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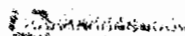
**notes on the
AGRICULTURAL
ECONOMIES OF THE
FAR EAST**

III Southeast Asia

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Economic Research Service

UNITED STATES DEPARTMENT OF AGRICULTURE

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Effective April 3, 1961, the responsibility for the work in the Regional Analysis Division was transferred from the Foreign Agricultural Service to the Economic Research Service. This report, originally issued August 1960, as FAS-M-92, is now re-issued, without change in text, by the new agency.

March 1962

This is the third in a series of 5 publications dealing with the agricultural economies of the Far Eastern area. These 5 publications deal with the following sub-regions.

- I Northeast Asia
- II South Asia
- III Southeast Asia
- IV Oceania
- V Asian Communist Countries

NOTES ON THE AGRICULTURAL ECONOMIES OF THE FAR EAST

III. SOUTHEAST ASIA

BRITISH BORNEO

British Borneo is made up of the Crown Colonies North Borneo and Sarawak and the Protectorate Brunei. All three are located in the northeastern part of Borneo, the largest of some 3,000 islands fringing the coast of Southeast Asia. Agriculture is the mainstay for the people of Sarawak and North Borneo; the economy of Brunei is dependent on production and export of crude petroleum.

POPULATION (1958)	<u>North Borneo</u>	<u>Sarawak</u>	<u>Brunei</u>
Total.....	409,000	655,000	77,500
Rural.....percent	33	66	55
Density.....per square mile	14	14	35
 AREA			
Total.....square miles	29,388	47,500	2,226
Total.....1,000 acres	18,808	30,400	1,425
Arable.....percent	5	24	1/
Arable acres per capita.....	2	11	1/
<u>1/</u> Insignificant.			

GENERAL CHARACTERISTICS

North Borneo - Owing to the mountainous nature of North Borneo, lack of communications, and relatively small population, only some 400,000 acres are in arable crops. The remaining agricultural land is in tree crops and rough pasture. The east coast contains substantial virgin areas of rich volcanic soils which provide prospect for considerable diversification of agricultural production.

Sarawak - Agriculture contributes over half of Sarawak's national income; however, only 6 percent of the land is under settled cultivation. An additional 18 percent is under shifting cultivation and the remainder is in forest. Sarawak's agricultural potential is more limited than North Borneo's. The soil, in general, is low in fertility and poorly drained in many lowland or coastal areas.

Brunei - Petroleum has brought a high per capita income to the people of Brunei. Crude oil accounts for 92 percent of total exports. Aside from oil there is no significant industry.

AGRICULTURAL PRODUCTION

North Borneo - Although timber has increased considerably in importance in recent years, rubber is by far the most important crop. Rubber is produced on nearly 15 percent of the cultivated land and makes up 25 percent of the total value of exports. Other important crops include cocoa, oil palm, and coconuts.

Sarawak - Rubber is the principal commercial crop while rice is the most important crop grown for local consumption. Pepper production has declined substantially in recent years because of a disease known as "footrot" and declining prices. Other crops include sago palm and illipe nuts.

Brunei - Small quantities of rubber, rice, and sago are produced, but agriculture is of little importance to the Brunei economy.

INTERNATIONAL TRADE

North Borneo - Principal customers in 1958 were Japan, the United Kingdom, and Singapore. The United States ranked seventh, taking about 3 percent of the total exports--mainly copra, rubber, and abaca. About one-fifth of North Borneo's total imports came from the United Kingdom. The Philippines supplied 13 percent and the United States ranked third, supplying 9 percent. Of imports from the United States, fruits, nuts, and vegetables accounted for over 50 percent.

Sarawak - A little over 2 percent of Sarawak's agricultural exports are shipped to the United States, and this is mainly rubber. Most of Sarawak's imports come from Brunei, the United Kingdom, and Singapore. Fruits, nuts, and vegetables make up the largest share of imports from the United States.

TABLE 1.--North Borneo and Sarawak: Imports and exports of agricultural commodities, 1958

Category	Sarawak		North Borneo	
	Exports	Imports	Exports	Imports
	1,000 U.S. dol.	1,000 U.S. dol.	1,000 U.S. dol.	1,000 U.S. dol.
Livestock and animal products . . .	75	2,756	23	1,382
Cereals and preparations	5	6,969	49	4,448
Fruits, nuts and vegetables	836	1,705	113	1,163
Sugar and preparations	2	1,537	42	1,109
Tobacco, unmanufactured	--	--	1,167	--
Fats, oils and oilseeds	2,796	544	10,656	7,258
Rubber	20,406	306	10,808	43
Natural fibers	--	7	860	2
Other	5,028	2,114	332	1,774
Total agricultural	29,148	15,938	24,050	17,179
Nonagricultural	122,016	126,561	18,800	25,030
Total trade	151,164	142,499	42,850	42,209

BURMA

POPULATION

Total - 20.5 million (1959).

Annual rate of growth - 1.0 percent. Burma, along with Japan, has one of the lowest population growth rates in the Far East.

Rural - 15.2 million, or about 75 percent.

Density - 80 per square mile makes Burma one of the most sparsely populated countries in the Far East.

ECONOMIC SETTING

Gross national product - \$1.08 billion in 1958.

Agricultural share of national income - 43 percent (includes forestry and fishing).

Annual rate of growth - 4 percent in recent years.

Per capita GNP - \$53 in 1958, comparable to that of India or Pakistan.

Gold and foreign exchange holdings - They have fluctuated between \$90 and \$140 million since 1955. Level of holdings depends strongly on price level and volume of rice exports.

Trade as percent of GNP - Close to 40 percent annually (well below 10 percent in the United States).

Economic assistance - In July 1959 Burma reversed a 6-year refusal to accept aid from the United States by agreeing to receive a grant of \$37 million in economic assistance. This grant consists of \$31 million, and \$6 million worth of local currency accruing from Public Law 480 sales. Projects designated to receive initial assistance are a highway linking the capital city and port of Rangoon with central Burma and construction of dormitory-classroom facilities at the University of Rangoon.

In addition, Burma continues to receive assistance from the United Nations agencies, the Colombo Plan, and the Ford Foundation. Assistance from Israel and the USSR has declined considerably as their projects have neared completion.

Trade balance - Imports sometimes exceed exports; however, over a period of years they tend to balance.

PHYSICAL CHARACTERISTICS

Location - Burma is semitropically situated in Southeast Asia. Mountains tend to isolate it from India and Pakistan on the west and from Mainland China and Thailand on the northern and eastern borders.

Area - 262,000 square miles, or 168,000,000 acres. It is larger than France, but smaller than Texas.

Agricultural area - 13 percent or 22 million acres.

Arable land per capita - Slightly over 1 acre.

Topography - Mountains on the west, north, and east isolate Burma from the Asian land mass. The interior of the country is rather flat and is composed largely of the broad, flat Irrawaddy River valley.

Climate - Like the remainder of Southeast Asia, Burma has a tropical monsoon climate with two seasons--wet and dry. The monsoon, or rainy, season begins in May with the onshore movement of maritime air masses which originate over the Bay of Bengal. This season lasts until October, at which time the long dry season begins.

Burma's coastal region receives 150-200 inches of rain per year, making it one of the highest rainfall regions in the world. In the Irrawaddy delta area and the far north, the annual rainfall ranges from 100-120 inches. The low-lying dry zone receives only 24-28 inches per year as it is sheltered from the moisture-laden monsoon air masses.

Soils - The soils of Burma are not notably fertile. They are, however, well adapted to rice cultivation. Rice soils in the delta and flat coastal plains areas are generally old alluvial soils which have deteriorated structurally after many years of cultivation. In terms of major elements, these soils are well supplied with potash but deficient in nitrogen and phosphorous.

AGRICULTURAL PRODUCTION

Number of farms - Approximately 3 million.

Average size of farms - 7 acres; unusually large for the Far East.

Land tenure - Unequal distribution of land and absentee ownership, particularly in the southern delta area, resulted in a land redistribution program begun in 1954. Present plans call for the nationalization and redistribution of 28 percent of Burma's 22 million cultivated acres.

Agricultural self-sufficiency - Burma is a food surplus country. Large rice surpluses enable it to lead the world in rice exports. Agricultural exports are several times larger than agricultural imports.

TABLE 2.--Principal crops: Acreage and production in Burma, 1959

Crop	Acreage	Production
	<u>1,000 acres</u>	<u>1,000 m. t.</u>
Rice, milled	10,160	5,684
Sesamum	1,419	56
Pulses	1,186	224
Peanuts	880	217
Millet	600	80
Fruit, misc.	425	525
Cotton	328	14
Vegetables	175	900
Corn	175	45
Rubber	119	18
Sugar	90	189
Bananas	55	115
Wheat	46	12
White potatoes	45	34

Livestock - Burma's livestock industry derives its principal importance from the dependence of farmers on cattle and water buffalo as a source of draft power. This was reflected in the decline in rice production which accompanied the reduction in numbers of draft animals during World War II.

