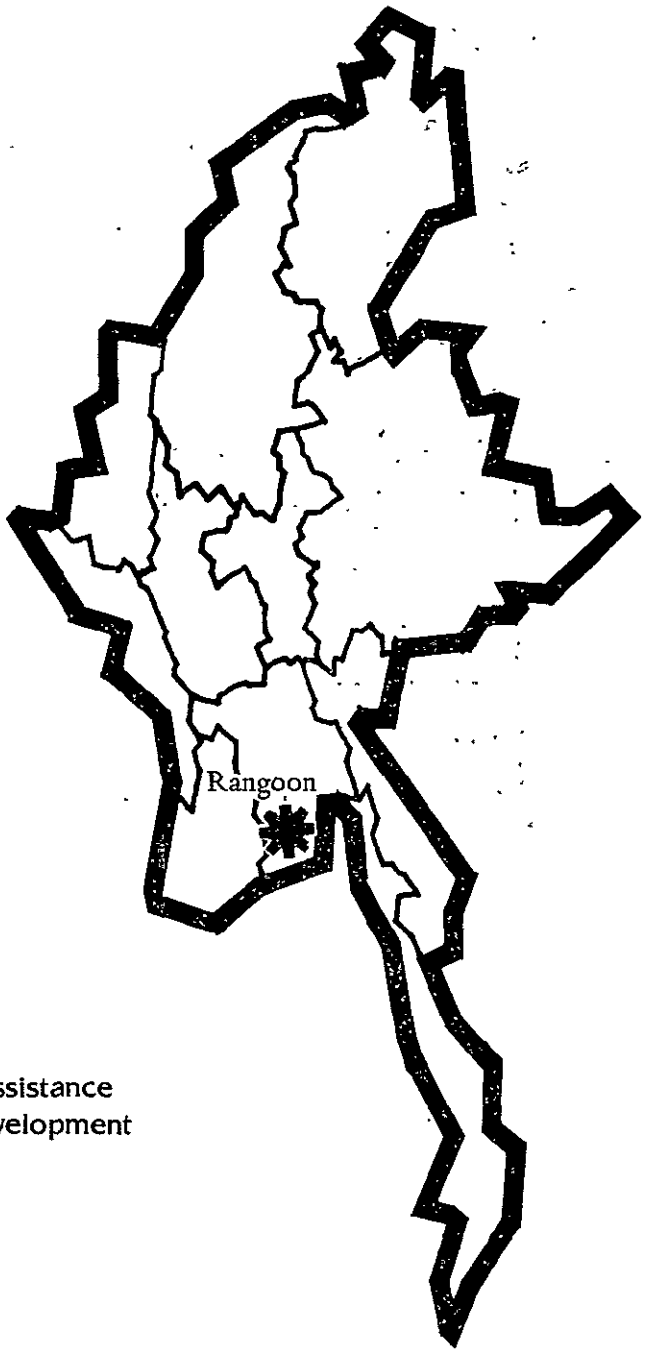
PN-AAK-297

Burma
A Country Profile



March 1980

Office of Foreign Disaster Assistance
Agency for International Development
Washington, D.C. 20523

Base 503538 12-77 (543580)

OFDA COUNTRY PROFILES: APRIL 1980

AFRICA

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Niger*
Sahel Transportation Survey
Senegal
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Upper Volta
Zaire

ASIA

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Burma
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Indonesia
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CARIBBEAN

CARICOM Regional Profile
Dominican Republic
Haiti

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NEAR EAST

Turkey

SOUTH PACIFIC

Fiji
Tonga
Western Samoa

INDIAN OCEAN

Island Countries of the Indian Ocean *

* In preparation

BURMA: A COUNTRY PROFILE

prepared for

The Office of U. S. Foreign Disaster Assistance
Bureau for Private and Development Cooperation
Agency for International Development
Department of State
Washington, D. C. 20523

by

Evaluation Technologies, Inc.
Arlington, Virginia
under contract AID/SOD/PDC-C-0283

The profile on Burma is one in a series designed to provide baseline country data in support of the planning, analysis and relief operations of the Office of U. S. Foreign Disaster Assistance (OFDA). Content, scope and sources have evolved over the course of the last three years, and no doubt will continue to do so. The relatively narrow focus is intentional. To avoid redundancy, some topics one might expect to find in a "country profile" are not covered here.

If the information provided can also be useful to others in the disaster assistance and development communities, so much the better. Every effort is made to obtain current, reliable data; unfortunately it is not possible to issue updates as fast as changes would warrant. A cautionary note, therefore, to the reader: statistics are indicators at best, and if names and numbers matter, the bibliography will point to a current source.

We invite your comments and corrections. Address these and other queries to OFDA, AID, as given above.

April 1980

TO:

COUNTRY PROFILE USER Dear _____

Please use this form to note any changes, additions, corrections or suggestions you think would update and improve this country profile. Since our aim is to make these profiles as relevant as possible, your critique is essential and very much wanted. Return comments to Lucy Drobot, OFDA Country Profiles, Room 1262A.

NAME/OFFICE:_____ PHONE:_____ Date:_____

TOPIC	COMMENTS

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1. General Information

1.1 Geographic Codes

AID	482
State region	EA
FIPS	BM

1.2 Country Names

Official:	Socialist Republic of the Union of Burma
Local:	Pyi-Daung-Su Myanma-Nainggan
Short:	Burma

1.3 Official Holidays

Independence Day.....January 4*
Karen New Year.....December 17
Union Day.....February 12
Peasants' Day.....March 2
Full Moon of Tabaung.....March 11
Resistance Day.....March 27**
Thingyan.....April 24-26
Burmese New Year.....April 17
Labor Day.....May 1
Full Moon of Ksonn.....May 9
Full Moon of Waso.....July 7
Martyrs' Day.....July 19
Thadingyut.....October 4
Dewali Tazaundaing.....November 2
National Day.....November 12**
Christmas.....December 25

* No work
** No work in morning

1.4 Currency Exchange Rate (April 1980)

Unit of currency: Kyat; 6.53 Kyats = US $1

1.5 Time Zones

EST + 11.5 hours; GMT + 6.5 hours

1.6 Host Mission and Staff in US

Embassy of the Republic of Burma
2300 S St. N.W.
Washington, D.C. 20008
Tel: 332-9044, 9045, and 9046

Ambassador.....U Hla Shwe
Second Secretary.....U Toe Lwin
Third Secretary.....U Myint Thwin Aye
Military, Naval and
Air Attache.....Col. Tin Aye

1.7 US Mission and Staff to Burma

Embassy of the United States
581 Merchant St.
Rangoon
Tel: 18055

Ambassador.....Maurice D. Bean
Deputy Chief of Mission.....O. Ammon Bartley, Jr.
Political Section.....Francis B. Corry
Economic/Commerical Section.....Mary Ann Peters
Consular.....James E. Flynn
Administrative Section.....Robert E. Park
Public Affairs Officer.....Frank W. Scotton

Consulate
71st St. and South Moat Rd.
Mandalay
Tel: 555

Political Officer.....Mary Ann Peters
Consular.....Fred D. Stephens

1.8 Treaties and Agreements

Agricultural Commodities Agreement; agreement on use of Kyats accrued under Title I of Agricultural Trade Development and Assistance Act.

Air Transport Agreement.

Economic Cooperation Agreement; grant to finance preliminary surveys for proposed construction projects.

Also: education, extradition, informational media guaranties, narcotic drugs, disposition of real and personal property, publications and trade marks agreements.

1.9 International Organization Memberships

Membership in UN, Colombo Plan, World Bank Group (IBRD, IFC, IDA), IMF, GATT, Seabeds Committee, International Rice Commission.

1.10 Visa and Travel Information

Passport required. Transit visa $1.65, valid 24 hours. Two photos, must leave Burma traveling in same direction as on arrival with visa for destination. Tourist visa $4.85, valid one week, one entry, four photos, confirmed reservations or onward/return ticket required. Entry visa $4.85, valid for stays over 24 hours, one entry, 4 photos and name and address of guarantor in Burma. Overland travel into Burma not permitted. Enclose stamped self-addressed envelope (registered/certified) for return of passport. Apply Consulate General, New York 10017; check specific requirements and currency regulations.

Smallpox vaccination required from travelers arriving from a country any part of which is infected. Immunization certificate for cholera required only from travelers proceeding to countries which require one. Yellow fever certificate required from travelers who within preceding 6 months visited countries in endemic zones, and from nationals/citizens of Burma departing for infected areas.

