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Towards an International Malnutrition Map

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TOWARDS AN INTERNATIONAL MALNUTRITION MAP

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PREFACE

Universities are always making pleas for more and better data, pleas which often have to be taken with at least a small grain of salt. The need for improved data collection systems, out of necessity, must be judged in terms of the opportunity costs of such efforts, particularly when the alternative may be the provision of services.

Nonetheless, the field of international nutrition probably has reached the point where it must be actively concerned with the availability of reasonably reliable data on malnutrition problems and their correlates, both for purposes of national planning* and for international comparisons. National information on nutritional anthropometry, age-specific mortality or land distribution may be relatively meaningless unless it can be examined in perspective with comparable data from other countries. Such comparisons would, in addition, seem essential for international agencies considering large-scale nutrition activities.

The data collection problem for the international nutrition community boils down, in part, to a problem of

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*National planning, however, also requires the availability of such data in far more disaggregated fashion than would be possible in internationally oriented volumes.

bailiwick. Everyone agrees that nutrition planning requires information from a range of disciplines, yet data almost always is collected separately by agencies and institutions responsible only for one part of the action. The result for the planner is a wide range of often incomparable sources and major information gaps. The international nutrition community has managed to live with this in the past, but there is some question about whether it can continue to do so, given increasing interest on the part of many governments and international agencies in multisectoral nutrition planning if not large-scale budgetary allocation.

One means of addressing the problem, it has been suggested, might be the publication and periodic updating of an international malnutrition map, comparable to agriculture and population yearbooks, which presents country-specific and comparative information on those variables most pertinent to nutrition planning. While a university has little comparative advantage in actually operating such a map, it seemed to us like an appropriate place to develop a prototype. International agencies, or perhaps a consortium of nutrition divisions within them, would ultimately be best equipped to arrange for the systematic collection of such data and for its dissemination. Considerable interest in the development of such a mechanism has been expressed by officials of all of the concerned international agencies, and within the U.S. by the Agency for International Development and the

Department of Agriculture.

Accordingly, a group of students in the INP Program has taken the initiative to construct a prototype, using twenty-one selected countries, of an international malnutrition map. The map was developed using locally available sources which are listed at the end of the monograph and represent a valuable bibliography. The data itself, as indicated in the Introduction, are seriously problematic, a reflection of the data problem we face. Some are badly dated, some are non-comparable, and one is never sure whether low figures represent the absence of a problem or of an effective data collection system. There are lots of blanks which, we would argue, should help indicate the data gaps and perhaps serve in a small way as a stimulant for the collection of such information.

The value of the prototype, then, is not in the numbers but rather in the format and the idea. The INP students, and particularly, Joanne Nestor, deserve considerable credit for their countless hours of work and their perseverence in this important task.

F. James Levinson, Director
International Nutrition
Planning Program
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INTRODUCTION

The nutritional status of an individual, community, or nation depends upon many factors, most immediately food intake and health status. Planning designed to improve that status--the ultimate aim of the nutrition planner--requires information on the population's nutrition, health, economic and social status and on the availability of resources. Some of this information is available on the national level only, while much is available only for a few regions or not at all.

The charts which comprise this first approximation of an International Malnutrition Map indicate some of the information which must be gathered in order to better understand the nutritional status of a nation. The information categories and indicators were developed with the assistance of INP Program staff representing a wide range of disciplines. Forty nations were selected for data exploration of which twenty-one countries were finally selected for inclusion in the Map.

THE DATA SEARCH

Availability of Data

The data presented in the map tables were collected by INP Program students in 1974-75. The sources of information available to them included published materials in the M.I.T. and Harvard University libraries and unpublished information collected by Program personnel. This clearly represents only a portion of the data available worldwide, much of which has not been widely disseminated by governments and international agencies.

Categories of information for which data were not available were often in the health observations categories. Some proposed observations had to be eliminated from the study due to an almost total lack of information: duration of breast feeding and age at weaning, average height at age of school entry compared to age standards (as an indicator of incidence of early childhood malnutrition), domestic nutrition intervention programs, and rural/urban breakdowns of such information as nutritional status, food intake and nutritional deficiencies. These are vitally important data categories and should be included in such maps if only to indicate, initially, the absence of such data and the need for it. We have accordingly left in tables on the incidence of disease and on nutritional deficiencies, even though the tables were filled in only a few countries.

Age of Data

Much of the information on health and nutrition was somewhat dated relative to the rate at which status in these areas can change. Most of the "ICNND"* health and nutrition studies were made in the early 1960's; the INCAP** studies, in 1968-69. All of the nations in the sample have experienced significant increases in population and urbanization since then, rendering the data itself less useful in terms of ongoing planning and programming. Other measures, such as food trade and availability, mortality rates, and unemployment, often change rapidly, while literacy levels, population growth rates, and mortality rates change slowly. Land area, normally stable, may change drastically with political events, as was the case with Pakistan in 1972. Such changes, of course, have enormous effect on most of the other measures.

Accuracy of Data

There are other reasons for concern about the accuracy of the data as reported. First, the reporting source may be biased. Food intake studies, for example, particularly the 24-hour recall type reported here, are often responsive to the subject's perceptions of what an interviewer wants to

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*(U.S.) Interdepartmental Committee for Nutrition and National Development.

**Institute de Nutricion de Centro America y Panama.

hear, to lapses of memory, or to exaggeration in an attempt to impress the data collector or deny poverty. More accurate, more difficult, and less frequently performed recipe and food analysis studies which are theoretically more accurate but are much more difficult and expensive and less frequently carried out, indicate that 24-hour recall studies usually underestimate actual intake. Infant mortality rates may be biased by under-reporting infant deaths, particularly in areas where the rates are high. Many nations only report infant deaths and birth weights as reported by hospitals, which would be serving only the wealthy or the most seriously ill. Thorough and accurate reporting, for example, may account for Chile's relatively high infant mortality rate.

A second accuracy problem is one of definition: official unemployment figures for some nations reflect joblessness only among those officially registered as looking for work, while in other countries an estimate is made for the total population. In either case, no allowance is made for the incidence of under-employment or seasonal unemployment, both of which have serious effects on a family's purchasing power. Discrepancies also are found in definitions of "urban", "midwives" (level of training required for recognition), and "nutritional deficiency", as well as in the age group used in anthropometric measurements. (Including five and six-year olds decreases the measured rate of malnutrition.)

A final element adversely affecting accuracy is inadvertent human error. Every level in the collection, processing, and dissemination of these numbers is an occasion for error. A number of such errors were caught in checking the tables, but some undoubtedly remain, and the original references should be used by persons seeking specific information.

Comparability of Data

Although one purpose of mapping a large group of nations was to permit comparison among them (see Tables), one must remember that the distortions of age definition and inaccuracy make close comparisons in some categories impossible. The Tables are provided for general overview only.

OBSERVATIONS AND CONCLUSIONS

Whatever the evolution of nutrition planning, certain types of information, for example, on nutritional status, food intake and distribution, severity and incidence of deficiencies, and income distribution, will always be critically important. Without such information on the nutrition status of a population and its correlates, nutrition intervention becomes largely a matter of guesswork. Such information must be collected in order to identify and address problems in this vital area.

The difficulties encountered in compiling the data, and the number of references required, highlight the fragmentation of nutrition-related information. Disciplines such as public health, economics, and agriculture collect data independently and rarely interact with one another. Problem-oriented rather than discipline-oriented data-gathering and dissemination would certainly increase the utility of the information so handled. Such an orientation would also help eliminate the existing gaps in country data. The need for information on women in the labor force, on breast-feeding practices, and on the urban/rural distribution of health facilities and personnel is evident but the responsibility for gathering it is less clear, with the result that it is not done.

A final observation, perhaps too obvious to warrant mention, is the diversity among low income nations

revealed by the charts and tables. The range of problems is wide, as is the range of resources. No two nations present similar profiles; each is unique. This uniqueness demonstrates both the challenge in nutrition planning and the critical importance of maintaining accurate data on problems and on programs designed to affect them.

USING THE TABLES

Several formats for the presentation of the data collected in this study were suggested and tested. The forms used were chosen for legibility and utility.

The first set of tables in country-specific, showing all the categories of data collected and the year in which the observation was made. The second set provides the references for the first, showing the bibliographical reference number and the date of publication of the reference. Third is a collection of comments on studies for which methodology and sample size may vary among countries. In most cases, sample selection methods were not given, and regretably the means of deriving unemployment statistics also are not generally available.

The final tables present selected categories of information, showing the countries status relative to one another. Subject to the cautions noted above, such graphs indicate which nations have the severest problems and which have problems of data collection.