TABLE 3.--Livestock: Number in Burma, 1958 estimate

Type	Number
	<u>Thousand</u>
Cattle	4,843
Buffalo	870
Swine	540
Goats	300
Sheep	37
Poultry	1/

1/ Not available.

Irrigation - This is accomplished largely through control and storage of the heavy natural rainfall or by diversion or storage of river water. An estimated 1.5 million acres is irrigated. The greater part of Burma's rice land, however, is flooded by natural rainfall.

Multiple cropping - A plentiful land supply necessitates little double cropping as a single crop grown during the rainy season usually provides sufficient food for the farm family with some left over for marketing.

Mechanization - Burmese agriculture has undergone little mechanization; cultural practices have been about the same over the centuries.

Comparatively low inputs of labor and capital, in relation to land, result in a more extensive type of agriculture than is found in most Far Eastern countries. As fertilizer consumption increases and as double and triple cropping are adopted on a larger scale, Burma's agriculture will become much more intensive.

Level of productivity - In spite of marked natural advantages, particularly in the production of rice, per acre yields are not high.

Index of agricultural production (1952-54 = 100) - In 1959, agricultural production was 119. The per capita index at 109 in 1959 was considerably below the prewar index of 130.

Agricultural institutions - Institutions such as cooperatives, research stations, and an agricultural extension service are relatively undeveloped.

AGRICULTURAL TRADE

Value of agricultural exports - Approximately \$200 million.

Agricultural share of total exports - Frequently over 90 percent of total.

Per capita agricultural exports - \$10 per year.

Value of agricultural imports - \$40 million annually.

Agricultural share of total imports - 15 percent.

Per capita agricultural imports - \$2 per year.

Major agricultural export items - Rice earns 75 percent of the foreign exchange. Pulses, cotton, and rubber account for much of the remainder.

Principal agricultural markets - India, Indonesia, Ceylon, Malaya, Singapore, and Pakistan--all are rice markets.

Principal agricultural suppliers - Agricultural imports are small and widely distributed among a number of suppliers.

Trade with Bloc countries - In recent years, Burma has entered into barter agreements with several Sino-Soviet Bloc countries. In 1958, imports

from these countries accounted for 16 percent of total imports. These barter transactions usually involve the exchange of rice for industrial goods from the Bloc countries. Many of the currently expiring agreements are not being renewed.

TABLE 4.--Burma: Total agricultural trade, 1957

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Rice	165.2	::	Dairy products	11.2
Pulses	9.5	::	Fruits and preparations ...	1.2
Rubber	7.9	::	Nuts .....	.8
Raw cotton	5.3	::	Sugar and prep.	2.8
Feedstuffs for animals	9.5	::	Tobacco, unmgd. ....	.8
Total above	<u>197.4</u>	::	Tallow	1.7
Other	<u>29.7</u>	::	Peanut oil	6.2
Grand total	<u>227.1</u>	::	Coconut oil	5.5
		::	Tea .....	.4
		::	Essential oils .....	.3
		::	Total above	<u>30.9</u>
		::	Other	<u>265.6</u>
		::	Grand total	<u>296.5</u>

TABLE 5.--U.S. - Burma agricultural trade: Value of imports and exports, 1958

U.S. exports to Burma	: Value	::	U.S. imports from Burma	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Dairy products	0.2	::	Rubber	0.8
Tobacco, unmgd. ....	.2	::	Livestock products .....	.08
Sugar and prep. ....	.08	::	Other agricultural .....	.02
Other agricultural	<u>.02</u>	::	Total agricultural	<u>.9</u>
Total agricultural	<u>.5</u>	::	Other	<u>.3</u>
Other	<u>6.7</u>	::	Grand total	<u>1.2</u>
Grand total	<u>7.2</u>	::		

Role of Public Law 480 - Nearly \$39 million of agricultural commodities have been programmed through 1959. Cotton accounted for over 80 percent of the total amount. Nearly all cotton going to Burma has been programmed through third countries where it is manufactured into textiles. The third countries ship textiles to Burma in an amount equivalent to the value of the raw cotton. As Burma's textile industry expands, third country agreements are likely to decrease.

FOOD CONSUMPTION

Per capita daily calorie consumption - Approximately 2,150 in 1958.

Staple food - Rice.

Nature of diets - Rice provides an estimated 73 percent of all calories consumed while other starches, such as wheat, dry beans, and peas, roots, tubers and sugar, account for another 10 percent. Meat, fish, poultry, eggs, milk and dairy products, and other high protein protective foods provide only 6 percent of all calories. The remaining 11 percent comes from the consumption of fats and oils, vegetables, fruits, and nuts.

Trends in consumption pattern - The rice-centered Burmese consumption pattern shows little evidence of any major changes.

AGRICULTURAL AND TRADE POLICY

Agricultural policy - Burmese Government planners feel that a stronger economy and a higher living standard may be best realized by stressing development of the agricultural sector. Concentrated efforts are being made to increase rice production and the quality of exports. The cultivation of jute, which is used in the manufacture of burlap, and peanuts, a source of edible oils, is strongly encouraged by the government.

Trade policy - In order to insure a continually expanding rice market, the Burmese Government has entered into several government-to-government contracts.

POLITICAL SETTING

Type of government - The attainment of independence was accompanied by the adoption of a two-chamber parliamentary system patterned after Great Britain. Executive power is vested in a president who is elected by parliament.

Political history - Prior to 1948, Burma had been a self-governing member of the British Commonwealth; however, early that year political ties were severed and Burma was granted an independent status outside the Commonwealth.

CAMBODIA

POPULATION

Total - 4.7 million in 1958.

Rate of growth - 2 percent annually.

Rural population - Cambodia's population is preponderantly rural; little industry has developed.

Density - About 70 per square mile, sparse for the Far East.

ECONOMIC SETTING

Gross national product - \$475 million.

Agricultural share of national income - Approximately 50 percent.

Annual rate of growth - 5 percent.

Per capita GNP - \$98.

Trade as percent of GNP - 25 percent.

Economic assistance - U.S. technical aid administered by ICA amounts to about \$2 million per year. France granted \$22 million during the 1956-58 period. Japan and Australia also contribute sizable amounts.

Trade balance - During the years 1955 through 1958, Cambodia experienced a trade deficit ranging from \$7 million to \$22 million.

PHYSICAL CHARACTERISTICS

Location - Subtropical; bordered by Thailand, Laos, and Vietnam.

Area - 67,000 square miles.

Agricultural area - 11 percent of total, or 4.7 million acres.

Arable land per capita - 1 acre; much higher than most of Asia.

Topography - Cambodia is a basinlike lowland divided by the Mekong River, and encircled by a ring of mountains.

Climate - Subtropical monsoon climate; year is divided into wet and dry seasons. Temperature is always mild.

AGRICULTURAL PRODUCTION

Average size of farms - Rice-producing farms adjacent to the rivers average 2 acres, while less intensively cultivated upland farms may be as large as 10 acres.

Agricultural self-sufficiency - Cambodia produces sizable surpluses of both foodstuffs and agricultural raw materials.

TABLE 6.--Principal crops: Acreage and production in Cambodia, 1959

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rice	2,794	930
Corn	254	140
Rubber	84	31
Pulses	254	26
Sugar, noncentrifugal	--	27
Soybeans	89	23
Tobacco	43	7
Peanuts, shelled	13	3
Sesame	20	3
Kapok	13	4
Spices	--	1

Livestock - An abundance of grazing land has enabled the livestock industry to expand as domestic consumption of livestock products has increased. Livestock production is important as a source of noncash income. Livestock are of principal importance as a source of draft power.

TABLE 7.--Livestock: Number in Cambodia, 1958

Type	Number
	Thousand
Swine	1,000
Cattle	1,000
Buffalo	400

Irrigation - Most of the rice is grown under rainfed conditions. Rice planting is timed to coincide with the arrival of the monsoon.

Mechanization - Mechanization is confined largely to the commercially operated plantations.

Ratio of input factors - Large amounts of labor and small amounts of capital are used relative to the amount of land.

Level of productivity - A low level of technology combined with an abundance of land has resulted in low per acre yields.

Index of agricultural production (1952-54 = 100) - In 1959, the index stood at 123, while on a per capita basis it was only 108.

Agricultural institutions - An agricultural extension service and a system for the administration of rural credit are in the initial stages of development.

AGRICULTURAL TRADE

Major agricultural export items - Rice, rubber, and corn earn two-thirds of Cambodia's foreign exchange.

Major agricultural import items - Sugar, wheat flour, milk products, fruits, and vegetables.

Principal agricultural markets - France, United States, Hong Kong, and Singapore.