1.11 Ethnic and Sociocultural Groups

Burmans (including Mons & Arakanese) - 72% or 22 million

Important minority groups:

Karans	- 10% or 3 million
Shans	- 6% or 1.8 million
Kachins	- 2% or 0.6 million
Chins	- 2% or 0.6 million
Kayahs	- 0.25% or 0.08 million
Indians and Pakistanis	- 3% or 0.9 million
Chinese	- 2% or 0.6 million
Other minorities	- 3% or 0.9 million

1.12 Languages

Offical language: Burmese
Most common western language: English
Also: Tibeto-Burman language family (Kachin, Chin); Tai family (Shan); Karen family; Mon-Khmer family.

1.13 Religions

Theravada Buddhism - 75-85% of population (most Burmans, Shans, Mons, Palaung, Pa-o Karens).

Hinduism	Indians
Islam	Pakistanis, Chinese
Christianity	Karens
Animism	Hill tribes

1.14 Education

Education is free up to 8th grade. Emphasis placed on vocational and technical training. Adult literacy: 70%

2. Government

2.1 National Government

29 member State Council headed by chairman sets policy; four subordinate bodies: Council of Ministers, Council of Attorneys, Council of Judges, Council of Inspectors, implement it. Unicameral People's Assembly-454 members elected to 4-year terms-from which all senior members of executive branch are elected. Judicial branch consists of system of People's courts under direction of Council of Judges and Council of Attorneys.

2.2 Regional Organizations

Burma proper made up of seven divisions: Rangoon, Mandalay, Pegu, Magwe, Irrawaddy, Tenasserim, Sagaing. Remaining area comprises states of Shan, Kawthulei, Kayah, Kachin, Arakan, Mon, and Chin for a total of 14 Divisions/States. Major entities subdivided into districts, these into townships. Lowest administrative units are villages (rural) or wards (urban). Village tracts (informal unit of 5-10 villages) used for some government programs.

2.3 Key Leaders (February 1980)

President.....Ne Win, U
Prime Minister.....Maung Maung Kha, U
Min. of Agriculture & Forests.....Ye Gaung, U
Min. of Construction.....Hla Tun, Brig. Gen.
Min. of Cooperatives.....Sein Tun, Col.
Min. of Culture.....Mahn San Myat Shwe, U
Min. of Defense.....Kyaw Htin, Gen.
Min. of Education.....Khin Maung Win, Dr.
Min. of Foreign Affairs.....Myint Maung, Brig. Gen.
Min. of Health.....Win Maung, Col.
Min. of Home & Religious Affairs.....Sein Lwin, Col.
Min. of Industry No. 1.....Tint Swe, Col.
Min. of Industry No. 2.....Maung Cho, Col.
Min. of Information.....Mahn San Myat Shwe, U
Min. of Labor.....Mya Maung U
Min. of Mines.....Than Tin, Col.
Min. of Planning & Finance.....Tun Tin, U
Min. of Social Welfare.....Mya-Maung, U

Min. of Trade.....Ye Gaung, U
Min. of Transport &
Communications.....Khin Ohn, Col.
Chairman, State Council.....Ne Win, U
Secretary, State Council.....San Yu, Gen.

3. Disaster Preparedness

3.1 Host Disaster Plan

Burma has no national disaster plan. Relief activities undertaken in co-ordination with Ministry of the Government, Central Relief Committee.

3.2 International Agencies

Major international agencies active in Burma: UNDP, FAO, WHO, UNICEF, UNIF.

3.3 Voluntary Agencies

Major voluntary agencies active in Burma: National Red Cross, CWS, Christian Children's Fund.

3.4 Disaster Types

Cyclones, storms and floods.

3.5 Disaster History

Disaster History

Disaster	Location	Date	Number Killed	Number Victims	DMG ($000)
Civil Strife	NE Shan State	10/00/72	0	30,000	$0
Cyclone	Arakon Coast, W. Irraw	5/16/67	100	130,100	$5,000
	N. Arakan Coast	5/10/68	1,070	61,070	2,500
Fire	Tenasserim Coast	10/00/64	0	3,300	$50

Disaster	Location	Date	Number Killed	Number Victims	DMG ($000)
Fire	Weluwun Qtr, Rangoon	3/03/65	0	8,300	
	W. Okkyin Qtr, Rangoon	3/06/65			
	Palaing Qtr, Mandalay	5/01/65			$1,065
	Sagaing	3/30/69	11	7,626	2,689
	Mergui	12/16/72	5	20,000	2,800
Flash Flood	Pyinmana	9/08/70	90	0	0
Flood	S-C, along Sittang R	10/23/65	0	500,000	1,000
	N. Yamenthin Dist.	11/10/65	34	0	0
	Central Burma	8/15/74	12	1,400,000	0
Storm	Akyab Monywa Dist	10/23/67	178	27,497	3,200

4. Population

4.1 National Population

Estimated mid-1977 total population was 31,500,000; annual growth rate, 2.5%, has apparently been accelerating since 1960's; because of greatly reduced infant mortality growth rate closer to 3% anticipated in 1970's. Population densities highest in Irrawaddy Delta and along Irrawaddy, Chindwin, and Sittang River Valleys; vary from 150-200 persons per sq. mi. in agricultural areas of Delta to 11-30/sq. mi. in frontier regions; average 110. About 37% of population is under 15 years of age, 46% between 15 and 59. 18% of population is urban.

Source: World Development Report: World Bank, 1979.

4.2 Regional Distribution

Province	Population ('000)
Rangoon	3,187
Arakan	1,708
Pegu	3,171
Irrawaddy	4,162
Tenasserim 1	1,304
Tenasserim 2	7,170
Magwe	2,630
Mandalay	3,662
Sagaing	3,116
Kachin	639
Chin	3,230
Shan	4,287
Kayah	120
Kawthoolay	853

4.3 Major Cities (1973)

Rangoon	- 2,036,118	Myingyan	- 220-129
Mandalay	- 417,266	Moulmein	- 171,767
Bassein	- 126,152	Prome	- 148,123
Henzada	- 283,658	Akyab	- 82,544
Pegu	- 254,761	Tavoy	- 101,536

5. Health, Nutrition, and Housing

5.1 Overall Health Status

Government disease eradication and control programs exist for malaria, tuberculosis, venereal disease, leprosy, trachoma, and filariasis. Respiratory diseases and intestinal disorders are common; plague is endemic, but incidence was declining in late 1960's; frequent epidemics of cholera spread northward with the monsoon from endemic foci in Irrawaddy Delta and at mouth of Salween. Because of its high incidence and chronic debilitating effects, malaria may constitute greatest health problem; incidence highest in Shan plateau and Chin hills, lower along coasts. Control measures, most effective in central plains, have lowered transmission rates, but rates tend to increase if controls eased. Acute respiratory diseases common with onset of cool weather in October -influenza and pneumonia major causes of death. Polluted water and ever-present flies facilitate spread of intestinal diseases: typhoid fever, bacillary and amoebic dysentery, and other diarrheas. Other common diseases include typhus, yaws, leprosy, poliomyelitis, and dengue haemorrhagic fever, the latter two a particular problem in cities.

5.2 Vital Statistics (1977)

Crude birth rate/1000 population	35.8
Crude death rate/1000 population	11.1
Infant mortality/1000 live births	56.8
Life expectancy	50 years

Source: World Development Report. World Bank, 1979.

5.3 Health Facilities

	1976-77	1977-78
Hospitals		
Total	487	512
per 10,000 population	1.5	1.6
Dispensaries (a)		
Total	196	205
per 10,000 population	0.6	0.6

	1976-77	1977-78
Beds		
Total	22,355	22,755
per 10,000 population	70.9	70.7

(a) Excluding dispensaries with only indigenous medicines.

	1973-74	1974-75
Rural health centers	1,013	1,043
Patients treated	6,161,000	12,687,000
Maternity and child centers	266	276
Patients treated	3,292,000	6,794,000
Secondary & primary health centers	44	47
Patients treated	240,000	513,000
School health teams	37	45
Students examined	127,000	564,000

Note: 1973-74 figures are for first 6 months.