COUNTRY-SPECIFIC TABLES

BOLIVIA

NUTRITION

Food Availability (1964-66)

Calories	1760
Protein (gm)	46
Iron (mg)	
Vitamin A (IU)	

Food Intake (1961)

Calories	1850
Protein (gm)	59.5
Iron (mg)	
Vitamin A (IU)	

Gomez classification

- Normal
- 1st degree
- 2nd degree
- 3rd degree

Birth weights by sex

- Average (gms)
- Below 2500 gms

Most severe deficiencies (1963)

1. Calcium
2. Riboflavin
3. Vitamin A
4. Thiamine
5. Calories

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1966)

Respiratory	178.2
Diarrheal	35.9
Measles	12.3
Tuberculosis	34
Maternal/1000 live births	

Leading causes of child deaths (1973)

1. Nutritional
2. Respiratory
3. Diarrhea
4. Measles
5. Tuberculosis
6. Whooping Cough
7. Septicemia
8. Other intestinal
9. Syphilis
10. Amoebiasis

Child mortality (deaths/1000, all causes)

age 0-30 days	
1-12 months	77.3 (1968)
1-4 years	10.5 (1963)

Life Expectancy (1949-51)

at birth	49.71 (M) 49.71 (F)
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	94.1 (1966)
Diarrheal	1.6 (1966)
Measles	17.6 (1966)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	180.5 (1970)

Hemoglobin Levels (1962)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14	3.6	16.8	14.9
15-45, m.	2.5	4.9	17.0
15-45, f.	3.3	13.3	15.6
pregnant			14.6
lactating			15.0

BOLIVIA

POPULATION

Total (millions)	(1973)	53.3
% age (years) 0-1	(1971)	
1-4		16.2
5-9		13.6
10-14		12.0
15-19		10.6
20-54		39.5
55-59		2.6
60-64		1.9
65+		3.5
Density (persons/km^2)	(1973)	5
% Urban		34
Growth (rates/1000)		
crude birth rate	(1970)	44.0
crude death rate	(1971)	19.1
growth rate	(1971)	24.9

MACROECONOMIC MEASURES

Gross National Product	(1971)	
total (billion $US)		.950
per capita ($US)		190
growth rate	(1965-71)	2.2
Foreign Trade (million $US)	(1971)	
Exports		182
Imports		165
Balance		+17
Government Expenditures	(1969)	
Total (% GNP)		11.2
Health (% Govt. Exp.)		4.1
Education		
Agriculture		26.2

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force

(1950)	% female	43.0
(1970)	% in agriculture	58.0

% Income Spent on Food	(1962)	64.2

AGRICULTURE

Land	(1968)	
Total (1000 km^2)		1099
% arable		2.8
% pasture		10.3
% cash crops		
Land Distribution (% of farms by size)	(1950)	
0-1 hectare		28.6
1-4 hectares		30.6
5-9 hectares		10.1
10-49 hectares		12.4
50-99 hectares		3.2
100+ hectares		13.5
Food Trade ($100,000 US)	(1970)	
Exports		79
Imports		298
Production (% GNP)		19

HEALTH CARE

Facilities	(1970)	
hospitals		260
hospital beds		9451
population/bed		522
total health units		279
population/unit		18147
population/unit-rural		
Personnel	(1971)	
doctors		2143
% in rural areas		
population/doctor		2301
nurses		1806
% nurses, rural		
population/nurse		2730
midwives		185
population/midwife		26651

EDUCATION

Expenditures	(1969)	
total (million $US)		28.0
% on 1st level		60
% on 2nd level		21
% on 3rd level		9
Level completed, age 15+	(1953)	
no school (%)		70.6
partial 1st level		18.5
finished 1st level		5.2
partial 2nd level		5.2
Adult Literacy	(1960)	
male		43
female		23

NUTRITION

Food Availability (1970)

Calories	2800
Protein (gm)	67
Iron (mg)	
Vitamin A (IU)	

Food Intake (1970)

Calories	2566
Protein (gm)	77
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1967-70)

Normal	
1st degree	
2nd degree	18.9
3rd degree	6.3

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies

1. Vitamin A
2. Calories
3. Protein
4. Iodine
5. Calcium

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages)

Respiratory
Diarrheal
Measles
Tuberculosis
Maternal/1000 live births

Leading causes of child deaths (1973)

1. Nutritional
2. Respiratory
3. Diarrheal
4. "Other" infections
5. "External causes"
6. Measles
7. Whooping Cough
8. Septicemia
9. Tuberculosis
10. Moniliasis

Child mortality (deaths/1000, all causes)

age 0-30 days	(1966)	11.8
1-12 months	(1970)	110.0
1-4 years	(1970)	9.2

Life Expectancy (1965-70)

at birth	60.7
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	410.6 (1969)
Diarrheal	33000
Measles	39.5 (1969)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	40.6 (1964)

Hemoglobin Levels

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION (1970)

Total (millions)	93.2
% age (years) 0-1	13.9
1-4	
5-9	13.3
10-14	12
15-19	10
20-54	37
55-59	2.5
60-69	3.1
70+	1.7
Density (persons/km^2)(1973)	12
% Urban (1970)	45
Growth (rates/1000)(1970)	
crude birth rate	37.8
crude death rate	9.5
growth rate	28.3

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	44.3
per capita ($US)	460
growth rate (1965-71)	5.1
Foreign Trade (million $US)(1970)	
Exports	2.7
Imports	3.0
Balance	-.3
Government Expenditures (1971)	
Total (% GNP)	8.1
Health (% Govt. Exp.)	2.8
Education	6.5
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force	
% female (1966)	18
% in agriculture (1972)	44

% Income Spent on Food

AGRICULTURE

Land (1971)	
Total (1000 km^2)	8512
% arable	.4
% pasture	1.3
% cash crops	
Land Distribution (% of farms by size) (1960)	
0-10 hectare	44.8
1-4 hectares	
5-9 hectares	
10-49 hectares	
10-99 hectares	44.7
100+ hectares	10.3
Food Trade ($100,000 US) (1968)	
Exports	1212
Imports	319
Production (% GNP)	14

HEALTH CARE

Facilities	
hospitals (1967)	3235
hospital beds (1964)	321507
population/bed (1964)	280
total health units (1968)	7092
population/unit	
population/unit-rural	
Personnel (1966)	
doctors	34251
% in rural areas	
population/doctor	2120
nurses	8212
% nurses, rural	
population/nurse	2890
midwives	1992
population/midwife	48000

EDUCATION

Expenditures (1968)	
total (million $US)	208
% on 1st level	7.4
% on 2nd level	15.4
% on 3rd level	53.3
Level completed, age 15+ (1970)	
no school (%)	
partial 1st level	42.5
finished 1st level	46.5
partial 2nd level	9.2
Adult Literacy (1960)	
male	65.1
female	57.2

NUTRITION

Food Availability (1964-66)

Calories	2010
Protein (gm)	44.1
Iron (mg)	
Vitamin A (IU)	

Food Intake (1962)

Calories	2100
Protein (gm)	55
Iron (mg)	20
Vitamin A (IU)	3000

Gomez classification
- Normal
- 1st degree
- 2nd degree
- 3rd degree

Birth weights by sex
- Average (gms)
- Below 2500 gms

Most severe deficiencies (1962)
1. Iodine
2. Thiamine (30% adults)
3. Riboflavin
4. Iron
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1962)

Respiratory	344.3
Diarrheal	24.9
Measles	
Tuberculosis	
Maternal/1000 live births	

Leading causes of child deaths
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes)

age 0-30 days (1963)	18.2
1-12 months (1968)	65.8
1-4 years (1968)	2.8

Life Expectancy
- at birth
- at age 10

Disease Incidences (Cases/100,000 children/year)
- Respiratory
- Diarrheal
- Measles
- Pellagra
- Beriberi
- Scurvy
- Rickets
- Goiter
- Kwashiorkor
- Marasmus
- Keratomalacia
- Anemias
- Intestinal parasites
- Tuberculosis

Hemoglobin Levels (1962)

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5	60.5	95.4	11.6
5-14			
15-45, m.	21.2	70.2	13.0
15-45, f.			
pregnant	70.6	94.1	10.9
lactating			

POPULATION (1971)

Total (millions)	27.6
% age (years) 0-1	4.0
1-4	11.5
5-9	11.5
10-14	10.0
15-19	11.5
20-54	43.8
55-59	3.1
60-64	3.2
65+	1.3
Density (persons/km^2)(1971)	41
% Urban (1971)	10
Growth (rates/1000)	
crude birth rate	40.3
crude death rate	17.4
growth rate	22.9

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	2.43
per capita ($US)	80
growth rate (1965-71)	0.1
Foreign Trade (million $US) (1971)	
Exports	109
Imports	162
Balance	-53
Government Expenditures	
Total (% GNP)(1968)	16.4
Health (% Govt. Exp.) (1972)	5.9
Education (1972)	14.8
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1961)	5.8%
Labor Force	
% female	
% in agriculture (1970)	64
% Income Spent on Food (1958, Rangoon)	66

AGRICULTURE

Land (1968)	
Total (1000 km^2)	678
% arable	27.3
% pasture	0.6
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1969)	
Exports	810.6
Imports	74.8
Production (% GNP)	

HEALTH CARE

Facilities (1971)	
hospitals	385
hospital beds	23678
population/bed	1165
total health units	
population/unit	
population/unit-rural	
Personnel (1971)	
doctors	3073
% in rural areas	
population/doctor	8975
nurses	3944
% nurses, rural	
population/nurse	6993
midwives	4093
population/midwife	6738

EDUCATION

Expenditures (1969)	
total (million $US)	61.3
% on 1st level	78
% on 2nd level	4
% on 3rd level	17
Level completed, age 15+ (1953)	
no school (%)	74.6
partial 1st level	15.6
finished 1st level	
partial 2nd level	9.4
Adult Literacy (1954)	
male	83.4
female	33.8

NUTRITION

Food Availability (1970)

Calories	2560
Protein (gm)	66
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1970-72)

Normal	86.6
1st degree	13.2
2nd degree	
3rd degree	0.2

Birth weights by sex (1960)

Average (gms)	3268 (m)
	3119 (f)
Below 2500 gms	----

Most severe deficiencies
1.
2.
3.
4.
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1968)

Respiratory	198.0
Diarrheal	47.7
Measles	4.1
Tuberculosis	
Maternal/1000 live births	

Leading causes of child deaths (1966)
1. Gastroenteritis
2. Pneumonia
3. Measles
4. Postnatal asphyxia
5. Accidents
6. Congenital malformations
7. Whooping cough
8. Influenza
9. Meningitis (non-meningococcal)
10. Bronchitis

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	33.4
1-12 months (1971)	86.5
1-4 years (1971)	3.2

Life Expectancy (1969-70)
at birth 60.48 (M); 66.01 (F)
at age 10

Disease Incidences (Cases/100,000 children/year) (1970)