TABLE 8.--Cambodia: Total agricultural trade, 1957

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Rice	19.1	::	Vegetables and fruits	1.9
Rubber	16.3	::	Milk products	1.6
Corn	5.1	::	Sugar	1.0
Pepper	1.6	::	Wheat flour	1.0
Livestock	1.6	::	Beer .....	.8
Soybeans	1.3	::	Tobacco .....	.7
Beans	1.0	::	Tinned veg. and tinned	:
Kapok seed .....	.9	::	fruits .....	.5
Sesame .....	.7	::	Tinned meat and tinned	:
Other .....	.3	::	fish .....	.3
Total agricultural	47.9	::	Total agricultural	7.8
Other	3.5	::	Other	45.6
Grand total	51.4	::	Grand total	53.4

TABLE 9.--U.S. - Cambodia agricultural trade: Value of imports and exports, 1958

U.S. exports to Cambodia	: Value	::	U.S. imports from Cambodia	: Value
	: Million	::		: Million
	: <u>dollars</u>	::		: <u>dollars</u>
Wheat flour	0.7	::	Rubber, crude	9.3
Tobacco, unmanuf. ....	.2	::	Total agricultural	9.3
Milk, condensed, sweetened..	.1	::	Other .....	.01
Other agricultural .....	.3	::	Grand total	9.3
Total agricultural	1.3	::		
Other	5.9	::		
Grand total	7.2	::		

Principal agricultural suppliers - France, Japan, Mainland China, and United States.

Trade with Bloc countries - Bilateral agreements with Mainland China dominate trade with the Bloc countries.

Role of Public Law 480 - No agreements signed through 1959.

FOOD CONSUMPTION

Per capita daily calorie consumption - 1,980 according to a food balance calculated for the 1954-55 consumption year.

Staple foods - Rice accounts for two-thirds of all calories consumed.

AGRICULTURAL AND TRADE POLICY

Agricultural policy - Cambodia relies upon the export of agricultural commodities for over 90 percent of its foreign exchange. It must therefore encourage the production of the principal export crops--rice, rubber, and corn.

Trade policy - Several bilateral agreements have been negotiated to ensure a market for agricultural commodities.

POLITICAL SETTING

Type of government - Constitutional monarchy.

Political history - Cambodia became a fully sovereign state after dissolving its economic and political affiliation with Laos, Vietnam, and France.

REPUBLIC OF INDONESIA

POPULATION

Total - 88.7 million (midyear 1959).

Rural - approximately 80 percent.

Annual rate of growth - 2.1 percent.

Density - 154 per square mile; varies considerably throughout the country. Java and Madura have over 1,000 persons per square mile; other islands have less than 100.

ECONOMIC SETTING

Total GNP - \$5.15 billion (1958).

Agricultural share of GNP - approximately 50 percent.

Average annual rate of growth - GNP has declined 1.6 percent (1955-59 average).

Per capita GNP - \$65 (1958).

Gold and foreign exchange holdings - \$246 million in October 1959.

Economic assistance - The United States, several other countries, and United Nations agencies have assisted Indonesia in its reconstruction and development by providing loans, technical assistance, and training grants. Since the beginning of 1958, the Soviet Bloc has begun a major program of economic assistance to Indonesia.

Trade as percent of GNP - 25 percent.

Trade balance - Surplus during last few years; \$241 million in 1958.

PHYSICAL CHARACTERISTICS

Location - Some 3,000 islands extend more than 3,000 miles from a point opposite the northern end of the Federation of Malaya in Southeast Asia almost to the northern tip of Australia.

Area - 576,000 square miles; about equal to the United States east of the Mississippi River. Borneo (Kalimantan) comprises 36 percent, Sumatra 32 percent, Celebes (Sulawesi) 13 percent, Java and Madura 9 percent, and all other islands 10 percent.

Agricultural area - Approximately 12 percent; a very low ratio.

Arable land per capita - About 0.5 acre; average for the Far East.

Topography - Much of Indonesia is mountainous, with a central range running the breadth of the archipelago arc. Subsidiary ranges curve northward to the islands of Borneo, Celebes, and Halmahera in the Moluccas. Indonesia's mountains comprise the most volcanic region in the world, and ashes and alluvium are carried down by a network of rivers to enrich the plains. Sizable swamp areas are found in parts of the coastal region.

Climate - Indonesia has a tropical monsoon climate. Since the country is astride the Equator, the difference between the longest and shortest day in the year is slight throughout the islands; hence, the duration of the sun's radiation is quite uniform and the change in temperature throughout the year is negligible. The yearly average at Djakarta on Java is 79° F., which corresponds to most of the sea-level locations throughout the archipelago. Humidity is high, though less stable than temperature. The average annual relative humidity at Djakarta is 81 percent, with an average daily minimum of 63 and a maximum of 94 percent.

Rainfall is heavy in nearly all parts of Indonesia and increases with altitude. Some mountain areas are drenched with 10 to 12 feet of rain; the lowland areas generally range from about 70 to 125 inches. The average rainfall of Djakarta is 80 inches annually, while in most lowland areas of Kalimantan and Sumatra, it ranges from 120 to 144 inches.

Soil types - The southwestern islands--Sumatra, Java, and the Lesser Sundas--are among the most volcanic territories in the world. This has been the chief factor affecting the fertility of soil in Indonesia and, in turn, its agricultural development. In Java, the most important agricultural region, the soils may be divided into three groups: (1) Those of volcanic origin, usually fertile and of good texture; (2) those of the alluvial plains, fertile but rather heavy; and (3) those of tertiary origin, poor and heavy.

AGRICULTURAL PRODUCTION

Production pattern - Indonesian agriculture can be divided into small-holder, or peasant, agriculture and large-scale, or estate, agriculture. Most of the estate production is intended for export, while that of the small farmers is for both domestic consumption and export.

Peasant farming - The intense pressure of population on Java has brought about a constant subdivision of holdings and fragmentation. Often made up of five or six small plots, the average farm on Java is roughly 2 acres. In the Outer Islands, the average area being farmed is estimated at slightly more than twice the size of the peasant farm on Java.

Estate production - Most of the estates are located on Java and Sumatra, with a relatively small number scattered throughout the other islands. In 1956, about 45 percent of the total estate area was on Java and Madura and 52 percent was on Sumatra. Estate size averages about 2,000 acres on Java and approximately 5,000 acres on Sumatra.

Land tenure - The two main forms of land utilization, estate and peasant cultivation, reflect different types of land tenure developed over a long period. The traditional land laws of the peasants recognize only possession of land, not ownership in the Western sense which implies that land is a commodity that can be freely bought and sold. Smallholder farming is carried on almost exclusively by Indonesians. Estate production is generally operated by Westerners. However, the government has taken over Dutch estates and there is uncertainty of renewal of other estate leases.

Agricultural self-sufficiency - Except for rice, Indonesia is almost self-sufficient in food. It is a net exporter of agricultural products. Many areas are outside the network of trade; there the level of food self-sufficiency coincides with local food availabilities.

Principal crops - The most important food crops are rice, corn, cassava, sweetpotatoes, soybeans, and peanuts. The more valuable commercial crops are rubber, copra, sugar, coffee, tea, tobacco, and palm oil.

TABLE 10.--Principal crops: Acreage and production, Indonesia, 1959

Crop	Acreage	Production
	<u>1,000 acres</u>	<u>1,000 m. t.</u>
Rice	17,544	7,900
Corn	7,413	2,800
Cassava	3,459	12,000
Sweetpotatoes	1,070	2,900
Peanuts	865	231
Soybeans	1,631	475
Sugar	245	1,085
Copra	5,182	1,449
Coffee	598	60
Pepper	74	24
Tea	294	68
Nutmeg	23	5
Cloves	70	6
Cinnamon	37	25
Kapok	519	37
Sisal and abaca	99	22
Oil palm:	222	--
Palm oil	--	135
Palm kernels	--	32
Tobacco	455	67
Rubber	2,965	655

Livestock - Although crop cultivation is the principal means of livelihood in Indonesia, livestock production is also important, especially in East Java and Madura. In contrast to conditions prevailing in Western countries, native cattle breeding consists chiefly of rearing draft animals for either agricultural or transportation purposes. The production of meat is of secondary importance.

The drastic decline in livestock numbers during the war seriously curtailed meat production in the immediate postwar years. The production of meat is now estimated at 205,000 metric tons compared to the prewar estimate of 164,000 tons. Milk production for 1959 was forecast at 30,000 tons.

Mechanization - Indonesian peasants use only very simple tools and implements, such as hoes, bush knives, sickles, crude iron-tipped plows, and wooden harrows. Manpower and animal draft power are the main sources of energy. Hand tools are used almost exclusively on many small farms. Shifting cultivators usually have only simple wooden sticks and a machete.

Estates also largely employ human labor and animal draft power. Tractors are sometimes used for cultivation of certain fibers, sugarcane, and tobacco. In cultivating rubber and oil palms, tractors are used for land clearing. A total of 401 tractors was used in agriculture in 1957.