Type	Number	Beds	Admissions or Discharges	Patient Days
General hospitals	291	19,322	791,930	6,757,242
Local or rural	80	1,409	45,543	343,836
Specialized:				
Maternity	1	550	33,189	184,971
Maternal & child health institute	2	380	17,314	95,428
Pediatric	1	200	20,637	106,000
Infectious diseases	1	200	6,831	38,701
Otorhinolaryngology	2	215	11,126	79,687
Tuberculosis	2	280	1,135	70,899
Mental	1	583	4,451	529,093
Chronic diseases	1	235	368	101,504
Leprosy	2	650	1,094	183,895
Other	1	50	n.a.	n.a.
Total	385	24,074	n.a.	n.a.

5.4 Health Services

In 1969, Rangoon facilities included: Rangoon General Hospital-largest, best equipped; 1,000 beds, medical, surgical wards, TB, pediatric, orthopedic, cobalt radiation, other specialized units. Hindu Ramakrishna Mission Hospital (modern, newly nationalized in 1969), Dufferin Hospital (obstetrics and gynecology), Contagious Disease Hospital (400 beds), Workers Hospital (200 beds), and Hospital for Mental Patients.

Mandalay, Moulmein, Bassein and Taunggyi each had hospitals of at least 200 beds. New, well-equipped Sao Sao Htun Hospital and older Civil Hospital in Taunggyi; former American Medical Center, 250-bed hospital nationalized in 1965, in Namkhan Shan State serves rural population. Note: only a few large modern hospitals provide food service; patients families usually responsible for food.

Limited outpatient services available at health centers. Staff, headed by doctor in urban, health assistant in rural areas, consists of health assistant, vaccinator, one or more visiting nurses, and several midwives. Health assistants expected to diagnose ordinary ailments, perform simple surgery, teach hygiene, supervise health and sanitary practices of about 15 village tracts or 15-40,000 people.

New system of primary health care largely implemented; aimed at covering 26,000 villages. No non-governmental services allowed. Private practitioners in capital city and divisional towns only. Traditional medicine still practiced in some areas.

Ministry of Health's Directorate of Health Services comprises medical research and laboratory facilities. National health laboratories include Pasteur Institute, which conducts nutrition research, Harcourt-Butler Institute of Public Health, General Health Labortory and Teaching Center, Pharmaceutical Institute, Burma's only producer of vaccines and biologicals; Offices of Chemical Examiner and Public Analyst collect and test samples of foods and drugs. All drugs and medical equipment supplied country-wide by Central Medical Stores Depot (CMSD) in Rangoon.

5.5 Cold Chain

Cold storage facilities: walk-in freezer at Rangoon airport with capacity of 1,500 litres; Central Medical Supplies Dept. (Rangoon) with 4,000 litres capacity; Union Tuberculosis Institute (Rangoon) with 2,000 litres capacity; Rangoon General Hospital with 2,000 litre capacity (under construction in 1978). Limited cold storage capacity in rural areas.

5.6 Health Personnel

	1976-77	1977-1978
Doctors (a)		
Total	5,243	5,787
per 100,000 population	16.6	18.0
Dentists		
Total	164	190
per 100,000 population	0.5	0.6
Nurses		
Total	3,851	4,063
per 100,000 population	12.2	12.6
Midwives		
Total	6,166	6,426
per 100,000 population	19.6	20.0
Health Assistants	1,244 (1974-75)	
Lady Health Visitors	1,187 (1974-75)	
Pharmacists	296 (1969)	

(a) Including privately working doctors.

Source: Report to the Pyithu Hluttaw 1978/79 and previous years.

5.7 Diet Summary

MDR/RDA

Calorie intake: 2,010; 75% cereal products, 3% animal protein.

Diet mostly vegetarian, based on boiled rice and curry sauce of vegetables, with meat, eggs, or fish if available. Other staples include wheat and millet (eaten mainly by non-Burmese such as Indians and Pakistanis); maize, potatoes, sweet potatoes, and cassava also consumed. Seasonings include garlic, onions, peppers, mango, and tamarind leaves. Ngapi, a paste of salted fermented fish or shrimp is essential condiment and national dish. Average meal also includes clear soup and cooked vegetable or salad. Beverages usually taken between meals - tea most

common, coffee popular but expensive. Fresh milk disliked; condensed cows milk used in tea or for infants, especially in urban areas.

Two meals, mid-morning and late afternoon, customary; may be supplemented by light breakfast. Between-meal snacks of fruit and sweets are usual.

Deficiencies of B vitamins and minerals, due to preference for highly polished rice, and of protein, due to high cost of animal protein and Buddhist aversion to taking life, are common. Large part of population lacks sufficient iron, iodine, thiamine, and riboflavin. Vitamin A deficiency results in frequent blindness in children (control measures being taken). PEM widespread.

Corn may replace rice as staple in hills along frontiers. Beef and mutton disliked; pork only acceptable red meat. Freshwater fish more common than saltwater.

5.8 Housing

City: Brick and wood houses.

Rural: Wooden houses with zinc sheet roofs. Also bamboo and wood houses with thatched roofs.

6. Economy

6.1 Overview of Economy

Economy based on agriculture, which provides 36% of GDP, 27% of national product, 60% of exports, and employs 2/3's of population.

In 1975-76 the economy of Burma made a turn-around, after remaining nearly stagnant for more than a decade, and has since registered modest but steady overall growth. The growth rate of real GDP continued to rise from 2.7% in 1975-76 to 6.4% in 1977-78; GDP $3.7 billion (1977). As a result, the economy attained an average annual growth of about 5% during the Second Four Year Plan (1974-75, 1977-78), notwithstanding the low growth recorded in 1974-75 due to severe floods. With the population growing by 2.2% annually, the country's per capita income is estimated to have increased from $100 to 1974 to $140 in 1977. (World Bank).

The major thrust for growth in recent years emanated from the agricultural sector, including livestock, fisheries, and forestry, which registered an annual growth of 3.8% during 1974-75/1977-78 as against 1.6% during the preceding decade. The improved agricultural performance was attributable mainly to bumper paddy harvests. Value added in mining also registered a high average annual growth of 10.5% during 1974-75/1977-78 due to rapid expansion in the output of onshore crude oil. Increased availability of raw materials resulting from improved performance of primary producing sectors, coupled with the liberalization of imports, enabled the manufacturing sector to expand its value added by 7% per annum. The performance of other sectors, including social and administrative services, also improved but less markedly than the commodity producing sectors.

6.2 GNP

Gross National Product (current prices)
(Kyats million)

	1975-76	1976-77 (a)	1977-78 (b)
Consumption	21393	24473	27350
Gross fixed investment	1676	2239	4086
Changes in stocks	659	411	191
Exports of goods & NFS	1192	1414	1811
Imports of goods & NFS	1443	1521	3053

	1975-76	1976-77 (a)	1977-78 (b)
Expenditure on GDP	23477	27016	30385
Net factor payment abroad	-77	-73	-98
Expenditure on GNP	23400	26943	30287
Gross fixed investment as % of GNP	7.2	8.3	13.5
Consumption as % of GNP	91.4	90.8	90.3

(a) Provisional actual.
(b) Preliminary estimates.

Source: Ministry of Planning and Finance.

6.3 Balance of Payments ($ million) (a)

	1975-76	1976-77	1977-78 (b)
Trade Balance	-30.9	-47.9	-174.6
Exports (f.o.b.)	179.9	192.8	238.6
Imports (f.o.b.)	210.8	-240.7	-413.2
Services and private transfers	18.7	9.4	-12.4
Official grants (net)	23.3	24.9	18.5
Current account	26.3	-32.4	-168.5
Long term capital	25.0	22.4	195.8
Foreign loans	39.8	66.4	169.1
Debt repayment	-23.1	-39.3	-24.3
Other capital (net)	8.3	-4.7	51.0
Short term bank credit	-18.3	-18.8	-14.9
Capital account	6.7	3.6	180.9
Errors and omissions	-9.2	8.9	2.9
Overall balance	-28.8	-19.9	15.4

(a) Converted from source data in kyats at annual average exchange rate.
(b) Provisional actual.

Source: Union of Burma Bank.

6.4 Imports

Principal imports are chemicals, metal products, and transport equipment.

Composition of Imports
(kyats million)

	1975-76	1976-77	1977-78 (a)
Capital goods	505.1	663.8	1,025.6
Building materials	163.7	139.7	276.1
Machinery	270.4	347.6	482.5
Transport equip.	49.1	151.4	224.1
Others	21.9	25.1	42.9
Intermediate goods	744.6	685.9	945.5
Raw materials	492.9	530.5	702.5
Fuels	70.9	20.2	3.9
Tools & spares	180.8	135.2	239.1
Consumer goods	193.6	171.4	249.3
Durables	31.0	31.5	33.9
Food	42.2	47.0	50.9
Textiles	73.3	23.0	67.0
Medicine	30.8	35.2	65.7
Others	16.1	34.7	31.8
Total	1,443.3	1,521.1	2,220.4

(a) Provisional.