Respiratory	
Diarrheal	
Measles	232.9
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			13.0
15-45, m.	3.8	19.1	14.8
15-45, f.	22.8	85.5	12.9
pregnant			
lactating			

CHILE

POPULATION

Total (millions) (1973)	10.73
% age (years) 0-1 (1971)	2.8
1-4	11.3
5-9	13.3
10-14	12.0
15-19	10.2
20-54	40.5
55-59	3.0
60-64	2.4
65+	4.6
Density (persons/km^2) (1973)	14
% Urban (1970)	76
Growth (rates/1000) (1971)	
crude birth rate	25.0
crude death rate	8.8
growth rate	16.2

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	7.6
per capita ($US)	760
growth rate (1965-71)	2.4
Foreign Trade (million $US) (1971)	
Exports	1068
Imports	908
Balance	+160
Government Expenditures (1970)	
Total (% GNP)	23.3
Health (% Govt. Exp.)	8.0 (1969)
Education	10.6 (1969)
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force (1970)	
% female	29
% in agriculture	25

% Income Spent on Food

AGRICULTURE

Land	
Total (1000 km^2) (1971)	757
% arable (1965)	5.9
% pasture (1965)	14.8
% cash crops	

Land Distribution (% of farms by size) (1965)

0-1 hectare	17.8
1-4 hectares	31.0
5-9 hectares	23.4
10-49 hectares	5.8
50-99 hectares	8.9
100+ hectares	

Food Trade ($100,000 US) (1970)	
Exports	480
Imports	1483
Production (% GNP)	7

HEALTH CARE (1971)

Facilities	
hospitals	231
hospital beds	36700
population/bed	245
total health units	1000
population/unit	9995
population/unit-rural	
Personnel	
doctors	4462
% in rural areas	
population/doctor	2015
nurses	18703
% nurses, rural	
population/nurse	
midwives	1143
population/midwife	

EDUCATION

Expenditures (1969)	
total (million $US)	215.7
% on 1st level	34
% on 2nd level	15
% on 3rd level	38
Level completed, age 15+ (1960)	
no school (%)	17
partial 1st level	32
finished 1st level	24
partial 2nd level	14
Adult Literacy (1968)	
male	90
female	90

COLOMBIA

NUTRITION

Food Availability (1970)

Calories	2140
Protein (gm)	50
Iron (mg)	
Vitamin A (IU)	

Food Intake (1961)

Calories	1068
Protein (gm)	31
Iron (mg)	7.4
Vitamin A (IU)	391

Gomez classification

Normal	85.2
1st degree	
2nd degree	13.5
3rd degree	1.3

Birth weights by sex
Average (gms)

Below 2500 gms

Most severe deficiencies (1961)
1. Iodine (local)
2. Protein
3. Riboflavin
4. Thiamine
5. Vitamin A

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages)(1967)

Respiratory	149.9
Diarrheal	113.3
Measles	11.9
Tuberculosis	18.5

Maternal/1000 live births 2.4 (1969)

Leading causes of child deaths (1966)
1. Bronchitis
2. "ill-defined"
3. Diarrheal enteritis
4. "others"
5. perinatal
6. Whooping cough
7. Parasites and infections
8. Nutritional
9. Measles
10. Influenza

Child mortality (deaths/1000, all causes) (1969)

age 0-30 days	36.4
1-12 months	91.3
1-4 years	12.8 (1968)

Life Expectancy (1950-52)
at birth 44.18 (M); 45.95 (F)
at age 10

Disease Incidences (Cases/100,000 children/year) (1966)

Respiratory	530.7
Diarrheal	190
Measles	19800
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor PCM	2340
Marasmus	
Keratomalacia	0
Anemias	
Intestinal parasites	90000 (1960)
Tuberculosis	

Hemoglobin Levels (1960)

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5			
5-14			
15-45, m.	6.9	39.3	14.1
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	23.21
% age (years) 0-1	3.6
1-4	14.0
5-9	16.0
10-14	13.0
15-19	10.1
20-54	36.4
55-59	1.9
60-64	1.9
65+	3.0
Density (persons/km^2) (1973)	20
% Urban (1971)	53
Growth (rates/1000) (1971)	
crude birth rate	44.6
crude death rate	10.6
growth rate	34.0

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	8.18
per capita ($US)	370
growth rate (1965-71)	2.3
Foreign Trade (million $US) (1971)	
Exports	674
Imports	921
Balance	-247
Government Expenditures (1969)	
Total (% GNP)(1970)	15.3
Health (% Govt. Exp.)	6.2
Education	12.7
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population) (1962)

X=20%	5.9
40%	14.9
60%	26.3
80%	43.3
90%	57.3
95%	87.3

Unemployment Rate

Labor Force

% female (1965)	20
% in agriculture (1970)	45

% Income Spent on Food (1968) 40

AGRICULTURE

Land (1970)	
Total (1000 km^2)	1139
% arable	4.6
% pasture	45.0
% cash crops	
Land Distribution (% of farms by size) (1960)	
0-1 hectare	24.7
1-4 hectares	37.9
5-9 hectares	14.0
10-49 hectares	16.6
50-99 hectares	3.3
100+ hectares	3.5
Food Trade ($100,000 US) (1970)	
Exports	4053
Imports	478
Production (% GNP)	28 (1969)

HEALTH CARE

Facilities (1971)	
hospitals	773
hospital beds	46179
population/bed	472
total health units	1120
population/unit	19932
population/unit-rural	
Personnel (1970)	
doctors	9468
% in rural areas	26
population/doctor	2161
nurses	19748
% nurses, rural	33
population/nurse	1036
midwives	
population/midwife	

EDUCATION

Expenditures (1969)	
total (million $US)	73.8
% on 1st level	38
% on 2nd level	16
% on 3rd level	23
Level completed, age 15+ (1951)	
no school (%)	39.9
partial 1st level	43.8
finished 1st level	7.5
partial 2nd level	8.0
Adult Literacy (1964)	
male	75
female	71

NUTRITION

Food Availability (1970)

Calories	1970
Protein (gm)	46
Iron (mg)	
Vitamin A (IU)	

Food Intake (1960)

Calories	1967
Protein (gm)	57.9
Iron (mg)	19.3
Vitamin A (IU)	4358

Gomez classification (1968-69)

Normal	71.4
1st degree	
2nd degree	25.7
3rd degree	2.9

Birth weights by sex
Average (gms)

Below 2500 gms

Most severe deficiencies (1960)
1. Calcium
2. Thiamine
3. Iodine
4. Riboflavin
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1969)

Respiratory	247.6
Diarrheal	81.0
Measles	31.3
Tuberculosis	17.3 (1970)
Maternal/1000 live births	2.2 (1965)

Leading causes of child deaths (1970)
1. Symptoms and other ill-defined conditions
2. Bronchitis
3. Enteritis and other Diarrhea
4. Other diseases
5. Perinatal Mortality
6. Measles
7. Other Infective and Parasitic diseases
8. Pneumonia
9. Whooping Cough
10. Influenza

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	25.4
1-12 months (1971)	77
1-4 years (1971)	16.0

Life Expectancy (1961-63)
at birth 51.04 (M); 53.67 (F)
at age 10

Disease Incidences (Cases/100,000 children/year)

Respiratory	104.0 (1966)
Diarrheal	
Measles	38.2 (1966)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter (regional)	21000 (1960)
Kwashiorkor	
Marasmus	
Keratomalacia	0 (1960)
Anemias	
Intestinal parasites	
Tuberculosis	55 (1960)

Hemoglobin Levels (1960)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5	19.2	47.3	13.7
5-14	41.7	77.8	12.1
15-45, m.	8.4	24.8	14.8
15-45, f.	18.2	49.1	13.5
pregnant			
lactating			

POPULATION (1971)

Total (millions)	6.3
% age (years) 0-1	3.3
1-4	13.8
5-9	15.6
10-14	12.4
15-19	9.7
20-54	38.0
55-59	2.0
60-64	2.2
65+	3.0
Density (persons/km^2) (1973)	24
% Urban (1971)	38
Growth (rates/1000) (1971)	
crude birth rate	44.9
crude death rate	11.4
growth rate	33.5

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	1.96
per capita ($US)	310
growth rate (1965- 71)	2.6
Foreign Trade (million $US) (1971)	
Exports	218
Imports	247
Balance	-31
Government Expenditures (1971)	
Total (% GNP)	15.9
Health (% Govt. Exp.)	2.5
Education	
Agriculture	25.0

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force	
% female (1965)	14
% in agriculture (1970)	54
% Income Spent on Food	77

AGRICULTURE

Land (1968)	
Total (1000 km^2)	284
% arable	10.0
% pasture	7.8
% cash crops	
Land Distribution (% of farms by size) (1954)	
0-1 hectare	27
1-4 hectares	46
5-9 hectares	11
10-49 hectares	12
50-99 hectares	2
100+ hectares	2
Food Trade ($100,000 US) (1970)	
Exports	1890
Imports	221
Production (% GNP)	

HEALTH CARE

Facilities		
(1970)	hospitals	199
	hospital beds	14024
	population/bed	434
(1968)	total health units	492
	population/unit	11197
	population/unit-rural	
Personnel (1970)		
	doctors	2080
	% in rural areas	
	population/doctor	2928
	nurses	3711
	% nurses, rural	
	population/nurse	
	midwives	
	population/midwife	

EDUCATION

Expenditures (1969)	
total (million $US)	54.1
% on 1st level	50
% on 2nd level	36
% on 3rd level	12
Level completed, age 15+ (1962)	
no school (%)	33
partial 1st level	43
finished 1st level	14
partial 2nd level	9
Adult Literacy (1962)	
male	68
female	63

NUTRITION

Food Availability (1970)

Calories	1850
Protein (gm)	45
Iron (mg)	
Vitamin A (IU)	

