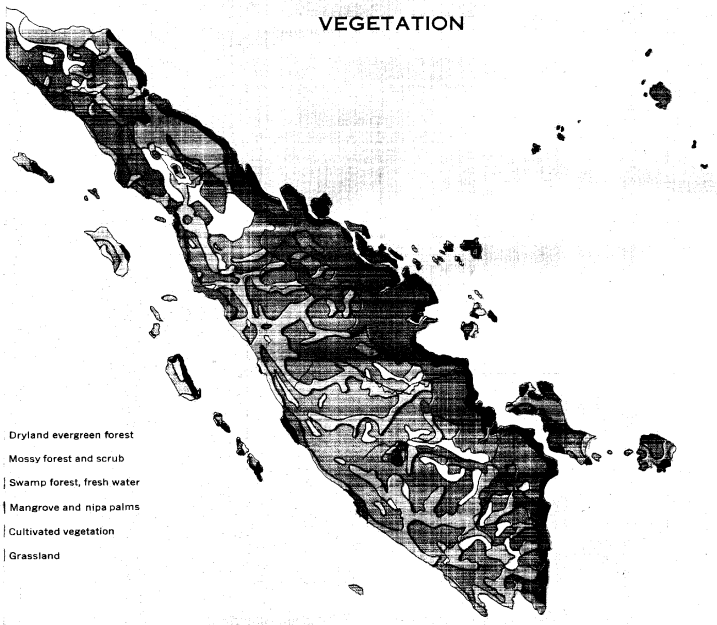
ECONOMIC ACTIVITY



TERRAIN



VEGETATION



ARMY ORDER OF BATTLE

AS OF SEPTEMBER 1964