Index of agricultural production (1952-54 = 100) - The 1959 agricultural production index was 116, up 5 percent from 1958. The per capita agricultural production index was only 104 in 1959 and 102 in 1958.

Agricultural institutions - There are two colleges of agriculture on Java and two on Sumatra. Vocational agricultural schools are located over various islands. The oldest and most important agricultural research center is in Bogor. There is a wide network of agricultural extension. The rural areas are divided into some 5,000 untis, each of which is served by a local extension worker.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,150

Staple foods - Rice and corn.

Nature of diets - Grains and starches account for about three-fourths of the caloric intake. Consumption of livestock products is extremely low.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - \$414 million.

Agricultural share of total exports - 55 percent.

Per capita agricultural exports \$4.76.

Value of agricultural imports - \$125 million.

Agricultural share of total imports - 24 percent.

Per capita agricultural imports - \$1.44.

TABLE 11.--Indonesia: Total agricultural trade, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Rubber	261.2	Rice	88.0
Tobacco	30.2	Wheat flour	8.9
Tea	24.8	Cloves	7.1
Palm oil	23.7	Milk and cream	6.7
Coffee	18.1	Cotton	6.2
Copra	16.4	Tobacco	3.8
Sugarcane	8.9	Sugar and prep. ....	.3
Pepper	5.0	Meat, fresh .....	.2
Copra cakes	4.5	Apples .....	.1
Sisal and abaca	3.9	Other agricultural	3.32
Palm kernels	3.8	Total agricultural	124.6
Nutmeg	2.7	Other	388.9
Arecanuts	2.0	Grand total	513.5
Kapok	1.2		
Cinchona bark	1.0		
Other agricultural	6.4		
Total agricultural	413.8		
Other	341.6		
Grand total	755.4		

TABLE 12.--U.S. - Indonesia agricultural trade: Value of imports and exports, 1958

U.S. exports to Indonesia	Value	U.S. imports from Indonesia	Value
	Million dollars		Million dollars
Rice, milled	5.4	Rubber, crude	73.5
Cotton, excluding linters .	4.5	Allied gums .....	.7
Tobacco	1.2	Pepper	6.3
Nonfat dry milk .....	.4	Nutmegs	2.0
Infants and dietetic foods.	.2	Other spices	2.3
Fruits and prep. ....	.03	Tea	6.0
Other agricultural .....	.17	Coffee, raw	1.2
Total agricultural	11.9	Kapok, sisal, & henequen .	1.4
Other	49.3	Tobacco .....	.5
Grand total	61.2	Other agricultural	1.3
		Total agricultural	95.2
		Other	73.5
		Grand total	168.7

Major agricultural export items - Rubber, tobacco, tea, coffee, palm oil, and copra.

Major agricultural import items - Rice, wheat flour, cloves, and cotton.

Principal agricultural markets - Malaya, United States, and United Kingdom.

Principal agricultural suppliers - United States, Burma, and Thailand.

Trade with Bloc countries - 7 percent of total exports; 9 percent of total imports.

Role of Public Law 480 - \$138.5 million programmed under Title I through 1959. Rice and cotton were the most important commodities, followed by tobacco and wheat flour.

AGRICULTURAL AND TRADE POLICY

Indonesia's agricultural and trade policy continues to be dominated by nationalism. The government has recently taken over former Dutch estates, trading firms, banks, and other enterprises--including dairy farms, packing plants, and rice mills. International agricultural trade is largely controlled by government regulations.

Agricultural development - Indonesia has launched a 3-year program aimed at making it self-sufficient in rice by the end of 1962. Known as Operation Prosperity, this program puts less stress on long-term mechanized development of new lands and more on intensified use of present lands. The new program is part of a long-range policy to make the country self-supporting in food production.

Trade policy - Special bilateral trade agreements have formalized Indonesia's trade relations with many countries. Most of the agreements provide a market for Indonesia's raw materials and in turn Indonesia receives manufactured goods.

POLITICAL SETTING

Type of government - Indonesia's government operates under the system of "Guided Democracy." The system concentrates power in the hands of the President.

Political history - Since December 1949 Indonesia has been a sovereign, independent state and from August 1950 has been the Republic of Indonesia.

LAOS

POPULATION

Total - The estimated population of 2.03 million in 1958 is 95 percent rural and has an estimated 1.5 percent rate of growth.

Density - 20 per square mile. This is unusually low, especially for the Far East.

ECONOMIC SETTING

Per capita gross national product - Reliable statistical information on the Lao economy is virtually nonexistent as it is a nontransaction-type economy composed of self-subsistence family units. Per capita GNP is roughly estimated at \$50 per year.

Agricultural share of GNP - With little or no industry and a limited commercial sector, agriculture provides most of the gross national product.

Economic assistance - U.S. technical assistance has averaged about \$1.5 million in recent years.

PHYSICAL CHARACTERISTICS

Location - The land-locked, mountainous country of Laos is situated astride the southernmost extension of the Himalayan Mountain range in the interior of the Indochinese Peninsula. It is bordered by Communist China, North Vietnam, Thailand, Cambodia, and South Vietnam.

Area - 91,000 square miles, or approximately equal to the combined area of New York and Pennsylvania. The 6 percent of the land which is arable provides 2.4 acres of crop land per capita.

Physiography - The rugged mountainous terrain encompasses several mountain valleys and dry dissected plateaus. The climate is monsoonal with pronounced rainy and dry seasons. An average annual rainfall of 68 inches permits dry-land cultivation of most crops, including some rice, providing their planting coincides with the arrival of the monsoon rains. Temperatures reach a peak of 90° to 95° F. in April and sometimes drop as low as 40° in January in the cooler areas.

AGRICULTURAL PRODUCTION

Land tenure - Lao farms average an estimated 5 acres. Tenancy is not a serious problem as land is relatively abundant and farmers can move freely to new land.

Acreage of principal crops - Very rough estimates place the land allocated to rice production at 1.53 million acres, or 95 percent of the agricultural land. Corn accounts for much of the remaining crop area, with comparatively smaller acreages being devoted to the production of coffee, tea, tobacco, cotton, vegetables, potatoes, and peanuts.

Livestock industry - Internal political disturbances and diseases, particularly rinderpest, have caused livestock numbers to decline in recent years. The present livestock population is estimated at 104,000 water buffaloes, 246,000 cattle, and 177,400 swine.

Agricultural technology - Laotian agriculture is characterized by the extensive use of land and labor and low capital inputs. The preponderantly agrarian economy lacks both physical and institutional development as well as an educated entrepreneurial class. Rice is cultivated extensively in the region bordering the Mekong River, with cattle-drawn wooden implements being used to prepare the soil. Farmers in the hill regions, however, practice a "slash and burn," or shifting, type of cultivation. Trees and brush in wooded areas are cut, left to dry, and then burned. The rice is sown in the burnt-over areas just prior to the arrival of the monsoon rains. Land brought under cultivation in this manner rapidly loses its natural fertility and is usually abandoned in 2 to 3 years.

AGRICULTURAL TRADE

Agricultural self-sufficiency - A lack of population pressure, coupled with the agrarian nature of the economy, formerly enabled Laos to be agriculturally self-sufficient; however, recent political disturbances and the accompanying economic disruption have resulted in a food deficit. The country has a chronic balance of trade deficit, particularly in the non-agricultural sector. Nearly all imports must move through Thailand. In recent years rice has been the principal agricultural import and much of this has been produced in Thailand. Exports of agricultural commodities are very small. Cambodia, Vietnam, and Thailand are major trading partners.

FOOD CONSUMPTION

An estimated per capita daily consumption of 1,900 calories gives Laos one of the lowest levels of food intake in Asia. Not only is the level of calorie consumption low, but dependence upon rice for 80 percent of all calories creates a serious nutritional imbalance. High protein, protective foods such as meat, milk, and eggs account for less than 5 percent of total consumption. Fruits, nuts, and vegetables comprise most of the remaining 15 percent.

POLITICAL SETTING

Prior to 1954, Laos, along with Cambodia and Vietnam, made up French Indochina. The 1954 Geneva Conference, however, called for the dissolution of formal political ties with these countries and France with the result that Laos is today a fully independent constitutional monarchy.

FEDERATION OF MALAYA

POPULATION

Total - 6.6 million (December 31, 1958); 130 per square mile.

Rural - 64 percent.

Projected annual rate of growth - 3.2 percent.

ECONOMIC SETTING

Total GNP - \$1.635 billion (1958).

Agricultural share of GNP - 40 percent.

Per capita GNP - \$250; only Japan is higher in the Far East.

Gold and foreign exchange holdings - \$442 million (end of 1959).

Trade as percent of GNP - 71 percent.

Trade balance - Usually favorable; \$73 million (1958).