Food Intake (1968)

Calories	2209
Protein (gm)	69.9
Iron (mg)	13.8
Vitamin A (IU)	

Gomez classification (1967)

Normal	74.0
1st degree	
2nd degree	22.9
3rd degree	3.1

Birth weights by sex (1968)

Average (gms)	3200
Below 2500 gms	

Most severe deficiencies (1968)

1. Protein-Calorie
2. Vitamin A
3. Riboflavin
4. Iron
5. Iodine

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1968)

Respiratory	108.3
Diarrheal	107.6
Measles	11.5
Tuberculosis	14.1
Maternal/1000 live births	0.7 (1969)

Leading causes of child deaths (1970)

1. "ill-defined"
2. Enteritis and Diarrhea
3. diseases of digestive tract
4. Bronchitis
5. Pneumonia
6. Dysentery and Amoebiasis
7. Measles
8. Influenza
9. Nutritional
10. Whooping Cough

Child mortality (deaths/1000, all causes) (1970)

age 0-30 days	18.4
1-12 months	52.5
1-4 years	10.0

Life Expectancy (1960-61)

at birth	56.56 (M); 60.42 (F)
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	1944 (1969)
Diarrheal	126 (1965)
Measles	260 (1970)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	80000 (1969)
Tuberculosis	130 (1970)

Hemoglobin Levels (1969)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
0-11 mos.	0	0	
1-3 yrs.	11	13	
3-11 yrs.	5	7	
18-45, m.	8	22	
18-45, f.	4	6	
pregnant	0	1	
lactating			
12-17, m.	6	42	
12-17, f.	3	3	

POPULATION (1971)

Total (millions)	3.67
% age (years) 0-1	3.9
1-4	13.3
5-9	15.4
10-14	12.3
15-19	9.7
20-54	36.0
55-59	2.0
60-64	2.3
65+	3.1
Density (persons/km^2) (1971)	168
% Urban (1971)	39
Growth (rates/1000) (1971)	
crude birth rate	40
crude death rate	10
growth rate	30

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	1.19
per capita ($US)	320
growth rate (1965- 71)	0.5
Foreign Trade (million $US) (1971)	
Exports	228
Imports	214
Balance	+14
Government Expenditures (1971)	
Total (% GNP)	12.1
Health (% Govt. Exp.)	25.0
Education	11
Agriculture	16

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)	
X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1971)	13.1%
Labor Force (1966)	
% female	13
% in agriculture	47
% Income Spent on Food (1954)	66

AGRICULTURE

Land (1971)	
Total (1000 km^2)	21
% arable	23
% pasture	31
% cash crops	7
Land Distribution (% of farms by size) (1967)	
0-1 hectare	
1-4 hectares	69
5-9 hectares	13
10-49 hectares	14
50-99 hectares	2
100+ hectares	2
Food Trade ($100,000 US) (1970)	
Exports	251
Imports	290
Production (% GNP)	26

HEALTH CARE

Facilities	
(1972) hospitals	75
hospital beds	6398
population/bed	588
(1968) total health units	183
population/unit	
population/unit-rural	
Personnel (1972)	
doctors	952
% in rural areas	
population/doctor	3950
nurses	3353
% nurses, rural	
population/nurse	
midwives	
population/midwife	

EDUCATION

Expenditures (1971)	
total (million $US)	23
% on 1st level	64
% on 2nd level	8
% on 3rd level	16
Level completed, age 15+ (1971)	
no school (%)	67
partial 1st level	24
finished 1st level	6
partial 2nd level	3
Adult Literacy (1971)	
male	58%
female	58 %

NUTRITION

Food Availability (1969)

Calories	1952
Protein (gm)	82
Iron (mg)	14.4
Vitamin A (IU)	

Food Intake (1969)

Calories	2018
Protein (gm)	62.3
Iron (mg)	143
Vitamin A (IU)	

Gomez classification

Normal	67.6
1st degree	
2nd degree	26.5
3rd degree	5.9

Birth weights by sex (1969)

Average (gms)	3200
Below 2500 gms	

Most severe deficiencies (1969)

1. Protein-calorie
2. Vitamin A
3. Riboflavin
4. Iron
5. Iodine

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1973)

Respiratory	235
Diarrheal	329
Measles	21.2
Tuberculosis	44
Maternal/1000 live births	2.0

Leading causes of child deaths (1969)

1. Diarrhea
2. "symptoms ill defined"
3. Influenza
4. Other infections and parasites
5. Pneumonia
6. Measles
7. Whooping Cough
8. Nutritional deficiencies
9. Perinatal
10. Bronchitis

Child mortality (deaths/1000, all causes) (1970)

age 0-30 days	30.8
1-12 months	79.4
1-4 years	7.3 (1969)

Life Expectancy (1963-65)

at birth	48.29 (M); 49.74 (F)
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	630.4 (1969)
Diarrheal	7.1 (1969)
Measles	39.3 (1970)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	5000 (1970)
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	90000+ (1970)
Tuberculosis	67.9 (1970)

Hemoglobin Levels (1969)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1-3 yrs.	4	8	11.66-13.67
3-11	3	8	12.76-14.5
18 -45, m.	10	12	13.71-14.93
18 -45, f.	2	8	13.71-14.93
pregnant	0	1	
lactating	2	8	
12-17, m.	25	35	13.3-15.7
12-17, f.	0	5	13.6-15.6

POPULATION

Total (millions)	(1973)	5.54
% age (years) 0-1	(1971)	3.7
1-4		13.7
5-9		15.6
10-14		12.6
15-19		10.1
20-54		36.8
55-59		2.0
60-64		2.0
65+		2.5
Density (persons/km^2)	(1973)	51
% Urban		34
Growth (rates/1000)	(1971)	
crude birth rate		39
crude death rate		15
growth rate		24

MACROECONOMIC MEASURES

Gross National Product	(1971)	
total (billion $US)		2.12
per capita ($US)		390
growth rate (1965-71)		2.1
Foreign Trade (million $US)	(1971)	
Exports		298
Imports		284
Balance		+14
Government Expenditures	(1971)	
Total (% GNP)		9.0
Health (% Govt. Exp.)		9.5
Education		16.5
Agriculture		

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate	(1971)	0.7%
Labor Force	(1966)	
% female		16
% in agriculture		62
% Income Spent on Food	(1966)	40

AGRICULTURE

Land	(1971)	
Total (1000 km^2)		108
% arable		11
% pasture		9
% cash crops		
Land Distribution (% of farms by size)	(1967)	
0-1 hectare		15
1-4 hectares		67
5-9 hectares		10
10-49 hectares		8
50-99 hectares		1
100+ hectares		1
Food Trade ($100,000 US)	(1970)	
Exports		166.3
Imports		30.3
Production (% GNP)		27

HEALTH CARE

Facilities

(1968)	hospitals	88
(1970)	hospital beds	14518
	population/bed	358
(1968)	total health units	258
	population/unit	21050
	population/unit-rural	

Personnel

(1970)	doctors	1435
(1968)	% in rural areas	14
(1970)	population/doctor	3617
	nurses	4246
	% nurses, rural	
	population/nurse	
(1968)	midwives	189
	population/midwife	28700

EDUCATION

Expenditures	(1971)	
total (million $US)		30
% on 1st level		55
% on 2nd level		16
% on 3rd level		13
Level completed, age 15+	(1971)	
no school (%)		72
partial 1st level		19
finished 1st level		6
partial 2nd level		2
Adult Literacy	(1971)	
male		69
female		56

NUTRITION

Food Availability (1964-66)

Calories	1930
Protein (gm)	47.0
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories (1970)	1850
Protein (gm) (1970)	45
Iron (mg) (1959)	11.7
Vitamin A (IU)(1959)	13404

Gomez classification (1971)

Normal	68.1
1st degree	
2nd degree	25.9
3rd degree	6.0

Birth weights by sex (1962)

Average (gms)	3050
Below 2500 gms	14.9

Most severe deficiencies (1969)

1. Protein
2. Calories
3. Riboflavin
4. Vitamin A
5. Iodine

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1961)

Respiratory	
Diarrheal	
Measles	
Tuberculosis	
Maternal/1000 live births	1.54

Leading causes of child deaths (1969)

1. Gastroenteritis
2. Protein-Calorie Malnutrition
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes) (1962)

age 0-30 days	
1-12 months	190
1-4 years	26.5

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	481.8	(1966)
Diarrheal	585.5	(1966)
Measles	23.7	(1970)
Pellagra	100	(1969)
Beriberi	0	(1969)
Scurvy	0	(1969)
Rickets	1000	(1969)
Goiter	1400-39000 (regional)	(1969)
Kwashiorkor (PCM)	31900	
Marasmus		
Keratomalacia		
Anemias	1300	(1969)
Intestinal parasites	70000	(1960)
Tuberculosis	393	(1969)

Hemoglobin Levels (1969)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5		20	
5-14		12	
15-45, m.	12.6	27.2	
15-45, f.			
pregnant	33		
lactating			

POPULATION

Total (millions) (1973)	5.20
% age (years) 0-1 (1971)	3.8
1-4	13.6
5-9	14.0
10-14	11.8
15-19	10.1
20-54	39.0
55-59	2.6
60-64	2.0
65+	3.1
Density (persons/km^2) (1973)	187
% Urban (1969)	12
Growth (rates/1000) (1971)	
crude birth rate	43.9
crude death rate	19.7
growth rate	24.2

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	500
per capita ($US)	120
growth rate(1965-71)	-0.8
Foreign Trade (million $US) (1971)	
Exports	40
Imports	53
Balance	-13
Government Expenditures (1971)	
Total (% GNP)	5.9
Health (% Govt. Exp.)	13.0
Education	17.1
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population) (1970)