Source: Central Statistical Organization.

6.5 Exports

Major exports are rice, teak, pulses, oil cakes, ores, rubber, and cotton.

Domestic Exports by Principal Commodities
(kyats million)

	1975-76	1976-77	1977-78 (a)
Agricultural products	783.9	885.9	1,069.7
Rice & rice products	625.0	738.7	867.8
Pulses and beans	77.8	61.7	73.4
Jute	22.1	5.8	21.9
Maize	2.8	4.8	8.2
Timber	281.3	383.1	396.7
Teak	278.6	579.4	389.2
Hardwood	2.7	3.7	7.3
Minerals	62.0	58.6	96.5
Oil & oil products	10.9	15.6	33.0
Fertilizer	13.1	5.6	4.8
Other commodities	40.4	65.5	127.1
Total domestic exports (a)	1,191.6	1,414.3	1,727.8

(a) BDS defines total exports to include re-exports as well as domestic exports.

Source: Central Statistical Organization.

6.6 Excess Local Currency

US owned Burmese kyats totalled $15.4 million, of which $2.8 million generated under PL 480 and hence available for certain PL 480 uses. Burma is ELC country primarily because GOB will not agree to programs proposed by US government.

7. Agriculture

7.1 Overview of Agriculture

Although accounting for only 35% of GNP, agriculture is a major source of raw materials for industry, provides basis for domestic and external trade; employs 68% of labor force. Following a decade of relative stagnation, agricultural sector responded slightly to good weather, higher prices in 1976-77; total agricultural output up 1%. Abundant rainfall enabled agricultural production to increase 6% in 1978, with rice production reaching record levels. Government investment is up and land distribution and expansion of social services have also improved economic opportunity.

In recent years, particularly since 1975-76, agricultural performance has improved markedly. Value added in agriculture in real terms increased by 5.3% during 1975-76/1977-78, compared with an annual average growth of 1.6% over the decade to 1974-75. This was in large part the consequence of good paddy harvests. During 1975-76/1977-78, paddy output expanded by 3.9% annually, compared with almost no growth recorded over the preceding decade. The output of other crops, notable pulses, wheat and sugarcane, also increased.

7.2 Production

Excellent weather and more acreage devoted to high-yielding varieties have increased 1978 rice crop to 10.5 million tons; 1 million over the 1977 crop. The 1978-79 pulse crop (important source of foreign exchange) is expected to be 1.6 million tons, in line with recent harvests. Stem rot, insect/rodent damage, scant fertilizer use, unfavorable prices, and high production costs combined to minimize sugarcane yields.

Principal Crops

	Area (000 hectares)			Production (000 metric tons)		
	1975	1976	1977	1975	1976	1977
Wheat *	85	78	80	64	57	60
Rice (paddy) **	5,069	5,180	5,200	9,208	9,320	9,460
Maize *	175	176	170	80	80	85
Sugarcane *	36	47	49	1,204	1,631	1,660
Pulses *	442	453	454	276	280	281

	Area (000 hectares)			Production (000 metric tons)		
	1975	1976	1977	1975	1976	1977
Groundnuts *	690	690	695	411	520	530
Cottonseed *)				(22	23	23
Cotton (lint) *)	171	171	171	(12	16	16
Sesame seed *	656	741	766	95	134	139
Tobacco * **	64	64	64	75	75	75
Jute & substitutes *	45	48	51	38	40	43
Natural rubber	n.a.	n.a.	n.a.	16	16	16

* FAO estimate
** Unofficial estimate

7.3 Land Use (1976)

	(000 hectares)
Arable land	9,514
Land under permanent crops	482
Permanent meadows and pastures	362
Forests and woodland	45,274
Other land	10,256
Inland water	1,767
Total	67,655

7.4 Current Status (1979)

Agricultural outlook reported to be good. Overall conditions normal with increases in rice production expected.

7.5 Imports

Major agricultural imports (1974) were dairy products, wheat flour, and vegetable oils. Principal supplies are Japan, United Kingdom, and mainland China. See Economic Imports, section 6.4.

7.6 Exports

Agricultural commodities 70% of total exports. Two devaluations of the kyat made exports in general more competitive; increased 13% in 1978. However, transportation bottlenecks, inadequate transport infrastucture continue as major constraints to agricultural export expansion, especially to teak and hardwood products. Former earned $66 million in 1977-78, while rice earned $80 million, combined for 80% of total export receipts in 1976-77; Indonesia, Sri Lanka, and Bangladesh major buyers of Burmese rice. In addition, 1977-78 output of pulses expected to increase 4% over 1976-77, with 20% of crop exported.

Selected Agricultural Exports
(Quantity: '000 Tons: Value: kyat million)

	1975-76		1976-77		1977-78	
	Quantity	Value	Quantity	Value	Quantity	Value
Rice & rice products	443	625.0	666	738.8	659	867.8
Rice	330	537.4	538	660.7	562	805.8
Broken rice	88	78.5	108	68.5	74	51.2
Other rice products	25	9.1	20	9.6	23	10.8
Pulses & beans	37	77.8	32	61.7	31	73.4
Maize	4	2.8	6	4.8	10	8.2
Jute	13	22.1	4	5.8	10	21.9

Source: Central Statistical Organization.

8. Physical Geography

8.1 Climate

Tropical monsoon climate with distinct dry season. Temperatures high throughout year except in northern highlands and parts of Shan plateau. Mean annual temperature for country as a whole is 80° F., higher in lowlands, 10 to 15 degrees lower on Shan plateau. Three seasons: rainy, end of May to end of October; cool end of October to mid-February; and hot, mid-February to end of May. Southwest monsoon blows off Indian Ocean, loses considerable moisture as it rises over and is cooled by Arakan and Tenasserim ranges. (Rainfall consequently as high as 200" annually.) In rain shadow of Arakan mountains, rainfall drops to 25". Winds from south bring smaller amounts of rain to central belt; precipitation increases in northern highlands to about 72" annually. Pattern of monsoon is moderate to heavy rain interspersed with periods of dry weather which lengthen toward end of season. Monsoon begins at end of April in Tenasserim, early to mid-May in Arakan and Delta, mid to end May in central belt, mid to end June in Shan state.

8.2 Temperatures

Station	Min Temp	Max Temp	Abs Max	Mean Precip	Mean (Morn/Even) Rel Humidity
Akyab	72	86	100	202	84/77
Bassein	73	88	103	109	78 Av.
Bhamo	65	86	105	72	79 Av.
Diamond Island	76	85	98	122	81/79
Haka	53	68	86	89	72 Av.
Kanpetlet	54	68	86	105	69 Av.
Lashio	66	81	108	62	84/69
Mandalay	71	93	114	34	74/NA
Maymyo	56	77	95	61	88/73
Mergui	72	87	99	162	88/79

Station	Min Temp	Max Temp	Abs Max	Mean Precip	Mean (Morn/Even) Rel Humidity
Minbu	71	91	111	35	75/NA
Monywa	71	91	104	31	66 Av.
Moulmein	73	88	102	190	87 Av.
Myitkyina	66	84	105	84	86/NA
Rangoon	73	89	107	103	84/71
Sandoway	69	88	NA	214	80 Av.
Taunggyi	56	77	101	66	77 Av.
Tavoy	72	88	101	208	97/79
Thyetmyo	70	92	111	40	77 Av.
Toungoo	70	80	108	83	74 Av.
Yamethin	70	91	113	38	70 Av.