PHYSICAL CHARACTERISTICS

Location - The Federation occupies the Kra, or Malay, Peninsula on the southeastern extremity of the Mainland of Asia.

Area - 50,690 square miles; about the size of Alabama.

Agricultural area - 16 percent; mainly on the west coast and the principal river basins on the east coast; 0.8 acre per capita.

Topography - High mountain ranges extend from north to south through the country. Dense jungles cover the mountains and uncleared interior lowland.

Climate - Temperature and humidity are always high. Daytime temperatures range from 74° F. to 87° F. throughout the year. There are no pronounced wet and dry seasons. Rainfall ranges from 100 inches a year in the lowlands to about 200 inches in the Cameron Highlands.

AGRICULTURAL PRODUCTION

Farm size - Agriculture is classified as smallholdings (less than 100 acres) and estates (100 acres or more). Size of the farms within the two classifications vary considerably--mainly with the crop produced.

Land tenure - All land belongs to the state. Agricultural lands are privately operated and leased for 30 to 99 years for a yearly fee.

Agricultural self-sufficiency - Agricultural exports, mostly rubber, are more than twice as great as agricultural imports. On food crops alone, a large deficit exists.

Principal crops - Rubber, rice, coconuts, and oil palm.

TABLE 13.--Principal crops: Acreage and production, 1958

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rubber	3,500	672
Rice	909	503
Coconuts ^{1/}	518	110
Oil palm	122	--
Palm oil	--	71
Palm kernels	--	19

^{1/} Commercial copra production.

Livestock - Livestock production in the Federation is almost exclusively a smallholding operation. Important domestic animals include cattle, swine, sheep, goats, poultry, and horses. Livestock products include meat, eggs, milk, and hides and skins. The value of livestock products is estimated at less than 5 percent of the national product.

Irrigation - Land involved in schemes in 1958 amounted to 52 percent of the total paddy area and produced 58 percent of the rice crop.

Mechanization - Adoption of mechanization has been slow in the Federation. Most of the farm machinery is owned by estates, and mechanical work on smallholdings is usually on a contract basis. Labor has been plentiful and comparatively cheap; therefore, there is little incentive to adopt Western machinery. The transport of material on an estate is largely performed by manual labor.

Index of agricultural production (1952-54 = 100) - The agricultural production index in 1959 was 115, while the per capita index was only 94.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - \$450 million.

Agricultural share of total exports - 74 percent.

Per capita agricultural exports - \$69.

Value of agricultural imports - \$212 million.

Agricultural share of total imports - 39 percent.

Per capita agricultural imports - \$32.

Major agricultural exports - Rubber, palm oil, coconut oil, and pineapple.

TABLE 14.--Total agricultural trade: Federation of Malaya, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Rubber	391.1	Rice	45.5
Palm oil	15.5	Sugar	22.0
Coconut oil	13.3	Milk, condensed	17.7
Pineapple, fresh & prep. ..	8.9	Wheat flour	11.2
Palm kernels	2.6	Eggs	3.8
Copra	2.4	Pulses	3.6
Bananas .....	.9	Rubber	24.2
Tapioca and sage flour ....	.6	Butter	1.0
Other agricultural	17.0	Fruit, vegetable, & prep.:	8.2
Total agricultural	452.3	Livestock and animal prod.:	36.7
Other	163.0	Other agricultural	37.4
Grand total	615.3	Total agricultural ...:	211.3
		Other	329.9
		Grand total	541.2

TABLE 15.--U.S. - Federation of Malaya agricultural trade: Value of imports and exports, 1958

U.S. exports to Malaya	Value	U.S. imports from Malaya	Value
	Million dollars		Million dollars
Vegetables, prep.	0.28	Rubber, crude	49.2
Fruits, fresh and canned ..	.28	Allied gums .....	.5
Flavoring sirups, etc. ....	.2	Spices	1.7
Wheat flour .....	.1	Other agricultural .....	.33
Other agricultural .....	.34	Total agricultural ...:	51.7
Total agricultural	1.2	Other	41.7
Other	6.6	Grand total	93.4
Grand total	7.8		

Major agricultural imports - Rice, sugar, condensed milk, and wheat flour.

Principal agricultural markets - The United Kingdom, United States, and Japan.

Principal agricultural suppliers - Thailand, Burma, and Australia.

Trade with Bloc countries - 6 percent of total imports; 10 percent of total exports.

Role of Public Law 480 - \$1.5 million authorized for donation under Title III through 1959. There has been no Title I program.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,300 (1958).

Nature of diets - Rice is the main food item, accounting for about half of the caloric intake. Compared to diets in other Asian countries, consumption of protective foods is high.

AGRICULTURAL AND TRADE POLICY

Agricultural development - The Federation is preparing a new 5-Year Plan, with emphasis on rural economic development, to be launched in 1961. Objectives of the first 5-Year Plan introduced in 1956 are to: (1) Achieve self-sufficiency in essential foodstuffs, especially rice; (2) diversify crops; (3) increase production of existing crops; (4) improve the marketing system; (5) give financial assistance to farmers through various agencies; (6) give security to cultivators; and (7) provide extensive agricultural education.

Major agricultural policies - The government provides payment to estates and smallholders for replanting and new planting of rubber. Rice is the only agricultural product covered by price policy measures. A guaranteed minimum price is offered rice producers. A fertilizer subsidy scheme is also offered the rice growers by the government. The subsidy is paid directly to the fertilizer suppliers.

Trade policy - The Federation's trade pattern is changing as the country becomes more self-sufficient. Removal of restrictions on dollar imports in 1958 and the tendency for increased direct trade with foreign countries are recent changes in trade policy. The tariff structure is principally designed to raise revenue and not to protect local industries. The country has only one bilateral trade agreement--with Australia. Some commodities are subject to export duties.

POLITICAL SETTING

On August 31, 1957, the Federation of Malaya achieved sovereignty and is now a constitutional elective monarchy within the British Commonwealth.

REPUBLIC OF THE PHILIPPINES

POPULATION

Total - 24.7 million (1959).

Rural - Approximately 60 percent.

Annual rate of growth - 2.91 percent.

Density - 215 per square mile; nearly half the people live in Luzon.

ECONOMIC SETTING

Total GNP (1957 prices) - \$5.15 billion (1958).

Agricultural share of GNP - About one-third.

Average annual growth - 4 percent (1956-58 average).

GNP per capita (1957 prices) - \$215 (1958).

Gold and dollar holdings - \$184 million at the end of 1959.

Total trade as percent of GNP - 21 percent (1958).

Trade balance - Chronic deficit; \$66 million (1958).

Economic assistance - U.S. assistance has been channeled into various programs undertaken to strengthen the economy. The ICA program has involved annual outlays of between \$30 million and \$35 million in recent years, although expenditures are currently running at a lower rate. The United Nations and its specialized agencies provide technical assistance to the Philippines for a variety of development projects. In 1957, total expenditures amounted to \$400,000 and included the services of 46 experts.

PHYSICAL CHARACTERISTICS

Location - About 500 miles southeast of the Asian continent. The archipelago of some 7,000 islands extends 1,152 miles north to south and 688 miles east to west at the widest point.

Area - 115,000 square miles, or 73.6 million acres. Eleven islands account for 94 percent of the total land area. Luzon and Mindanao are the two large islands.

Agricultural area - 17.6 million acres, or 18 percent.

Arable land per capita - 0.7 acre.

Topography - Mountains, varying in height and ruggedness from island to island, occupy the greater part of the land area. But coastal plains, valleys, rolling uplands, and plateaus are also to be found on almost all of the principal islands.

Climate - Philippine lowlands have a year-round hot, humid climate, in contrast to the more temperate climate of the highlands. As in all tropical regions, the annual range in average temperatures from the coolest to the warmest month is narrow. Except at points of higher elevation, annual mean temperatures are around 80° F.

Rainfall, in contrast to temperature, varies greatly in different parts of the Philippines, but is ample in nearly all parts of the country. The annual average at Manila is 82 inches.

Soil types - In the Philippines, as in most other tropical countries, Latosols predominate; most are on mountains and steep slopes. Alluvial soils are the most agriculturally significant and the most extensive associates of the Latosols. As a group, they are more fertile and more intensively used than other Philippine soils.

AGRICULTURAL PRODUCTION

Farm size - Philippine farms are mostly small. In 1948 (the latest census) more than two-thirds of the farms were under 7 acres and all but 2 percent were under 50 acres. The relatively few farms of 50 acres or more, however, accounted for about one-fourth of the farmland.

Land tenure - Owner-operated and tenant-operated farms are both common in the Philippines. According to the 1948 census data, some 62 percent of the farm operators were owners or part owners of their farms and held 70 percent of the farmland; 37 percent were full tenants who operated 27 percent of the farmland. Later surveys, however, indicate that official statistics underestimate the prevalence of tenancy and suggest a proportion of 46 percent or more for full tenants.