X=20%	
40%	
60% 83%	43
80% 92%	54
90% 94%	63
95% 99%	87
Unemployment Rate (1960)	1.4%
Labor Force	
% female (1950)	49
% in agriculture (1970)	77
% Income Spent on Food	

AGRICULTURE

Land (1970)	
Total (1000 km^2)	28
% arable	13.3
% pasture	18.0
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	(average is
1-4 hectares	1 hectare)
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1959)	
Exports	255
Imports	532
Production (% GNP)(1962)	49

HEALTH CARE

Facilities (1970)	
hospitals	41
hospital beds	3545
population/bed	1374
total health units	253
population/unit	17055
population/unit-rural	
Personnel (1969)	
doctors	361
% in rural areas	
population/doctor	11952
nurses	639
% nurses, rural	
population/nurse	6752
midwives	48
population/midwife	89896

EDUCATION

Expenditures (1966)	
total (million $US)	5.1
% on 1st level	77
% on 2nd level	10
% on 3rd level	4
Level completed, age 15+ (1950)	
no school (%)	81
partial 1st level	5
finished 1st level	10
partial 2nd level	4
Adult Literacy (1950)	
male	13
female	9

NUTRITION

Food Availability (1969-70)

Calories	1990
Protein (gm)	49
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1966-68)

Normal	82.0
1st degree	
2nd degree	15.4
3rd degree	2.6

Birth weights by sex

Average (gms)	
Below 2500 gms	

Most severe deficiencies

1.
2.
3.
4.
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1970)

Respiratory	
Diarrheal	
Measles	
Tuberculosis	
Maternal/1000 live births	6

Leading causes of child deaths (1970)

1. Measles
2. Whooping Cough
3. Diarrhea and Enteritis
4. Bronchitis and Pneumonia
5. Influenza
6. Accidents
7. Diphtheria
8. Scarlet Fever
9. Gastric and Intestinal disorders
10. Respiratory Diseases

Child mortality (deaths/1000, all causes)

age 0-30 days (1964)	15.9
1-12 months (1972)	139
1-4 years (1972)	8.2

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory
Diarrheal
Measles
Pellagra
Beriberi
Scurvy
Rickets
Goiter
Kwashiorkor
Marasmus
Keratomalacia
Anemias
Intestinal parasites
Tuberculosis

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	574.2
% age (years) 0-1 (1971)	2.6
1-4	9.7
5-9	13.6
10-14	11.8
15-19	10.0
20-54	44.2
55-59	3.0
60-64	2.0
65+	3.1
Density (persons/km^2) (1973)	175
% Urban (1971)	20
Growth (rates/1000) (1971)	
crude birth rate	43
crude death rate	17
growth rate	26

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	62.7
per capita ($US)	110
growth rate (1965-71)	2.4
Foreign Trade (million $US) (1971)	
Exports	203
Imports	213
Balance	-10
Government Expenditures (1971)	
Total (% GNP)	17.7
Health (% Govt. Exp.)	12
Education	55
Agriculture	6

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force

% female (1967)	33
% in agriculture (1966)	70

% Income Spent on Food (1957-8) 59

AGRICULTURE

Land (1971)	
Total (1000 km^2)	3280
% arable	49
% pasture	15
% cash crops	

Land Distribution (% of farms by size)

0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	

Food Trade ($100,000 US)	
Exports (1970)	44.5
Imports (1970)	51.8
Production (% GNP) (1969)	45

HEALTH CARE

Facilities (1968)	
hospitals	15731
hospital beds	325500
population/bed	1571
total health units	25000
population/unit	
population/unit-rural	
Personnel (1970)	
doctors	112000
% in rural areas	
population/doctor	4795
nurses	66000
% nurses, rural	
population/nurse	
midwives	
population/midwife	

EDUCATION

Expenditures (1971)	
total (million $US)	615
% on 1st level	23
% on 2nd level	32
% on 3rd level	24
Level completed, age 15+ (1971)	
no school (%)	83
partial 1st level	14
finished 1st level	
partial 2nd level	1.9
Adult Literacy (1973)	
male	29
female	

INDONESIA

NUTRITION

Food Availability (1970)
- Calories 1920
- Protein (gm) 43
- Iron (mg)
- Vitamin A (IU)

Food Intake
- Calories
- Protein (gm)
- Iron (mg)
- Vitamin A (IU)

Gomez classification (1968-69)
- Normal 85.2
- 1st degree
- 2nd degree 13.0
- 3rd degree 1.8

Birth weights by sex
- Average (gms)

- Below 2500 gms

Most severe deficiencies (1972)
1.
2.
3.
4.
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages)
- Respiratory
- Diarrheal
- Measles 0
- Tuberculosis
- Maternal/1000 live births

Leading causes of child deaths
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes) (1972)
- age 0-30 days
  - 1-12 months 125
  - 1-4 years

Life Expectancy
- at birth
- at age 10

Disease Incidences (Cases/100,000 children/year)
Respiratory
Diarrheal
Measles 0.2 (1969)
Pellagra
Beriberi
Scurvy
Rickets
Goiter
Kwashiorkor
Marasmus
Keratomalacia
Anemias
Intestinal parasites
Tuberculosis

Hemoglobin Levels (1972)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	124.6
% age (years) 0-1 (1971)	4.6
1-4	13.1
5-9	15.9
10-14	8.5
15-19	8.0
20-54	43.4
55-59	2.0
60-64	2.0
65+	2.5
Density (persons/km^2) (1973)	84
% Urban (1971)	17
Growth (rates/1000) (1971)	
crude birth rate	48
crude death rate	19
growth rate	28

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	9.46
per capita ($US)	80
growth rate (1965-71)	3.4
Foreign Trade (million $US) (1971)	
Exports	810
Imports	883
Balance	-73
Government Expenditures (1971)	
Total (% GNP)	2.2
Health (% Govt. Exp.)	.06
Education	1.0
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)	
X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1971)	5.8%
Labor Force (1967)	
% female	36
% in agriculture	72
% Income Spent on Food	58

AGRICULTURE

Land (1971)	
Total (1000 km^2)	1491
% arable	10
% pasture	4
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1968)	
Exports	112
Imports	57.8
Production (% GNP) (1970)	48

HEALTH CARE

Facilities (1971)	
hospitals	1052
hospital beds	76938
population/bed	1484
total health units	
population/unit	
population/unit-rural	
Personnel (1971)	
doctors	3994
% in rural areas	
population/doctor	27561
nurses	13241
% nurses, rural	
population/nurse	9029
midwives	5948
population/midwife	20034

EDUCATION

Expenditures (1960)	
total (million $US)	57
% on 1st level	
% on 2nd level	
% on 3rd level	
Level completed, age 25+ (1961)	
no school (%)	75.5
partial 1st level	15.0
finished 1st level	7.6
partial 2nd level	1.9
Adult Literacy (1961)	
male	63
female	

NUTRITION

Food Availability (1964-66)

Calories	2400
Protein (gm)	65
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1963-65)

Normal	43.9
1st degree	46.8
2nd degree	
3rd degree	9.3

Birth weights by sex (1962)

Average (gms)	3300 m.
	3180 f.
Below 2500 gms	6.6% m.
	7.9% f.

Most severe deficiencies (1962)

1. Calories
2. Protein
3. Vitamin A
4. Riboflavin
5. Iron? anemias

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1970)

Respiratory	26.8
Diarrheal	23.5
Measles	6.9
Tuberculosis	2.4
Maternal/1000 live births (1965)	0.9

Leading causes of child deaths (1966)

1. Gastroenteritis
2. Pneumonia
3. Bronchitis
4. Measles
5. Accidents
6. Diseases of the heart
7. Intestinal obstruction and hernia
8. Non-meningococcal meningitis
9. Anemias
10. Vascular lesions affecting CNS

Child mortality (deaths/1000, all causes)

age 0-30 days (1971)	5.5
1-12 months (1970)	22.1
1-4 years (1970)	2.2

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year) (1966)

Respiratory	39.3
Diarrheal	18.5
Measles	86.5
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5 (1962)	74.3		10.97
5-14 (1963)	22.9	49.3	12.6
15-45, m.	7.3	29.3	14.2
15-45, f.	29.3	68.3	12.4
pregnant	50.0	100.0	11.7
lactating	33.3	53.3	12.4

POPULATION

Total (millions) (1973)	2.56
% age (years) 0-1 (1971)	
1-4	19.5
5-9	15.4
10-14	12.2
15-19	10.3
20-54	35.4
55-59	2.0
60-64	1.7
65+	3.5
Density (persons/km^2) (1973)	26
% Urban (1969)	44
Growth (rates/1000) (1971)	
crude birth rate	44.6
crude death rate	16.0
growth rate	28.6

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	.620
per capita ($US)	260
growth rate (1965-71)	-3.5
Foreign Trade (million $US) (1971)	
Exports	34
Imports	184
Balance	-150
Government Expenditures (1971)	
Total (% GNP)	36.9
Health (% Govt. Exp.)	
Education	9.6
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force	
% female (1960)	6
% in agriculture (1970)	39
% Income Spent on Food (1964)	52

AGRICULTURE

Land	
Total (1000 km^2) (1971)	98
% arable (1970)	11.6
% pasture	1.0
% cash crops	
Land Distribution (% of farms by size) (1953)	
0-1 hectare	
1-4 hectares	47.7
5-9 hectares	23.2
10-49 hectares	26.6
50-99 hectares	1.8
100+ hectares	0.7
Food Trade ($100,000 US) (1970)	
Exports	164
Imports	548
Production (% GNP) (1968)	15

HEALTH CARE

Facilities (1971)	
hospitals	35
hospital beds	1850
population/bed	1287
total health units	
population/unit	
population/unit-rural	
Personnel (1971)	
doctors	826
% in rural areas	
population/doctor	2881
nurses	1731
% nurses, rural	
population/nurse	
midwives	500
population/midwife	