8.3 Precipitation

Station	J	F	M	A	M	J	J	A	S	O	N	D
Akyab	0.1	0.2	0.4	2.0	15.4	45.3	55.1	44.6	22.7	11.3	5.1	0.8
Bassein	0.1	0.2	0.2	1.1	9.6	23.0	25.1	23.7	14.7	7.6	3.1	0.5
Bhamo	0.4	0.6	0.7	1.8	6.1	14.1	16.7	16.1	9.8	4.6	1.7	0.5
Diamond I.	0.1	0.2	0.2	1.3	11.2	25.2	27.6	25.5	17.3	8.4	5.0	0.8
Haka	0.1	0.8	0.8	2.4	8.7	16.6	15.2	17.9	14.4	9.6	2.5	0.6
Kanpetlet	*	0.2	0.2	1.8	11.5	17.2	15.7	20.4	16.8	17.8	2.7	1.3
Lashio	0.3	0.4	0.5	2.2	6.7	10.1	11.7	12.8	7.9	5.6	2.9	0.9

Base 503539 12-77 (543580)

Station	J	F	M	A	M	J	J	A	S	O	N	D
Mandalay	*	0.2	0.2	1.4	5.9	5.9	2.8	4.0	5.8	5.0	2.5	0.4
Maymyo	0.1	0.3	0.5	2.9	9.3	8.9	6.6	9.7	9.7	8.3	3.9	0.8
Mergui	1.0	2.1	3.1	5.0	16.7	30.0	32.9	30.0	24.9	12.1	3.8	0.8
Monywa	0.1	0.1	0.1	0.9	4.8	4.6	3.0	4.7	6.0	5.2	1.6	0.3
Moulmein	0.2	0.2	0.5	3.0	19.9	37.1	47.5	44.2	27.1	8.5	1.7	0.3
Myitkyina	0.4	0.9	0.9	1.8	6.3	18.9	18.8	17.1	10.1	7.2	1.5	0.5
Rangoon	0.1	0.2	0.3	2.0	12.1	19.0	22.9	20.8	15.5	7.1	2.7	0.4
Sandoway	0.1	0.1	0.2	1.3	13.9	48.1	64.9	50.1	24.3	7.7	3.0	0.4
Taunggyi	0.1	0.3	0.5	2.3	8.0	9.5	11.2	12.1	10.5	8.3	3.3	0.6
Tavoy	0.2	0.3	1.3	3.4	19.8	43.5	48.9	45.0	32.6	10.4	2.4	0.3
Toungoo	0.2	0.2	0.3	2.1	8.0	14.5	17.9	18.9	11.7	7.2	1.9	0.4
Yamethin	0.1	0.2	0.4	1.9	5.4	4.8	4.0	5.9	7.1	5.9	2.2	0.4

8.4 Topography

Mandalay - 21°59' N, 96°06' E; elevation 252 feet
Moulmein - 16°26' N, 97°39' E; elevation 150 feet
See also mountains, ports, airports sections.

8.5 Landforms

Land area of 262,000 sq. mi., bounded on west and northwest by Bangladesh and India, on north and northeast by People's Republic of China, on east and southeast by Laos and Thailand. 1,200 miles of coastline on bay of Bengal and Andaman Sea. Land frontiers reinforced by ring of highlands and mountain ranges at elevations of 2-10,000 feet. Population, transportation, and agriculture centered in Irrawaddy River system, which drains 65% of country.

Four major topographic divisions: Shan plateau-average elevation 3,000 feet. North-south fault scarp is clear line of demarcation from central belt. Surface steeply rolling to mountainous. Isthmus of Kra to the south is topographically similar.

Central belt-northern portion above 25th parallel consists of high, rugged mountain ranges (peaks up to 20,000'); otherwise, Ancient River Valley-plain formed by alluvial deposits of Irrawaddy, Chindwin and Sittang, becoming delta in south.

Western mountain belt-ranges originate in northern mountain arc and continue south into Andaman Sea. Landscape of parallel ridges separated by streams, very steep slopes, rugged relief, few passes.

Arakan coastal strip-narrow predominantly alluvial lowland on bay of Bengal. Broad level flood plains in north, hill spurs to coast in south. Many offshore islands. Communication with rest of country difficult.

8.6 River Systems

8,000 miles of waterways, 2,000 of which are navigable by large vessels. Irrawaddy is major waterway, navigable year-round to Bhamo (800 miles inland). Its most important tributary is Chindwin, navigable throughout year by light steamers to Pantha; by power craft during rainy season to Tamanthi (450 miles up river). Irrawaddy's delta front is 180 miles deep, 160 wide. All major streams entering sea are tidal and navigable: Bassein, Thetkethaung, Ywe, Pyamalaw, Pyinzalu, Thaungdu, Irrawaddy, Kadonkami, Bogale, Dala. Continuous channel dredging necessary; all streams heavy silt carriers. Shallowness of seaward margin of delta prevents approach by large vessels except along submerged channels of main streams.

Sittang flows 350 miles from edge of Shan plateau to Gulf of Martaban. High tides at mouth make navigation dangerous; siltation has reduced use of ports there, increased flooding.

Salween drains Shan state. Navigability limited by shoals, depth of gorge (up to 4,000 ft.) and variations in water level (70 feet rise in rainy season). Presently navigable for 55 miles inland.

Tenasserim Rivers mouths provide anchorages for coastal shipping, but heavy siltation makes navigation impossible.

Arakan Rivers useless for large vessel navigation (except for Kaladan, navigable to 100 miles upstream and Mayu, navigable near mouth) because of sedimentation, onshore winds. However, they provide routes for small boats plying between villages. Several good harbors on Arakan coast.

8.7 Authority

Inland water transport board: 50 Phayre St., Rangoon; government-sponsored, non-profit. Chief business is conveyance of rice and rice products from the Irrawaddy delta station, grains and pulses, oil cakes, wax, and cotton bales from up-country and central Burma to Rangoon for export. Also passenger steamer service, and fuel oils carried in tankers. A modernization program was announced in 1974, including a new dockyard and navigational channels in the Rangoon River.

8.8 Mountains

Highest peaks: Hkakbo Razi - 19,245' northern frontier, northern mountain arc, part of Himalayan system; Mt. Saramati - 12,552' Indian border, Naga hills; Mt. Victoria - 10,150' Arakan mountains, western mountain belt; Tawang Bum - 10,890' Kumon range.

Ranges, characteristic elevations, locations:

Arakan Yoma	- SW, 2-10,000', average 5,000'
Chin Hills	- N of Arakan Yoma, same system, around 8,000'
Naga Hills	- NW border with India, 8,500'
Patkai range	- N of Naga Hills, 9,000'
Kumon range	- N central, Kachin state, 8,500'
Mangin range	- NW, parallels Naga Hills, Kumon range, 5,500'
Dawna range	- SE, Thai border in Kawthule state, 7,000'
Pegu Yoma	- S central between Irrawaddy and Sittang Basins, 2,000'
Tenasserim Yoma	- SE Tenasserim district, 3-7,000'

Other elevations:

Shan plateau	- 2-9,000'
Hukawng Valley	- N central, between Naga Hills and Kumon range, 900'

9. Transportation and Logistics

9.1 Road Network

Major Roads:

(1) Rangoon-Pegu-Toungoo-Pyinmana, Mandalay
(2) Rangoon-Prome-Alanmyo-Magwe-Kyauk Padaung-Mying Yan-Meiktila
(3) Mandalay-Maymyo-Lashio-Hsenwi-Mu-Se
(4) Meiktila-Kalaw-Taung Gyi-Ho-Pong-Loilem_Takaw (on Salween)-Kentung-Haung Luic
(5) Toungoo-Bawlake-Loikaw-Ho-Pong
(6) Myitkyina-Mogaung-Hukawng Valley-Pangsu Pass-Ledo in Assam
(7) Sagaing-Shwebo-Kalewa (across Chindwin)-Mawlaik-Tamuimphal in Manipur, India

Two well-known subsidiary routes, Magwe-Sittwe, through Au Valley Pass, and Prome-Taungup, through Taungup Pass, may be developed into highways.

Asian highway is slated to run from Ankara, Turkey, through Iran, Afghanistan, Pakistan, India, Nepal, Bangladesh, and Burma to Bangkok, Thailand. Burma Route A-1; part of this system runs from Imphal (India) to Tanu, Kalewa, Shwebo, Mandalay, Meiktila, Taunggyi, Keng Tang in eastern Shan states, via Kauing Tuk into Thailand. A-2 enters Burma from Ramu, Bangladesh, runs through Kyanktaw, Minbyn, across Arakan Yomas via Au Valley Pass to Minbu, Prome and Rangoon to Pegu, Myawadi on Thai border to Tak, Thailand, where it joins Route A-1.

Transportation Network

Particulars	1975-76	1976-77	1977-78
Railway Track (miles)			
Double line	279	179	179
Single line	1,670	1,770	1,770
Total	1,949	1,949	1,949
Road (miles)			
Highways	2,452	2,452	2,452
Main roads	11,429	11,468	11,496
Total	13,881	13,920	13,948

Particulars	1975-76	1976-77	1977-78
Navigable River (miles)			
High water	5,000	n.a.	n.a.
Low water	3,700		
Coastal Ports (a)	9	9	9
Airfields			
International	1	1	1
Domestic	42	43	45

(a) Coastal ports for seaborne trade.