Level of productivity - Very low; rice yield per acre is about one-third that of the United States and corn is less than one-fifth.

Agricultural self-sufficiency - The Philippines produces more food than it consumes. Large exports of coconut products and sugar more than offset imports of other foods in terms of calories, as well as in money value.

Principal crops - Rice and corn are the leading food crops. Coconuts, sugar, abaca, and tobacco are the most important commercial crops.

Irrigation - In the Philippines, irrigation is used chiefly for rice. Only a small percentage of the area occupied by other crops is being irrigated.

Approximately 10 percent of the rice land has a reliable source of irrigation. Most of the remaining area depends solely on rainfall to flood the fields. Most irrigated land is on Luzon.

TABLE 16.--Principal crops: Acreage and production, 1958

Crop	Acreage	Production
	<u>1,000 acres</u>	<u>1,000 m. t.</u>
Rice, milled	6,840	2,283
Corn, shelled	4,187	937
Coconuts ^{1/}	2,465	1,126
Abaca	571	125
Sugar, centrifugal	488	1,205
Sweetpotatoes	472	830
Tobacco	205	50
Cassava	142	300

^{1/} Copra equivalent of coconuts and coconut oil

Livestock - Production of livestock is not an important enterprise on Philippine farms except for some commercial poultry and dairy farms located near larger centers of population.

TABLE 17.--Livestock and poultry: Number of farms and number slaughtered, 1958

Type	Number on farms	Number slaughtered
	<u>Thousand</u>	<u>Thousand</u>
Carabaos	3,596	65
Cattle	896	300
Horses	221	18
Hogs	6,084	3,328
Goats	537	150
Poultry	54,717	26,833

Multiple cropping - Except in the western part of several of the islands where there is an extended dry period, the climate of the Philippines is well suited to multiple cropping. At present about one-third of the land is double cropped.

Mechanization - Although increased emphasis is being placed on farm mechanization in the Philippines, most crops as they are produced in the country do not lend themselves to mechanization and little progress in this direction has been made.

Index of agricultural production (1952-54 = 100) - The 1959 agricultural production index was 126, while the per capita agricultural production index was only 107.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,150 for the 1958 consumption year.

Nature of diet - Rice and corn are the predominant foods in the Filipino diet, representing nearly 45 percent of the total foods consumed.

AGRICULTURAL TRADE (1958)

Agricultural share of total exports - 73 percent.

TABLE 18.--Philippines: Total agricultural trade, 1958

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Copra	125.93	::	Wheat flour	28.19
Sugar	116.21	::	Rice	20.75
Abaca	28.51	::	Milk, evaporated	14.94
Coconut oil	23.20	::	Other dairy products	12.41
Coconut, fresh	16.80	::	Meat and prep.	9.89
Tobacco	7.94	::	Cotton, raw	8.41
Fruits and prep.	5.10	::	Other cereals & prep.	3.13
Copra cake	4.30	::	Tobacco	2.56
Other agricultural	8.92	::	Other agricultural	22.51
Total agricultural	<u>336.91</u>	::	Total agricultural	<u>122.79</u>
Other	<u>122.90</u>	::	Other	<u>430.49</u>
Grand total	<u>459.81</u>	::	Grand total	<u>553.28</u>

TABLE 19.--U.S. - Philippine agricultural trade: Value of imports and exports, 1958

U.S. exports to Philippines	: Value	::	U.S. imports from Phil.	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Wheat flour	19.0	::	Sugar	110.2
Milk, evap.	15.5	::	Copra	47.5
Cotton, excl. linters	11.6	::	Coconut oil, crude	26.3
Rice, milled	8.4	::	Coconut meat, shredded ...	14.2
Tobacco, unmgf.	2.8	::	Other coconut prep.	2.4
Nonfat dry milk	2.8	::	Abaca	10.7
Infant and dietetic foods ..	1.5	::	Pineapples, canned	3.8
Food for relief or charity ..	4.0	::	Other pineapple prep.	2.1
Other agricultural	10.1	::	Other agricultural	3.1
Total agricultural	<u>75.7</u>	::	Total agricultural	<u>220.3</u>
Other	<u>214.0</u>	::	Other	<u>50.7</u>
Grand total	<u>289.7</u>	::	Grand total	<u>271.0</u>

Per capita agricultural exports - \$14.

Agricultural share of total imports - 22 percent.

Per capita agricultural imports - \$5.

Principal agricultural markets - United States, Japan, and northwestern Europe.

Principal agricultural suppliers - United States, Canada, the Netherlands, Australia, and Argentina.

Role of Public Law 480 - A P.L. 480 agreement signed in June 1957 provided for \$10.3 million worth of agricultural commodities (mainly raw cotton and rice) to be sold for pesos. A second agreement, amounting to \$4.1 million, was signed in June 1958, and involved rice.

AGRICULTURAL AND TRADE POLICY

Agricultural policy - The major long-range agricultural policies of the Philippine Government may be summarized briefly as follows: (1) To become self-sufficient in the basic food items, particularly rice and corn; (2) to expand production and improve quality of dollar-earning and dollar-saving commercial crops, such as copra, abaca, sugar, and lumber; (3) to develop agricultural credit and agricultural marketing systems that will drastically reduce the usurious interest rates and the excessive marketing margins now being collected by middlemen, mostly non-Filipinos; (4) to modernize and generally improve the efficiency of Philippine agriculture through research, education, and extension; and (5) to improve living conditions of Philippine farmers, primarily through community development projects.

Agricultural trade policies - Several agricultural commodities have been subjected to trade regulations. Rice and corn imports are prohibited except when the local supply situation constitutes a national emergency. A Cassava Flour Law requires wheat flour importers to buy cassava flour in proportion to 10 percent of the wheat flour by weight. Many agricultural commodities have special treatment under terms of the revised U.S. - Philippine trade agreement. An exchange margin fee, special import tax, foreign exchange control, informal quotas, and barter regulations also affect Philippine agricultural trade.

POLITICAL SETTING

Type of government - The Philippine Constitution is generally patterned after that of the United States in that it follows the principle of the general separation of powers among the executive, legislative, and judicial branches of the government.

Political history - Spain ruled the Philippine Islands for nearly four centuries after they were discovered by Magellan in 1521. The islands, ceded by Spain to the United States in 1898, gained almost complete autonomy in 1935, and became fully independent on July 4, 1946.

SINGAPORE

POPULATION

Total - 1.5 million (1958); 6,748 per square mile.

Projected annual rate of growth - 3.75 percent, resulting partly from immigration.

ECONOMIC SETTING

The fiscal position of the Singapore Government is sound. National income in Singapore is estimated at almost \$600 million a year. This is equivalent to a per capita income of about \$400, which is several times greater than that of most Asian countries.

PHYSICAL CHARACTERISTICS

Location - Singapore Island is situated about three-quarters of a mile off the southern extremity of the Malay Peninsula.

Area - 224.5 square miles, or 143,680 acres. Singapore Island has 209.5 square miles, while 40-odd nearby islands add another 15. About 25 percent of the total area is under cultivation.

Physiography - Three distinct areas form the island--rounded hills in the north and center, steep slopes and valleys in the west and south, and sands and gravels in the eastern third. Owing to its proximity to the Equator, Singapore has a climate characterized by uniform temperature, high humidity, and abundant rainfall.

AGRICULTURAL PRODUCTION

Farm size - Rubber plantations are the only farms of large size. Nearly 60 percent of the total area in rubber is in estates over 100 acres. Coconuts are primarily a smallholder's crop. Vegetable farms are quite small; lowland farms are about 1 acre while upland farms are approximately 3 acres.

Agricultural self-sufficiency - Singapore depends on outside sources for the bulk of its food but is nearly self-sufficient in pork and poultry production.

Principal crops - Food crops, mainly vegetables and root crops, are by far the most important. Much of the rubber area has been abandoned.

Livestock industry - The most important form of livestock farming in Singapore is the keeping of pigs by Chinese smallholders as part of their mixed farming methods. Production of pigs is estimated at 750,000 annually. Poultry population is estimated at 24 million.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,375 calories (1958).

Nature of diet - Cereals, principally rice and wheat flour, account for 54 percent of the caloric intake. Protective food consumption--vegetables, fruits, and animal proteins--is higher than in most Asian countries.

AGRICULTURAL TRADE (1958)

Principal agricultural markets - Federation of Malaya, United Kingdom, and United States.

Principal agricultural suppliers - Federation of Malaya, Indonesia, Thailand, and Australia.

Agricultural trade with U.S. - Fruits and vegetables, both fresh and prepared, account for half of the \$3.4 million worth of U.S. agricultural exports to Singapore. Shipments of rubber, the only major agricultural import from Singapore, were valued at \$24 million in 1958.