EDUCATION

Expenditures (1969)	
total (million $US)	19.0
% on 1st level	
% on 2nd level	80
% on 3rd level	12
Level completed, age 15+ (1961)	
no school (%)	68.3
partial 1st level	6.1
finished 1st level	10.5
partial 2nd level	14.1
Adult Literacy (1961)	
male	50.1
female	15.2

NUTRITION

Food Availability (1970)

Calories	2200
Protein (gm)	68
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1968)

Normal	74.0
1st degree	
2nd degree	25.0
3rd degree	1.0

Birth weights by sex

Average (gms)	
Below 2500 gms	

Most severe deficiencies (1964-68)

1. Calories
2. Vitamin A
3. Protein
4. Calcium
5. Riboflavin

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1970)

Respiratory	
Diarrheal	
Measles	18.7
Tuberculosis	5.4
Maternal/1000 live births	

Leading causes of child deaths

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	8.1
1-12 months (1969)	63.7
1-4 years (1971)	2.0

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	107.6 (1966)
Diarrheal	339.8 (1966)
Measles	156.1 (1966)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	58.7 (1970)

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	12.48
% age (years) 0-1 (1971)	2.8
1-4	14.4
5-9	15.7
10-14	13.2
15-19	9.9
20-54	37.0
55-59	1.6
60-64	3.1
65+	1.7
Density (persons/km^2) (1973)	21
% Urban (1969)	10
Growth (rates/1000) (1971)	
crude birth rate	47.8
crude death rate	17.5
growth rate	30.3

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	1.85
per capita ($US)	160
growth rate (1965-71)	4.3
Foreign Trade (million $US) (1971)	
Exports	217
Imports	397
Balance	-180
Government Expenditures	
Total (% GNP) (1971)	20.6
Health (% Govt. Exp.) (1965)	5.4
Education (1965)	18.4
Agriculture (1965)	8.8

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)	
X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1968)	10%
Labor Force (1970)	
% female	
% in agriculture	80
% Income Spent on Food (1963)	40

AGRICULTURE

Land	
Total (1000 km^2) (1971)	583
% arable (1960)	2.5
% pasture (1960)	6.8
% cash crops	
Land Distribution (% of farms by size) (1970)	
0-1 hectare	
1-4 hectares	
0-19 hectares	13.1
20-49 hectares	10.2
50-99 hectares	9.6
100+ hectares	67.1
Food Trade ($100,000 US) (1970)	
Exports	1518
Imports	406
Production (% GNP)	31

HEALTH CARE

Facilities	
hospitals (1969)	225
hospital beds (1970)	14537
population/bed (1970)	774
total health units	
population/unit	
population/unit-rural	
Personnel (1970)	
doctors	1437
% in rural areas	
population/doctor	7829
nurses	7634
% nurses, rural	
population/nurse	1474
midwives	3347
population/midwife	3361

EDUCATION

Expenditures (1965)	
total (million $US)	41.2
% on 1st level	54
% on 2nd level	30
% on 3rd level	13
Level completed, age 15+ (1962)	
no school (%)	70.5
partial 1st level	
finished 1st level	26.9
partial 2nd level	2.3
Adult Literacy (1970)	
male	30
female	

NUTRITION

Food Availability (1964-66)

Calories	2190
Protein (gm)	49
Iron (mg)	9.5
Vitamin A (IU)	2507

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification

Normal	91.7
1st degree	
2nd degree	8.3
3rd degree	

Birth weights by sex

Average (gms)	
Below 2500 gms	

Most severe deficiencies (1973)

1. Protein-calorie
2. Riboflavin
3. Vitamin A
4. Niacin
5. Iron

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1971)

Respiratory	
Diarrheal	
Measles	
Tuberculosis	
Maternal/1000 live births	1.6

Leading causes of child deaths

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	23.0
1-12 months (1971)	42
1-4 years (1971)	18

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year)

Respiratory	
Diarrheal	
Measles	
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	60-90000 (1973)
Tuberculosis	264 (1965)

Hemoglobin Levels (1962)

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5	35.6	95.0	12.1
5-14	13		
15-45, m.	16.9	52.1	13.6
15-45, f.			
pregnant	34.3	74.3	12.5
lactating			

POPULATION

Total (millions) (1973)	11.61
% age (years) 0-1 (1971)	3.3
1-4	11.1
5-9	14.7
10-14	12.9
15-19	10.7
20-54	37.3
55-59	3.3
60-64	2.2
65+	4.5
Density (persons/km^2) (1971)	70
% Urban (1971)	29
Growth (rates/1000) (1971)	
crude birth rate	34
crude death rate	7
growth rate	27

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	4.5
per capita ($US)	400
growth rate (1965-71)	3.3
Foreign Trade (million $US) (1971)	
Exports	1696
Imports	1352
Balance	+344
Government Expenditures (1971)	
Total (% GNP)	18.1
Health (% Govt. Exp.)	
Education	16
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1971)	8.0%
Labor Force (1971)	
% female	30
% in agriculture	50
% Income Spent on Food (1966)	46

AGRICULTURE

Land (1972)	
Total (1000 km^2)	131.6
% arable	
% pasture	
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1968)	
Exports	56.1
Imports	193
Production (% GNP) (1963)	30

HEALTH CARE

Facilities (1970)	
hospitals	213
hospital beds	33446
population/bed	273
total health units	
population/unit	
population/unit-rural	130000 (1971)
Personnel (1970)	
doctors	2370
% in rural areas	
population/doctor	3857
nurses	8430
% nurses, rural	
population/nurse	12300
midwives	3677
population/midwife	

EDUCATION

Expenditures (1971)	
total (million $US)	150
% on 1st level	46
% on 2nd level	31
% on 3rd level	15
Level completed, age 15+ (1971)	
no school (%)	77
partial 1st level	17
finished 1st level	
partial 2nd level	6
Adult Literacy (1968)	
male	89
female	

NUTRITION

Food Availability (1970)

Calories	2330
Protein (gm)	63
Iron (mg)	18.2
Vitamin A (IU)	

Food Intake (1969)

Calories	2108
Protein (gm)	72.2
Iron (mg)	.941
Vitamin A (IU)	15.4

Gomez classification (1967)

Normal	85.0
1st degree	
2nd degree	13.2
3rd degree	1.8

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies (1969)

1. PCM
2. Vitamin A
3. Riboflavin
4. Iron, Folacin, B-12
5. Iodine

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1965)

Respiratory	41.0
Diarrheal	83.7
Measles	30.8
Tuberculosis	6.4
Maternal/1000 live births	

Leading causes of child deaths (1965)

1. Diarrhea
2. "ill-defined"
3. Infective/parasitic
4. Pneumonia
5. Measles
6. "other diseases"
7. Birth injury
8. Whooping Cough
9. Malaria
10. Bronchitis

Child mortality (deaths/1000, all causes)

age 0-30 days (1965)	4.2
1-12 months (1970)	42.8
1-4 years (1965)	6.9

Life Expectancy (1965-70)

at birth	49.9
at age 10	

Disease Incidences (Cases/100,000 children/year) (1966)

Respiratory	7141
Diarrheal	793.3
Measles	22.2
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	

Hemoglobin Levels (1969)

	% deficient	% def. & low	mean (gm/ml)
Age (yr) 3-11 mos.	10	12	10.9
1-3	8	15	11.84
3-11	1	2	13.01
18-45, m.	2	12	15.8
18-45, f.	3	3	13.8
pregnant	10	20	
lactating			
12-17, m.	12	58	13.8
12-17, f.	0	0	13.8

POPULATION

Total (millions)	(1973)	2.01
% age (years) 0-1	(1971)	3.9
1-4		14.4
5-9		17.3
10-14		12.9
15-19		9.7
20-54		35.6
55-59		1.7
60-64		2.0
65+		2.5
Density (persons/km^2)	(1973)	16
% Urban	(1970)	45
Growth (rates/1000)	(1971)	
crude birth rate		46.0
crude death rate		16.5
growth rate		29.5

MACROECONOMIC MEASURES

Gross National Product	(1971)	
total (billion $US)		.95
per capita ($US)		450
growth rate		7.7
Foreign Trade (million $US)	(1971)	
Exports		175
Imports		198
Balance		-23
Government Expenditures	(1968)	
Total (% GNP)		9.7
Health (% Govt. Exp.)		9.9
Education		19.0
Agriculture		

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate (seasonal)

Labor Force		
% female	(1965)	20
% in agriculture	(1970)	56

% Income Spent on Food

AGRICULTURE

Land		
Total (1000 km^2)	(1971)	130
% arable	(1963)	5.5
% pasture	(1963)	7.1
% cash crops		
Land Distribution (% of farms by size)	(1963)	
0-1 hectare		
0-5 hectares		51
5-9 hectares		13
10-49 hectares		25
50-99 hectares		6.2
100+ hectares		5.0
Food Trade ($100,000 US)	(1970)	
Exports		742
Imports		160
Production (% GNP)	(1968)	28

HEALTH CARE

Facilities	(1970)	
hospitals		55
hospital beds		4841
population/bed		409
total health units		118 (1968)
population/unit		17669 (1968)
population/unit-rural		
Personnel	(1970)	
doctors		960
% in rural areas		
population/doctor		2060
nurses		2558
% nurses, rural		
population/nurse		
midwives		
population/midwife		

EDUCATION

Expenditures	(1968)	
total (million $US)		16.5
% on 1st level		64
% on 2nd level		19
% on 3rd level		10
Level completed, age 15+	(1963)	
no school (%)		50
partial 1st level		36
finished 1st level		10
partial 2nd level		4
Adult Literacy	(1963)	
male		51
female		51

NUTRITION

Food Availability (1969)