Source: Transport corporations.

Road Transport Board: Rangoon; f. 1963 to nationalize gradually all passenger and freight road transport; by 1970/71 operated 18% of trucks and 30% of passenger buses in Burma.

9.2 Vehicles

Total 65,000 registered motor vehicles (1972); 31,000 passenger cars, 2,554 (State), 14,110 (private); haulage trucks, 704 (State), 4,979 (private) passenger buses.

9.3 Surface Distance (miles)

Rail: Rangoon-Prome - 161; Rangoon-Mandalay - 386; Moulmein-Ye - 100; Sagaing-Myitkyina - 400.

9.4 Railroads

Rangoon - Mandalay, via Pegu, Toungoo, Pyinmana, Thazi, Kyaukse
Rangoon - Prome
Pegu - Martaban, connection for ferry to Moulmein
Moulmein - Ye
Letpadan - Henzada and Bassein
Henzada - Kyangin

Thazi - Schwenyaung
Thazi - Myingyan
Sagaing - Myitryina, via Shwebo, Indaw, Mogaung
Sagaing - Monywa - Ye U

No rail track in Arakan; no east-west cross connections in lower delta; railways built to supplement waterways.

2,690 miles track (1974). Route mileage totalled 1,949 (1974). Goods traffic 550 million ton-miles in 1971-72, passenger traffic 1,646 million passenger miles (1971-72).

State-owned Railroad Equipment
(as of 1973-74)

Diesel locomotives	140	Wagons	9,277
Steam locomotives	229	Carriages	1,198
Diesel rail cars	23	Stations	347

Railroad Authority: Burma Railways Board: Head Office: Bogyoke St., Rangoon, P.O.B. 118; government organization which manages State railways.

9.5 Ports

Limited number of good natural harbors. Rangoon is center of ocean transportation (85% of seaborne trade in 1970). Akyab, Bassein, and Moulmein are secondary ports; handle regional trade for Arakan coastal strip, central belt, and Shan plateau respectively. Moulmein important for lumber transport; Rangoon for rice. Also four minor ports.

All ports administered by: Board of Management for the Port of Rangoon: P.O.B. 1, Strand Rd., Rangoon; services: General Port and Harbor duties; fleet: 10 vessels totalling 5,400 tons gross and smaller craft.

Akyab

Coordinates: Lat. 20° 8' N.; long. 92° 55' E. The major port of North Burma.

Approach: Depth at outer bar, 7.31 m.; inner bar, 4.88 m. at L.W.O.S.T. Lighthouse on Savage Island on east side of entrance no longer operates but serves as a landmark.

Weather: There is a signal station at Port Yard and weather signals are hoisted as per instructions received from Rangoon. Bad weather season on Arakan Coast is from April 1 to 15, early August, and October to November 15. During S.W. monsoon all cargoes are discharged at Port Jetty, Cherogeah Creek.

Accommodation: Main wharf and cargo godowns have been rebuilt; vessels up to 99.05 m. with drafts of 4.88 m. can berth alongside jetty. Foreign-going vessels anchor in stream; loading by lighters, capacity 100 to 200 tons, and wooden lighters, capacity 50 to 100 tons. Loaded vessels: outer harbour 8.5 m. draft; inner harbour 6.40 m. draft. Ships cross bars at high water. Port has own permanent labor; additional laborers can be supplied by port.
Storage: There are two cargo godowns at main wharf yard and two at port jetty; each can accommodate approx. 350 tons cargo.
Water: Fresh water supplied by water boat, capacity 100 tons.

Shiprepairs: Minor repairs carried out by the Inland Water Transport Board (Arakan Section) Workshop.

Pilotage: Compulsory.

Traffic: Approx. 24,000 tons inwards p.a. and 100,000 tons out.

Cargo Worked: Working capacity of port is about 200 to 400 tons general cargo per day, and 700 tons rice and by-products.

Bassein

Coordinates: Lat. 16° 47' N.; long. 94° 47' E.

Accommodation: Vessels of 6.85 m. to 7.01 m. draft during fine weather and 7.31 m. draft during monsoon season can come to this port but, on account of the sharp bends in the river, it is not recommended for vessels exceeding 142.4 m. length. The town is 120 km. from the outer pilot station at Diamond Island and the harbor extends for 8 km. from north to south of the town. Deep draft vessels are somtimes detained at Dalhousie until the weather moderates during S.W. monsoon.

Minimum on bar, 6.40 m.; R. of T., 1.67 to 2.28 m. Bassein: least depth in river (Panmawaddy Flats), 3.1 m. L.W.R. of T., 2.28 m. to 2.89 m. Three single mooring buoys are laid for loading vessels approx. 1.6 km. south of Port Office. One pontoon berth of 109.72 m. long at Waidauk for rice loading.
Water: Fresh water available from barges.

Shiprepairs: No facilities.

Towage: Available.

Pilotage: Compulsory. Pilots board ships from pilot cutter on east side of Diamond Island, from November to April (the fair season) and at Dalhousie Point during monsoons, from May to October.

Moulmein

Coordinates: Lat. 16° 29' N.; long. 97° 37' E. On the Gulf of Martaban, opposite the mouth of the Salween River. Limits of the navigable rivers and channels leading to the port of Moulmein are as follows: to the north the parallel of 16° 35' N.; to the south the parallel of 16° 00' n.; to the east the meridian of 97° 40' E., to the west the meridian of 97° 20' E.

Approach: Drafts vary in accordance with alteration of river bars and rises of tides. Approx. drafts are published monthly and can be obtained from Port Officer. Drafts vary between 5.79 m. and 7.0 m. S.T. and between 3.66 m. and 4.88 m. N.T. The published drafts are for vessels steaming 10 knots or over. For vessels steaming under 10 knots a reduction of permissible drafts is made according to speed. Owing to the winding nature of the channel, lengths of vessels using the port are restricted to 144 m. for twin screw and 137 m. for single screw vessels.

Accommodation: There are three swinging mooring berths for vessels up to 152 m. in length, two with a draft of 7.92 m. to 9.14 m., one with a draft of 7.62 m. to 8.53 m. One light swinging mooring berth for vessels of about 1,000 tons. Three anchorages for vessels from 6.10 m. to 7.62 m. draft at inner harbour. One pontoon jetty for vessels of 67 m.

length and 4.88 m. draft. Loading is all done in the stream. Cargo discharged/loaded into lighters, total capacity 9,000 to 10,000 tons. Vessels should address their E.T.A. to "Portof", Moulmein, 24 hours in advance.

Shiprepairs: No drydocks or slips but engine or machinery repairs can be undertaken by the Inland Water Transport Corporation.

Towage: Four tugs available.

Pilotage: Compulsory. Pilot station at Amherst.

Rangoon

Coordinates: Lat. 16° 46' N.; long. 96° 10' E. On the Rangoon River, 48 km. inland from the Gulf of Martaban.

Approach: The Port is accessible to vessels of 167.6 m. length and drafts up to 8.53 m. at S.T. The draft of the vessel entering the river is controlled by the depth available at Bar carrying 4.3 m. depth at datum. Entry into the harbor is controlled by inner bar off Monkey Point carrying from 3.35 m. to 3.66 m. depth datum. Western Channel, least depth varies from 4.3 m. to 4.6 m. These depths are subject to seasonal variations and are last during the dry season from November to May. The river at the city 243 m. wide, the foreshore of the harbor extending to 6.584 m.

Accommodation: Least depth of water alongside the wharves and pontoon are from 6.10 m. to 10.97 m. while at the river mooring depths are from 6.40 m. to 14 m. While in port, ships tie alongside wharves or moorings; 3 swinging mooring buoys and 2 fixed moorings for seagoing oil tankers. In addition a number of mooring buoys are provided for small size seagoing vessels.

There are 11 wharf berths for seagoing vessels:

Sule Pagoda Wharf Berths (1 to 4): Length 550.41 m., accommodating 4 ships, 137.15 m., b.p. L.W.O.S.T. Varies from 7.31 m. to 8.53 m. approx.

Sule Pagoda Wharf Berths (5 to 7): Length 465.47 m., accommodating 3 ships, 158.50 m. b.p. L.W.O.S.T. Varies from 7.92 m. to 9.14 m. approx.