TABLE 20.--Singapore: Total agricultural trade, 1958

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Rubber	283.8	::	Rubber	241.5
Fats, oils and oilseeds	31.0	::	Cereals and prep.	48.5
Cereals and prep.	26.5	::	Fats, oils and oilseeds ...	43.3
Fruits, nuts and vegetables..	11.5	::	Fruits, nuts & vegetables..	26.2
Livestock and animal products:	7.8	::	Livestock and animal prod..	23.8
Sugar and prep.	1.9	::	Sugar and prep.	9.1
Tobacco, unmanufactured	1.9	::	Tobacco, unmanufactured ...	2.6
Natural fibers .....	.1	::	Natural fibers	1.0
Other agricultural products ..	63.0	::	Other agricultural products:	60.3
Total agricultural	427.5	::	Total agricultural	456.3
Total all commodities	798.0	::	Total all commodities ..	993.7
Percent agricultural of total:	<u>Percent</u>	::	Percent agric. of total ...:	<u>Percent</u>
	: 53.6	::		: 45.9

Trade with Bloc countries - 4 percent of total imports; 6 percent of total exports.

POLITICAL SETTING

Singapore became a self-governing state on June 3, 1959, less than 2 years after the Federation of Malaya became an independent country within the British Commonwealth. Although Singapore and the Federation have no political ties, their economies and financial structures are closely linked.

SOUTH VIETNAM

POPULATION

Total - 13.2 million in 1958.

Rural - Estimated at 80 percent of total.

Annual rate of growth - 2 percent.

Density - 200 per square mile.

ECONOMIC SETTING

Gross national product - Estimated at \$2 billion for 1959.

Rate of growth - Nearly 2 percent yearly since independence.

Per capita GNP - \$155, much higher than China or India but below that of Japan or Malaya.

Gold and foreign exchange holdings - In 1959, foreign exchange holdings attained a relatively steady level of \$150 million.

Trade as percent of GNP - 15 percent.

Economic assistance - The United States and France are major sources of technical assistance. Japan, West Germany, and the Colombo Plan countries also provide grants and technical aid.

Trade balance - Imports exceed exports by an average \$200 million annually. This deficit is made up largely through U.S. aid.

PHYSICAL CHARACTERISTICS

Location - Vietnam occupies the eastern shore of the Indochinese Peninsula and is bordered by Laos and Cambodia.

Area - 66,000 square miles; slightly larger than Iowa.

Cultivated area - 7 million acres.

Arable land per capita - 0.5 acre.

Topography - The Mekong River, inland plateau, and coastal plain constitute the dominant features of Vietnam's topographical structure. The Mekong, which originates in the Himalayas, fans out in South Vietnam, forming a vast delta as it approaches the sea.

Climate - Situated latitudinally 7°-15° north and in the heart of monsoon Asia, Vietnam is warm and moist--ecologically ideal for rice culture. The rains usually begin in May and terminate in October or November. Following the rainy season is a 5-6 month dry period which lasts until the renewal of the summer monsoon. Most of the country receives from 60-120 inches of rainfall annually.

AGRICULTURAL PRODUCTION

Number of farms - 1.6 million.

Size of holdings - 4 to 6 acres with the exception of the large commercially operated rubber plantations.

Land tenure - At present an estimated 1.3 million farmers of the 1.6 million total are landowners. The complete implementation of the land reform program enacted in 1955 should further increase the number of land owners.

TABLE 21.--Principal crops: Acreage and production in South Vietnam, 1959

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rice, milled	6,000	2,100
Rubber	190	70
Sweetpotatoes	147	300
Sugarcane	77	1/ 29
Coconuts	76	2/ 24
Corn	50	70
Soybeans	30	7
Tea	24	4
Tobacco	22	7

1/ Centrifugal sugar.

2/ Copra equivalent of coconuts produced.

Livestock - Livestock are used principally as draft animals. Chickens and ducks combined are more numerous than people. The high water availability makes a favorable habitat for family-owned flocks of ducks. Duck feathers frequently rank third behind rice and rubber as a source of foreign exchange.

TABLE 22.--Livestock: Number in South Vietnam, 1957

Type	Number
	Thousand
Water buffaloes	544
Cattle	688
Swine	3,384
Chickens	9,000
Ducks	6,000

Agricultural self-sufficiency - Agricultural exports, mostly rubber, have a value nearly double that of imports. In terms of foodstuffs alone, a slight deficit persists.

Irrigation - Surface flooding occurs extensively throughout South Vietnam. Much of the rice is flooded naturally during the rainy season; however, in those areas where natural rainfall is inadequate, irrigation is used.

Mechanization - Confined largely to the commercially operated rubber plantations.

Ratio of input factors - Labor inputs are high but capital inputs are extremely low.

Level of productivity - A low level of technology results in rather low yields per acre.

Index of agricultural production (1952-54 = 100) - The index reached 153 in 1959; however, on a per capita basis it reached only 129. Some of this increase may be attributed to recovery from the Indochinese war.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - \$50 million.

Agricultural share of total exports - Over 90 percent. Exports of minerals or industrial goods are very small. Rubber earns over 60 percent of all foreign exchange.

Per capita agricultural exports - \$4 annually.

TABLE 23.--South Vietnam: Total agricultural trade, 1958

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Rubber and rubber products ..	35.11	::	Milk, sweetened and cond..	8.20
Rice	13.86	::	Sugar, raw or refined	4.98
Essential oils, glue, drugs,		::	Wheat flour	4.50
wax, etc. ....	.65	::	Tobacco, unmgfd.	2.68
Duck feathers .....	.44	::	Fresh fruits	1.45
Soybean sauce .....	.44	::	Planting seeds	1.34
Cassia .....	.39	::	Malt	1.17
Vegetable fats and oils .....	.30	::	Dry edible legumes	1.16
Grain preparations .....	.13	::	Live animals .....	.72
Total agricultural	<u>51.32</u>	::	Total agricultural	<u>26.20</u>
Other	<u>3.68</u>	::	Other	<u>205.80</u>
Grand total	<u>55.00</u>	::	Grand total	<u>232.00</u>

TABLE 24.--U.S. - South Vietnam agricultural trade: Value of imports and exports, 1958

U.S. exports to S. Vietnam	Value	U.S. imports from S. Vietnam	Value
	Million dollars		Million dollars
Milk, condensed, sweetened ..	7.4	Rubber, crude	3.5
Tobacco, unmanufactured	2.7	Cassia and cassia vera, unground	1.0
Wheat flour	2.3	Feathers, crude .....	.3
Food for relief or charity ..	3.8	Other agricultural .....	.1
Other agricultural	2.5	Total agricultural	4.9
Total agricultural	18.7	Other .....	.1
Other	43.1	Grand total	5.0
Grand total	61.8		

Value of agricultural imports - \$26 million.

Agricultural share of total imports - Less than 15 percent.

Per capita agricultural imports - Just over \$2.

Principal markets - France, United States, Japan.

Principal suppliers - France, United States, Japan.

Role of Public Law 480 - Limited to \$10.5 million of tobacco through 1959.

FOOD CONSUMPTION

Rice, the staple food, accounts for over two-thirds of all calories consumed. High protein protective foods such as meat, fish, milk and eggs supply only 6 percent of the total caloric intake.

AGRICULTURAL AND TRADE POLICY

Agricultural policy - Production of the export commodities, rice and rubber, is stressed.

Trade policy - Policy is directed toward maintaining an adequate level of domestic consumption in preference to balancing trade. Trade with North Vietnam has not been permitted since partition in 1954.

POLITICAL SETTING

Type of government - Republic; both the president and legislature are elected by the people.

Political history - Prior to the Geneva treaty of 1954, Vietnam was one of three states comprising Indochina. As a result of the treaty, formal political ties with both the other Indochinese states and France were dissolved.

THAILAND

POPULATION

Total - 22 million.

Rural - 84 percent, or 18.5 million.

Annual rate of growth - 2 percent--slightly above world average.

Density of population - 110 per square mile, which is below average for the Far East. The greatest concentration is in the lower central plains with lesser concentrations centered in the northeastern region and the southern peninsula.

ECONOMIC SETTING

Gross national product - \$2.196 billion in 1958.

Agricultural share of GNP - Over 40 percent.

Estimated average annual rate of growth - 5 percent.

Per capita GNP - \$98.

Gold and foreign exchange holdings - Holdings have remained remarkably steady around the \$300 million level during the past decade. Rice, rubber, and tin are the principal foreign exchange earners.

Trade as percent of GNP - Usually over 35 percent.

Economic assistance - ICA has provided \$24 million worth of technical aid through 1959. IBRD has provided the principal source of outside investment capital, with total loan disbursements of \$149 million. In addition, French private sources have invested \$23 million and the Export-Import Bank has granted a \$14 million long-term loan.

Trade balance - Imports frequently exceed exports; however, this is compensated for by the net capital influx.

PHYSICAL CHARACTERISTICS

Location - Thailand is situated on the Southeast Asian peninsula. It is entirely within the Tropics and is surrounded by Burma, Laos, Cambodia, and Malaya.