Calories	2290
Protein (gm)	60
Iron (mg)	
Vitamin A (IU)	

Food Intake (recipe method) (1965)

Calories	2130
Protein (gm)	50
Iron (mg)	28
Vitamin A (IU)	7493

Gomez classification (1970)

Normal	76.9
1st degree	
2nd degree	23.1
3rd degree	

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies (1965)

1. Riboflavin
2. Protein
3. Thiamine
4. Vitamin C
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1969)

Respiratory	149.9
Diarrheal	113.3
Measles	.79-1.0
Tuberculosis	1.0
Maternal/1000 live births	

Leading causes of child deaths

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes)

age 0-30 days (1962)	11.5
1-12 months (1969)	58.0
1-4 years	

(data for Lagos only)

Life Expectancy

at birth

at age 10

Disease Incidences (Cases/100,000 children/year)

Respiratory	24700 (1965)
Diarrheal	9600 (1965)
Measles	94.6 (1970)
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	58 (1970)

Hemoglobin Levels (1965)

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-4 yrs.	41.7	76.3	
5-14	10.2	29.0	11.7
15-45, m.	14.6	66.6	13.4
15-45, f.	9.8	22.0	12.1
pregnant	7.3	24.2	10.9
lactating			

POPULATION

Total (millions) (1973)	59.61
% age (years) 0-1 (1971)	2.8
1-4	14.4
5-9	15.2
10-14	10.7
15-19	9.4
20-54	43.2
55-59	0.8
60-64	1.4
65+	2.1
Density (persons/km^2) (1973)	65
% Urban (1970)	16.0
Growth (rates/1000) (1971)	
crude birth rate	49.6
crude death rate	24.9
growth rate	24.7

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	7.8
per capita ($US)	140
growth rate (1965-71)	2.7
Foreign Trade (million $US) (1971)	
Exports	1240
Imports	1059
Balance	+181
Government Expenditures	
Total (% GNP) (1965)	9.4
Health (% Govt. Exp.) (1961-62)	6.3
Education (1961-62)	6.4
Agriculture (1961-62)	6.2

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)	
X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1961)	13.7%
Labor Force (1963)	
% female	24
% in agriculture	67
% Income Spent on Food (1960)	46

AGRICULTURE

Land	
Total (1000 km^2) (1971)	924
% arable (1961)	23.6
% pasture	27.9
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
0-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1970)	
Exports	2917
Imports	858
Production (% GNP) (1963)	56

HEALTH CARE

Facilities	
hospitals (1970)	1682
hospital beds	35716 (1971)
population/bed	1582 (1970)
total health units	
population/unit	
population/unit-rural	
Personnel (1971)	
doctors	1300
% in rural areas	
population/doctor	43469
nurses	7998
% nurses, rural	
population/nurse	4225
midwives	
population/midwife	

EDUCATION

Expenditures (1962)	
total (million $US)	72.0
% on 1st level	48
% on 2nd level	31
% on 3rd level	17
Level completed, age 15+	
no school (%)	
partial 1st level	
finished 1st level	
partial 2nd level	
Adult Literacy (1953)	
male	11.5
female	

NUTRITION

Food Availability (1969-70)

Calories	2410
Protein (gm)	55
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1965-66)

Normal	18.3
1st degree	
2nd degree	81.7
3rd degree	

Birth weights by sex

Average (gms)	
Below 2500 gms	

Most severe deficiencies

1.
2.
3.
4.
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages)

Respiratory	
Diarrheal	
Measles	
Tuberculosis	
Maternal/1000 live births	

Leading causes of child deaths

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes) (1972)

age 0-30 days	
1-12 months	142
1-4 years	18.9

Life Expectancy

at birth	
at age 10	

Disease Incidences (Cases/100,000 children/year) (1968)

Respiratory	18000
Diarrheal	22000
Measles	
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	40000
Intestinal parasites	
Tuberculosis	

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	66.75
% age (years) 0-1	
1-4	
5-9	
10-14	
15-19	
20-54	
55-59	
60-64	
65+	
Density (persons/km^2)(1973)	83
% Urban (1971)	13
Growth (rates/1000)(1971)	
crude birth rate	51
crude death rate	18
growth rate	21

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	8.2
per capita ($US)	130
growth rate (1965-71)	3.0
Foreign Trade (million $US) (1971)	
Exports	723
Imports	1151
Balance	-428
Government Expenditures	
Total (% GNP)	
Health (% Govt. Exp.)	
Education	
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force (1960)	
% female	13
% in agriculture	

% Income Spent on Food

AGRICULTURE

Land (1971)	
Total (1000 km^2)	804
% arable	30
% pasture	
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1967)	
Exports	
Imports	
Production (% GNP)	44

HEALTH CARE

Facilities (1969)	
hospitals	2548
hospital beds	31565
population/bed	4015
total health units	
population/unit	
population/unit-rural	
Personnel (1970)	
doctors	14601
% in rural areas	
population/doctor	9014
nurses	7185
% nurses, rural	
population/nurse	
midwives	616
population/midwife	

EDUCATION

Expenditures (1968)	
total (million $US)	203
% on 1st level	43.7
% on 2nd level	24.5
% on 3rd level	21.1
Level completed, age 15+ (1961)	
no school (%)	81.2
partial 1st level	13.3
finished 1st level	1.8
partial 2nd level	3.6
Adult Literacy (1961)	
male	28.9
female	7.4

NUTRITION

Food Availability (1970)

Calories	2370
Protein (gm)	59
Iron (mg)	14.6
Vitamin A (IU)	

Food Intake (1965-67)

Calories	2089
Protein (gm)	60.1
Iron (mg)	14.3
Vitamin A (IU)	1826

Gomez classification (1967)

Normal	88.1
1st degree	
2nd degree	10.8
3rd degree	1.1

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies (1969)

1. PCM
2. Vitamin A
3. Riboflavin
4. Thiamine
5. Iron, anemias
6. Iodine

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1970)

Respiratory	106.7
Diarrheal	47.3
Measles	20.2
Tuberculosis	19.5
Maternal/1000 live births (1966)	1.3

Leading causes of child deaths (1970)

1. "Symptoms ill-defined"
2. Diarrhea
3. Pneumonia
4. Accidents
5. Measles
6. Perinatal
7. Anoxia and Hypoxic conditions
8. Bronchitis
9. Tetanus
10. Nutritional deficiencies

Child mortality (deaths/1000, all causes)

age 0-30 days (1971)	19.7
1-12 months (1968)	39.2
1-4 years (1968)	7.3

Life Expectancy (1960-61)

at birth 57.62 (M); 60.88 (F)

at age 10

Disease Incidences (Cases/100,000 children/year) (1966)

Respiratory	536.9
Diarrheal	105.0
Measles	112.3
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	16000 (1967)
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	urban 32%; rural 100%
Tuberculosis	(1969)

Hemoglobin Levels (1969)

	% deficient	% def. & low	mean (gm/ml)
Age (yr) 3-11 mos.	17	17	10.92
1-3	2	7	11.62
3-11	6	12	12.19
18-45, m.	9	46	14.20
18-45, f.	6	10	13.08
pregnant		0	
lactating	3	6	
12-17, m.	11	58	12.34
12-17, f.	8	11	12.92

POPULATION

Total (millions) (1973)	1.57	
% age (years) 0-1 (1971)	3.9	
1-4	13.6	
5-9	14.2	
10-14	12.0	
15-19	10.0	
20-54	38.6	
55-59	2.2	
60-64	2.0	
65+	3.6	
Density (persons/km^2) (1973)	20	
% Urban (1969)	48	
Growth (rates/1000) (1971)		
crude birth rate	37.1	
crude death rate	8.8	
growth rate	28.3	

MACROECONOMIC MEASURES

Gross National Product (1971)		
total (billion $US)	1.21	
per capita ($US)	820	
growth rate (1965-71)	4.5	
Foreign Trade (million $US) (1971)		
Exports	111	
Imports	353	
Balance	-242	
Government Expenditures		
Total (% GNP) (1970)	13.4	
Health (% Govt. Exp.) (1969)	14.5	
Education (1968)	34.6	
Agriculture		

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population) (1960)	
X=20%	4.9
40%	14.5
60%	27.0
80%	43.4
90%	46.0
95%	80.5
Unemployment Rate (1970)	6.6%
Labor Force	
% female (1960)	21
% in agriculture (1970)	43
% Income Spent on Food (1964)	42

AGRICULTURE

Land	
Total (1000 km^2) (1971)	75
% arable (1960)	5.8
% pasture (1960)	11.0
% cash crops	
Land Distribution (% of farms by size) (1961)	
0-1 hectare	5
1-4 hectares	34
5-9 hectares	26
10-49 hectares	28
50-99 hectares	5
100+ hectares	2
Food Trade ($100,000 US) (1970)	
Exports	815
Imports	260
Production (% GNP) (1968)	23

HEALTH CARE

Facilities (1971)		
hospitals	52	
hospital beds	4735	
population/bed	313	
total health units	160	(1969)
population/unit	8978	(1969)
population/unit-rural		
Personnel (1972)		
doctors	1070	
% in rural areas		
population/doctor	1421	
nurses	3178	
% nurses, rural		
population/nurse	494	
midwives		
population/midwife		

EDUCATION

Expenditures (1969)		
total (million $US)	38.8	
% on 1st level	47	
% on 2nd level	20	
% on 3rd level	9	
Level completed, age 15+ (1950)		
no school (%)	32	
partial 1st level	30	
finished 1st level	23	
partial 2nd level	14	
Adult Literacy (1960)		
male	74.2	
female	72.4	

PHILIPPINES

NUTRITION

Food Availability (1969)

Calories	2040
Protein (gm)	53
Iron (mg)	
Vitamin A (IU)	

Food Intake (1958-67)

Calories	1673
Protein (gm)	46.8
Iron (mg)	9.73
Vitamin A (IU)	1886

Gomez classification (1958-67)

Normal	58.1
1st degree	
2nd degree	35.7
3rd degree	6.2

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies

1.
2.
3.
4.
5.