Brooking Street: Length 274.31 m., accommodating 2 ships 137.15 m.b.p. L.W.O.S.T. Varies from 7.92 m. to 8.84 m. approx.
Ahlone: Length 134.10 m. accommodating a vessel of 134.10 m.b.p. Used solely for rice loading. L.W.O.S.T. varies from 7.92 m. to 8.53 m. approx.
Hteedan No. 1: Length 138.98 m., accomodating a ship 140.20 m.b.p. L.W.O.S.T. Varies from 7.92 m. to 9.14 m. approx. Purely a rice loading berth, equipped with automatic bag-loading conveyor belt plant capable of loading at the rate of 100 tons or 1,000 bags per hour.
Storage: Storage accommodation consists of 718,500 sq. ft. of transit sheds, 942,536 sq. ft. of godowns with special warehouse provision for bonded, duty paid and hazardous cargo. Open storage also available. One large floating pontoon 152.4 m. long for embarking and disembarking seagoing passengers, 41 small pontoons, 13 fixed cargo-boat jetties for inland vessels.

Bunkers: Fuel, diesel and gas oil (H.S.D.) from Myanma Oil Corporation. Fuel oil provided by barges of 150 to 180 tons capacity alongside vessel during daylight hours.

Shiprepairs: Port Corporation's Workshop and Burma Dockyard Corporation will undertake small afloat repairs at moorings or alongside berths. A slipway belonging to Burma Dockyard Corporation at Sinmalaik can accommodate vessels of 91.43 m.o.a. and 1,700 d.w.t. for underwater repairs and drydocking.

Pilotage: Compulsory for all vessels over 200 g.r.t. Maximum drafts that can be handled on Rangoon river during spring tides, in normal circumstances, are between 7.92 m. and 8.6 m., but during freshets (July to October) vessels of 8.8 m. may be accommodated. The ship's ETA, deepest draft, etc., should be transmitted by W/T to "pilot vessel" (500 k/cs.) during shipping watches at least two days before arrival at pilot vessel.

9.6 Shipping

State-owned Burma Five Star Line Corporation: 132, 134, 136 Thein Byu Rd., Rangoon, is country's only shipping line. In 1974 had 22 coastal and ocean-going steamers. Overseas destinations included India, Pakistan, Sri Lanka, Japan, United Kingdom, and other European countries.

Foreign lines calling at Rangoon: Hansa Line, Hellenic Lines, Holland-Bengal-Burma Line, Holland-Bombay-Karachi Line, Norwegian Asia Line, Polish Ocean Lines, Union S.S. Co. of New Zealand, Wilhelmsen Lines.

9.7 Airports

Union of Burma Airways operates all service within country, acts as agent for all foreign airlines. Limitations of surface transport system and insurgent actions in some provinces render air transport particularly important. 41 airfields in country, 13 with night facilities and radio controls in 1969. Mingaladon (Rangoon) fully equipped international airport. Domestic service to 33 localities; 46 flights weekly. New airfield at Akyab with 6,000 ft. runway, airfield at Moulmein (8,900 ft runway) renovated 1969.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

AKYAB/Akyab

Location Coordinates	Elevation M/ Temp C	Runway Characteristics NR/Type	Slope %	Aircraft/ Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
20°07'45" N 092°52'03" E	30.6 Instr	11/29	0.2	1829	B	28/2 AUW	n.a.

Remarks: alternate aerodrome - Chittagong/Chittagong.

Aids: MD, MC, MT, MTX.

RANGOON/Mingaladon

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft/ Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
16°54'15" N	33.2	03/21				154/4	115/145
96°08'30" E	33.2	PA I	0.55	2652	A	AUW	J100

Remarks: alternate aerodromes - Bangkok/Bangkok, Calcutta/Calcutta, Kuala Lumpur/Intl., Phnom-Penh/Pochentong, Singapore/Intl. Radio facilities. Dips at both ends of runway. Repairs. Longest runway 8100 ft.

Aids: ILS, RL, LPA, LVA, LR, LTX, LV, LO, MD, MC, MT, MTD, MS, MTX.

Key

Abbreviations

INSTR	Instrument Approach Runway
N-INSTR	Non-Instrument Runway
PA I	Precision Approach Runway Category I
PA II	Precision Approach Runway Category II
REG-NS	Intl Non-Scheduled Air Transport, Regular Use
REG-S	International Scheduled Air Transport, Regular Use

Radio Aids

ILS	Instrument Landing System
DME	Distance Measuring Equipment
VOR	VHF Omni-Directional Range
RL	Radio Locator

Lighting Aids

LPA	Precision Approach Lighting System
LSA	Simple Approach Lighting System
LVA	Visual Approach Slope Indicator System
LAV	Abbreviated Approach Slope Indicator System
LR	Runway Edge, Threshold & Runway End Lighting
LC	Runway Center Line Lighting
LTD	Runway Touchdown Zone Lighting
LTX	Taxiway Lighting
LB	Aerodrome or Identification Beacon
LO	Obstruction Lighting

Marking Aids

MD	Runway Designation Markings
MC	Runway Center Line Markings
MT	Runway Threshold Markings
MTD	Runway Touchdown Markings
MS	Runway Sidestripe Markings
MFD	Fixed Distance Markings
MTX	Taxiway Center Line & Holding Position Markings
MO	Obstruction Markings

Runway Surface and Length

H	Hard Surface (numbers = ft. in hundreds)
S	Non-Hard Surface (number = ft. in hundreds)

Additional Lighting

L1	Portable Runway Lights (electrical)
L2	Boundary Lights
L3	Runway Flood Lights
L4	Low Intensity Runway Lights
L5	Low Intensity Approach Lights
L6	High Intensity Runway Lights
L7	High Intensity Approach Lights
L8	Sequenced Flashing Lights
L9	Visual Approach Slope Indicator (VASI)

9.8 Personal Entry Requirements

Passport required.

Visa: Transit visa; good for 24-hour stay and issued to enable a traveler to fulfill an obligatory waiting period while in route to another country. Not issued to round-trip passengers. When a traveler is stopping in Rangoon via scheduled commercial air service, Burmese Embassies and Consulates are authorized to issue transit visas without referral to Rangoon. In cases of a stop by private aircraft, prior authorization from Rangoon must be obtained to issue a visa, and this is only given after landing clearance has been approved. Visitors arriving by private aircraft should allow a minimum of 3 weeks for landing clearance and visas. Tourist visa: Good for 7-day stay for the purpose of tourism. As in the case of transit visas, travelers by means of private aircraft must obtain approval from Rangoon. Entry visa: good for periods ranging from over 7 days to 6 months. Always requires prior authorization from Rangoon. Minimum waiting period of 6 weeks is usual. Entry visas are issued only to persons having officially-connected business or employment in Burma.

Other: three photographs and two completed visa forms (for transit visa required). Seven photographs and six completed visa forms (for entry visa). Visa for next country after Burma (for transit visa). Letter from bank for financial capability (for entry visa).

9.9 Aircraft

Prior permission of the Burmese government is required for all overflights or landings by private or non-scheduled commercial flights. Application for this permission may be made through the American Embassy, Attention: Consular Section, Rangoon, and it is important the application be received at least two weeks in advance, preferably with a pre-paid reply cable. Specify type of plane, registration number and nationality, stops immediately prior to and after Rangoon, and as exact a date of arrival as possible. Allow three weeks for transit or tourist visas. All overflights and landings must have confirmed clearance from the Burmese government before take-off for Burma.

9.10 Special Notices

The Burmese government is particularly strict in enforcing customs and currency control regulations.

Visitors entering Burma should complete accurately and in detail the customs and currency declaration form. There is no limit to the amount of foreign currency and travelers checks which can be brought into Burma, but they must all be fully declared and any currency exchanged must be at an official exchange facility and noted on the back of the currency declaration form. No Burmese currency (kyats) may be brought into or taken out of Burma. The penalty for violation of this law is a six months minimum prison sentence and/or a fine.

Baggage is subject to a thorough search on arrival and departure. All valuables such as cameras, radios, tape recorders, and jewelry must be declared on entry, and full duty must be paid on any item left in the country, for whatever reason (such as being lost or stolen). Departing tourists must have receipts for all items purchased in Burma and the amounts of their purchases must tally with the amount of foreign currency for kyats. No personal checks or credit cards.

Flying over the city of Rangoon (the area bounded by latitude 16° 52' N; longitude 96° 12' E; latitude 16° 45' N; and longitude 96° 07' E) is strictly prohibited.

Fuel limited. Arrangements for refueling should be requested at the same time as the overflight/landing clearance.