Area - 198,000 square miles; 4 times as large as Pennsylvania.

Agricultural area - 19 million acres, or 15 percent of total.

Arable land per capita - 0.9 acre.

Topography - Thailand is partly rimmed by highlands, thus forming a vast watershed which drains into the flat central plain and the centrally situated Chao Phraya River system. Both Thailand's cultivated area and population are concentrated on the central plain. The sluggish and shallow nature of the Chao Phraya causes it to overflow and form several alternate parallel channels during the monsoon. This overflow also results in the annual inundation of over 5,000 square miles along the river.

The northeastern corner of Thailand is drained by the Mekong River, which then crosses Indochina enroute to the sea. In the west, the Shan Mountain range separates Thailand from Burma with a small border area draining westward to the Salween River of Burma.

Climate - Situated between 5° and 20° north, Thailand lies entirely within the Tropics. Like the remainder of monsoon Asia, Thailand is warm and moist--well adapted to rice cultivation. The rainy, or monsoon, season which arrives in May and continues through September or October, results in an annual rainfall in excess of 75 inches for most of the country. Temperatures are persistently high for the duration of the summer monsoon, with the central plain having a mean maximum temperature for this period of 98° F. Following the rainy season is a 6-month dry period during which little land is cultivated other than that under irrigation.

Soils - Thailand's central plain consists of fine sandy and silt loams superimposed upon a variety of heavy and relatively impervious clays. River banks usually consist of light sandy soils on which fruit and vegetables are grown. The Khorat Plateau, in the northeast, consists largely of low-fertility sandy soils covered with a sparse natural grass vegetation; it supports Thailand's small commercial livestock industry.

River valleys in the northeastern region contain dark clay soils overlaid with alluvial deposits. These river valleys are intensively cultivated, with much double cropping of rice or rice in combination with another crop, such as soybeans or peanuts. Deep red soils on the southeastern coastal plain produce rubber, sugarcane, and fruit. On the infertile sandy loam and clay loam soils of the southern peninsula, rubber is grown extensively.

AGRICULTURAL PRODUCTION

Number of farms - Nearly 2 million.

Average size of farms - With individual holdings averaging 10 acres in size, Thai farms are among the largest in the Far East. Farms on the flat central plain average 12 acres; those in the river valleys of the north may average only 4 acres.

Land tenure - An estimated 87 percent of Thai farmers own the land they cultivate. The cultivator's attitude is strongly influenced by his relationship with the land, as those owning their land demonstrate a much greater interest in improvement and conservation practices than those leasing land.

Agricultural self-sufficiency - Thailand produces large quantities of both food and industrial crops for export. Agricultural exports are far in excess of imports.

TABLE 25.--Principal crops: Acreage and production in Thailand, 1959

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rice	14,432	4,875
Rubber	2,135	160
Coconuts	336	<u>1/</u> 227
Corn	316	140
Sugarcane	300	<u>2/</u> 95
Peanuts, shelled	245	72
Tobacco	143	27
Kapok	126	92
Cotton	103	11
Mung beans	99	42
Soybeans	57	22
Kenaf and jute	56	33
Castorbeans	55	29
Sesame	55	17

1/ Copra equivalent.

2/ 68,000 tons centrifugal sugar and 27,000 tons noncentrifugal.

Livestock - Thailand's livestock industry is concentrated in the pastoral northeastern plains. Water buffaloes and cattle are grown here and sold to central plain rice farmers who utilize them extensively for rice land tillage and also to a more limited extent as dairy animals. Water buffaloes are preferred for draft purposes because of their greater strength and endurance. These animals are indispensable, and farmers not owning water buffaloes or cattle customarily rent them from a neighbor.

TABLE 26.--Livestock: Number in Thailand, 1959

Type	Number
	Thousand
Water buffaloes	5,772
Cattle	4,531
Swine	4,728
Chickens	57,558
Ducks	20,000
Geese	500

Irrigation - Rice farmers have traditionally relied on seasonal rains to flood the rice fields and thus provide the necessary water. In recent years the Thai Government has taken specific action directed toward the control, retention, and conservation of water.

Multiple cropping - Little double cropping has been necessary in the past, as land has been relatively abundant. Irrigation developments, which ensure a year-round supply of water, have made the potential double-cropping area much larger.

Mechanization - Agricultural implements used in rice production are an iron-shared wooden plow, a wooden harrow, and wooden-handled sickles. With the exception of steel parts, implements are generally home-made. Virtually all draft power is supplied by water buffaloes or cattle.

Ratio of input factors - Rice production is of a labor-intensive nature, with an estimated labor input of 120 man-days per acre. This contrasts strongly with the highly mechanized capital-intensive rice production of the United States which utilizes only 2 man-days per acre.

Level of productivity - Productivity related to land utilization is not particularly high by Far Eastern standards. On a basis of labor, it is much higher than in many countries in the area.

Index of agricultural production (1952-54 = 100) - Total agricultural production was 119 in 1959. When adjusted for population growth it was only 106.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - \$240 million.

Agricultural share of total exports - 80 percent.

Per capita agricultural exports - \$12 per year.

Value of agricultural imports - \$40 million.

Agricultural share of total imports - 10 percent.

Per capita agricultural imports - \$2 per year.

Major agricultural export items - Rice and rubber earn two-thirds of all foreign exchange.

Major agricultural import items - Dairy products, tobacco, and wheat flour.

Principal agricultural markets - United States, Malaya and Singapore, Japan, and Hong Kong.

Principal agricultural suppliers - United States.

Role of Public Law 480 - Commodities valued at \$4.4 million were programmed through 1959. Nearly \$4 million of this was tobacco; the remainder consisted of anhydrous milk fat and nonfat dry milk.

TABLE 27.--Thailand: Total agricultural trade, 1958

Agricultural exports	Value	Agricultural imports	Value
	Million dollars		Million dollars
Livestock	3.2	Dairy products	18.2
Hides and skins	2.0	Wheat flour	3.7
Cassava & tapioca flour	8.6	Sugar and preparations ...	2.4
Pulses	1.3	Tobacco	8.6
Tobacco, unmfgd.	4.1	Animal oils and fats .....	.7
Corn, unmilled	8.8	Vegetable oils .....	.6
Kapok	2.5	Coffee	2.4
Kenaf	3.3	Tea	1.4
Castor seeds	2.0	Essential oils .....	.8
Spices	0.6	Cotton, raw excl. linters.	.3
Rubber	63.3	Total agricultural	39.1
Rice	142.5	Other	356.3
Total agricultural	242.2	Grand total	395.4
Other	55.1		
Grand total	297.3		

TABLE 28.--U.S. - Thailand agricultural trade: Value of imports and exports, 1958

U.S. exports to Thailand	Value	U.S. imports from Thailand	Value
	Million dollars		Million dollars
Tobacco, unmanufactured	6.6	Rubber, crude	46.4
Flavoring sirups, etc. ....	.3	Tapioca, flour and cassava	5.7
Wheat flour .....	.2	Kapok	1.1
Nonfat dry milk .....	.1	Feathers, crude .....	.1
Vegetables and prep. ....	.1	Other agricultural .....	.2
Anhydrous milk fat .....	.1	Total agricultural	53.5
Other dairy products .....	.09	Other	3.6
Infant and dietetic foods ..	.09	Grand total	57.1
Other agricultural .....	.72		
Total agricultural	8.3		
Other	43.9		
Grand total	52.2		

FOOD CONSUMPTION

Per capita daily caloric consumption - Estimated at 2,200 in 1958. The large surpluses of food commodities, particularly rice, result in a higher rate of calorie consumption than in many areas of the Far East.

Staple foods - Rice.

Nature of diets - Preponderantly starchy, rice provides two-thirds of the necessary calories; fruits and nuts, particularly coconuts, are the next largest source of calories. Although calorie consumption is below that recommended, the most serious deficiency is in the consumption of protective high protein foods.

Trends in consumption pattern - The overall consumption pattern does not exhibit any pronounced trends.

AGRICULTURAL AND TRADE POLICY

Agricultural policy - Present policy is aimed at expanding rice production space with population growth. Some effort is being made to diversify agriculture. Agricultural production is not expected to increase rapidly unless the rate of investment is stepped up.

Trade policy - Although relatively few imports are subject to restriction at present, the restrictive tendency appears to be on the upward trend due to efforts to protect infant industries. The recently enacted industrial promotion legislation permits the levying of protective tariffs on items domestically produced if local industries request it. An increase in government-to-government contracts, particularly for rice, reflects an intensification of efforts to ensure long-range market outlets.

POLITICAL SETTING

Type of government - Constitutional monarchy; a constitution adopted in 1952, provides for a 283-member National Assembly, with some members being elected and some being appointed.

Political history - In 1932, the ancient Siamese monarchy was ended and a constitution calling for a limited monarchy was adopted.