Torrential rains are frequent in mountainous regions and in lower Burma during May-October. Water on Rangoon's runway can present hazards. Early morning ground fog may occur in Lower Burma and coastal areas during December - March.

9.11 Airlines

State-owned planes as of 1973-74: Dakotah 6; Fokker Friendship 6; Viscount 2; Boeing 727 1.

Burma Airways Corporation (BAC): 104 Strand Rd., Rangoon; internal network centered on Rangoon; services to 34 stations; external services to Bangkok, Calcutta, Kathmandu; Hong Kong, Dacca, and Phnom-Penh; operated by government.

Foreign Airlines: Aeroflot, Air Cambodge, Air France, Air India, British Airways, Caac (General Administration of Civil Aviation of China), Cathay Pacific Airways, Ceskoslovenske Aerolinie, IAC, Japan Airlines, KLM, Lufthansa, Pan American, PIA, Polskie Linie Lotnicze, SAS, Thai Airways International.

9.12 Air Distances

From Rangoon to:	Statute Miles
Bombay	1,535
Calcutta	638
Dacca	603
Jakarta	1,762
Karachi	1,945
Singapore	1,198

10. Power and Communications

10.1 Electric Power

All aspects of electric power controlled by Electricity Supply Board.

Burma's installed electric generating capacity has increased marginally since 1975/76. In 1977/78 the total installed capacity was 447 MW, of which 390 MW or 87% was operated by the Electric Power Corporation (EPC). Burma has considerable hydroelectric potential, the bulk of which has been unexploited. GOB's strategy is to utilize this hydroelectric potential to meet long-term needs of economy wherever feasible; another hydroelectric power plant is planned at Sedawgji. The Third Four Year Plan projects an increase in electric power capacity of EPC from 390 MW in 1977/78 to 477 MW in 1981/82 through expansion of the capacity of thermal power plants. One problem facing the power sector is the growing shortage of transmission and distribution facilities. Thus, the power sector program includes the construction of 1,200 km. of transmission lines and 3,860 km. of distribution lines.

Mileage of transmission and distribution lines by kilowatt voltage: 230 Kv line-250 m., 132Kv line-314 m., 66 Kv line-141 m., 33 Kv line-681 m., 14 Kv line-2,165 m., 6.6 Kv line-408 m., 3.3 Kv line-13 m., 0.4 Kv line-3,997 m.

Power Generation and Comsumption
(Million KWh)

	1975-76	1976-77	1977-78
Total Units Generated	759.9	840.0	931.2
of which:			
Losses	204.0	210.0	221.0
(%)	(26.8)	(25.5)	
Units Sold	555.9	628.2	710.2
Domestic (a)	157.4	174.2	193.5
(%)	(28)	(28)	(27)
Industrial	293.3	346.4	407.5
(%)	(53)	(55)	(57)
Bulk (b)	79.0	81.3	81.4
(%)	(14)	(13)	(12)
Others	26.2	26.3	27.8
(%)	(5)	(4)	(4)

(a) Including households.
(b) Hospitals, schools, and offices.

Source: Report to the Pyithu Hluttaw 1977/78; Electric Power Corporation.

	Installed Capacity (Megawatts)		
	1975-76	1976/77	1977-78
Electric Power Corp.			
Hydro	168.5	168.5	168.5
Thermal	52.8	52.8	62.8
Gas turbine	103.5	103.5	103.5
Diesel	55.2	56.3	55.1
Other Government Units			
Hydro	12.1	12.1	12.1
Thermal	21.0	21.0	21.0
Diesel	23.7	23.7	23.7
Total	436.8	437.9	446.7

Source: Report to the Pyithy Hluttaw, 1977/78 and previous years; Electric Power Corporation.

10.2 Radio Network

National radio system: controlled by state-owned Burma Broadcasting Service, Prome Rd., Kamayut P.O., Rangoon. Broadcasts made in Burmese (2/3's), Shan, Karen, Chin, Kachin, Kayah, and English. One AM and one FM station.

Twelve transmitters: two medium wave (50 kW and 5 kW) power on wavelengths of 955 and 1,135 kilohertz (kilocycles), nine shortwave (all 50 kW power and operate on 4,5,6,7, and 9 megahertz megacycles) bands as required. One low powered FM transmitter for local Rangoon use. (1970)

Radio accessible to virtually everyone. Radios are fixtures in teashops, other public places; Army provided with sets to be placed in central meeting places in remote regions.

Estimated 668,000 radio receivers in 1977.

10.3 Telephone System

Director General of Posts and Telegraphs controls telephone, telegraph, radio, and postal systems.

Private telephones - 29,184; public telephones (trunk) 201, (local) 135, total 29,520 in fiscal year 1973-74. Only in Rangoon are telephones fully automatic.

Radio telegraph offices - 102; departmental telegraph offices - 27; postal combined telegraph offices - 154; telex services - 27, total - 283 in 1973-74.

Internal communication mainly by wireless; most external communication routed through Ceylon and India (1970). Wireless telegraph service allows direct communication with Japan, Pakistan, Hong Kong, Thailand, and The Philippines. 104 radio telephone stations provided links with most Asian countries, US, United Kingdom, USSR, Denmark, and Switzerland.

10.4 Television

None in Burma.

10.5 Other Communication Services

	1973-74	1974-75 Provisional
Raingauge stations	817	834
Climatological stations	62	62
Surface meteorological stations	70	73
Pilot balloon stations	13	13
Hydrological stations	69	71
Seismological stations	2	2
Radiosonde/Radiowind stations	4	4
Facsimile stations	4	4
Agrimeteorological stations	4	7
Automatic picture transmission	1	1

Amdad, Nafis. Economic Resources of the Union of Burma. Waltham, Mass.: US Army Intelligence Unit, 1972.

Asian Development Bank. Economic Memorandum on Burma. Manila: ADB, May 29, 1979

Banks, Arthur S., ed. Political Handbook of the World. New York: McGraw-Hill, 1979.

Bixler, Norma. Burma: A Profile. New York: Praeger, 1971.

Burma, Government of: Report to the Pyithu Hluttaw on Economic and Social Conditions. Rangoon: 1975.

Encyclopedia Britannica, Inc., Brittannica Book of the Year, 1976. Chicago: Brittannica, 1976.

Espenshade, Edward B., Jr. Goode's World Atlas, 14th ed. Chicago: Rand McNally, 1974.

Europa Publications. A World Survey. London: Europa Publications, 1979.

Henderson, John W. et. al. Area Handbook for Burma. Washington, D.C.: GPO, 1971.

International Air Transport Association. Air Distances Manual, 3rd ed. London: IATA/International Aeradio Ltd., April 1976.

International Civil Aviation Association. Air Navigation Plan. Middle East and Southeast Asia Regions, 10th ed. Montreal: ICAO, January 1976.

International Monetary Fund. International Financial Statistics. Washington, D.C.: IMF, March 1980.

Paxton, John, ed. The Statesman's Yearbook 1976-77, 11th ed. New York: St. Martin's Press, 1979.

Ports of the World. Benn Brothers, Ltd. London, 1979.

US Central Intelligence Agency. Chiefs of State and Cabinet Heads of Foreign Governments. Washington, D.C.: GPO, February 1980.

US Department of Commerce. Environmental Science Services Administration, Climates of the World. Washington, D.C.: GPO, 1972.

US Department of State, Background Notes: Burma. Washington, D.C.: GPO, May 1976.

_____. Diplomatic List. Washington, D.C.: GPO, August 1979.

_____. Foreign Economic Trends and Their Implications for the United States. Washington, D.C.: GPO, February, 1976.

_____. Country Fact Sheets. Washington, D.C.: FADRC, 1976.

_____. Key Officers of Foreign Service Posts. Washington, D.C.: GPO, October 1979.

_____. Treaties in Force. Washington, D.C.: GPO, January 1979.

_____. Visa Requirements of Foreign Governments. Washington, D.C.: GPO, January 1978.

US Department of Transportation. Federal Aviation Administration. International Flight Information Manual. Washington, D.C.: National Flight Data Center, April 1978.

World Bank. International Development Association, Burma: Appraisal of the Lower Burma Paddyland Development Project. Washington, D.C.: May 1976.

_____. World Development Report 1979. Washington, D.C.: IBRD, 1979.

World Health Organization. Fifth Report on the World Health Situation 1969-1972. Geneva: WHO, 1975.

_____. World Health Statistics Annual, Vol. III: Health Personnel and Hospital Establishments. Geneva: WHO, 1976.

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