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1969)

Respiratory	198.4
Diarrheal	40.2
Measles	7.9
Tuberculosis	74.8
Maternal/1000 live births	2.0

Leading causes of child deaths (1966)

1. Pneumonia
2. Gastroenteritis and colitis
3. Bronchitis
4. Avitaminosis and other deficiency states
5. Postnatal asphyxia and atelectasis
6. Tetanus
7. Tuberculosis
8. Measles
9. Helminthic diseases
10. Congenital malformations

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	27.6
1-12 months (1972)	67.3
1-4 years (1972)	7.9

Life Expectancy

at birth

at age 10

Disease Incidences (Cases/100,000 children/year) (1966)

Respiratory	1497.5
Diarrheal	34
Measles	65.13
Pellagra	
Beriberi	
Scurvy	
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	
Anemias	
Intestinal parasites	
Tuberculosis	358.0 (1969)

Hemoglobin Levels

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

PHILIPPINES

POPULATION

Total (millions) (1973)	40.22
% age (years) 0-1 (1971)	4.3
1-4	14.9
5-9	15.1
10-14	12.5
15-19	10.6
20-54	36.2
55-59	2.2
60-64	1.6
65+	2.4
Density (persons/km^2) (1973)	134
% Urban (1970)	32
Growth (rates/1000) (1971)	
crude birth rate	44.7
crude death rate	12.0
growth rate	32.7

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	9.16
per capita ($US)	240
growth rate (1965-71)	2.7
Foreign Trade (million $US) (1971)	
Exports	1119
Imports	1210
Balance	-91
Government Expenditures	
Total (% GNP) (1971)	15.8
Health (% Govt. Exp.) (1973)	6.6
Education (1973)	25.9
Agriculture (1973)	11.0

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1969)	6.7%
Labor Force	
% female (1965)	34
% in agriculture (1972)	56
% Income Spent on Food (1961)	58

AGRICULTURE

Land (1970)	
Total (1000 km^2)	127
% arable	21.9
% pasture	4.7
% cash crops	
Land Distribution (% of farms by size) (1948)	
0-1 hectare	19.2
1-4 hectares	65.2
5-9 hectares	9.8
10-49 hectares	5.6
50-99 hectares	0.1
100+ hectares	0.1
Food Trade ($100,000 US) (1970)	
Exports	6452
Imports	1692
Production (% GNP)	30

HEALTH CARE

Facilities (1969)	
hospitals	764
hospital beds	43492
population/bed	822
total health units	
population/unit	
population/unit-rural	
Personnel (1970)	
doctors	4051
% in rural areas	24
population/doctor	9096
nurses	6841
% nurses, rural	
population/nurse	5386
midwives	2761
population/midwife	13345

EDUCATION

Expenditures (1967)	
total (million $US)	180
% on 1st level	
% on 2nd level	
% on 3rd level	
Level completed, age 15+ (1960)	
no school (%)	25.6
partial 1st level	53.6
finished 1st level	
partial 2nd level	14.5
Adult Literacy (1970)	
male	85
female	82

THAILAND

NUTRITION

Food Availability (1964-66)

Calories	2210
Protein (gm)	51
Iron (mg)	
Vitamin A (IU)	

Food Intake

Calories	
Protein (gm)	
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1970)

Normal	
1st degree	90.3
2nd degree	8.3
3rd degree	1.4

Birth weights by sex

Average (gms)	
Below 2500 gms	

Most severe deficiencies (1970)

1. Protein
2. Riboflavin
3. Thiamine
4. Iron
5. Calcium

(Fluorosis--rural)

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages) (1969)

Respiratory	38.0
Diarrheal	26.4
Measles	0.5
Tuberculosis	21.3
Maternal/1000 live births	2.6

Leading causes of child deaths (1966)

1. Gastroenteritis and colitis
2. Pneumonia
3. Dysentery
4. Accidents
5. Postnatal asphyxia and atelectasis
6. Avitaminosis and other deficiency states
7. Malaria
8. Acute upper respiratory infections
9. Diphtheria
10. Infective diseases

Child mortality (deaths/1000, all causes)

age 0-30 days (1970)	7.3
1-12 months(1970)	26
1-4 years (1969)	6.0

Life Expectancy (1970)

at birth 62.8 (m); 68.9 (f)

at age 10 57.0 (m); 62.8 (f)

Disease Incidences (Cases/100,000 children/year)

Respiratory
Diarrheal
Measles
Pellagra
Beriberi
Scurvy
Rickets
Goiter
Kwashiorkor
Marasmus
Keratomalacia
Anemias
Intestinal parasites
Tuberculosis

Hemoglobin Levels

	% deficient	% def. & low	mean (gm/ml)
Age (yr)			
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

POPULATION

Total (millions) (1973)	37.79
% age (years) 0-1 (1971)	2.3
1-4	13.9
5-9	15.2
10-14	11.8
15-19	9.5
20-54	40.2
55-59	2.5
60-64	1.8
65+	2.8
Density (persons/km^2) (1973)	77
% Urban (1969)	18
Growth (rates/1000) (1971)	
crude birth rate	42.8
crude death rate	10.4
growth rate	32.4

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	7.82
per capita ($US)	210
growth rate (1965-71)	4.7
Foreign Trade (million $US) (1971)	
Exports	710
Imports	1293
Balance	-583
Government Expenditures	
Total (% GNP) (1970)	17.2
Health (% Govt. Exp.) (1969)	10.2
Education (1969)	16.0
Agriculture (1969)	9.7

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)

X=20%	
40%	
60%	
80%	
90%	
95%	

Unemployment Rate

Labor Force	
% female (1960)	48
% in agriculture (1970)	46
% Income Spent on Food (1963)	43

AGRICULTURE

Land	
Total (1000 km^2) (1971)	514
% arable (1965)	19.0
% pasture	
% cash crops	

Land Distribution (% of farms by size) (1960)

0-2.4	hectare	47.9
2.4-4.8	hectares	27.5
4.8-9.6	hectares	19.2
9.6-22.4	hectares	5.1
22.4+	hectares	0.3
100+ hectares		

Food Trade ($100,000 US) (1970)	
Exports	3096
Imports	660
Production (% GNP) (1969)	31

HEALTH CARE

Facilities (1970)	
hospitals	542
hospital beds	40781
population/bed	843
total health units	1098 (1968)
population/unit	34007 (1968)
population/unit-rural	
Personnel (1970)	
doctors	4313
% in rural areas	
population/doctor	7971
nurses	5171
% nurses, rural	
population/nurse	6648
midwives	9974
population/midwife	3447

EDUCATION

Expenditures (1969)	
total (million $US)	142
% on 1st level	62
% on 2nd level	19
% on 3rd level	10
Level completed, age 15+ (1960)	
no school (%)	37
partial 1st level	13
finished 1st level	43
partial 2nd level	7
Adult Literacy (1970)	
male	70
female	

NUTRITION

Food Availability (1964-66)

Calories	2200
Protein (gm)	63
Iron (mg)	
Vitamin A (IU)	

Food Intake (1966)

Calories	2360
Protein (gm)	64.8
Iron (mg)	
Vitamin A (IU)	

Gomez classification (1970)

Normal	
1st degree	72.1
2nd degree	26.0
3rd degree	1.9

Birth weights by sex

Average (gms)

Below 2500 gms

Most severe deficiencies (1970)

1. Protein
2. Calories
3. Calcium
4. Vitamin A
5. Riboflavin

MORBIDITY AND MORTALITY

Mortality (deaths/100,000, all ages)

Respiratory
Diarrheal
Measles
Tuberculosis
Maternal/1000 live births

Leading causes of child deaths

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Child mortality (deaths/1000, all causes) (1969)

age 0-30 days	
1-12 months	7.8
1-4 years	14.9

Life Expectancy

at birth
at age 10

Disease Incidences (Cases/100,000 children/year) (1970)

Respiratory	
Diarrheal	
Measles	
Pellagra	
Beriberi	
Scurvy	10-20000
Rickets	
Goiter	
Kwashiorkor	
Marasmus	
Keratomalacia	10000
Anemias	
Intestinal parasites	
Tuberculosis	35.7

Hemoglobin Levels

Age (yr)	% deficient	% def. & low	mean (gm/ml)
1/2-5			
5-14			
15-45, m.			
15-45, f.			
pregnant			
lactating			

TUNISIA

POPULATION

Total (millions) (1973)	5.51
% age (years) 0-1 (1971)	3.7
1-4	14.8
5-9	15.2
10-14	12.6
15-19	8.4
20-54	36.9
55-59	2.8
60-64	2.1
65+	3.5
Density (persons/km^2) (1973)	34
% Urban (1969)	40
Growth (rates/1000) (1971)	
crude birth rate	36.2
crude death rate	16.0
growth rate	20.2

MACROECONOMIC MEASURES

Gross National Product (1971)	
total (billion $US)	1.67
per capita ($US)	320
growth rate (1965-71)	3.6
Foreign Trade (million $US) (1971)	
Exports	181
Imports	306
Balance	-125
Government Expenditures	
Total (% GNP) (1969)	14.3
Health (% Govt. Exp.)	
Education (1968)	25.2
Agriculture	

LABOR AND INCOME

Income Distribution (% of national income for lowest x% of population)	
X=20%	
40%	
60%	
80%	
90%	
95%	
Unemployment Rate (1971)	5.1%
Labor Force	
% female (1960)	24
% in agriculture (1970)	46
% Income Spent on Food (1970)	50

AGRICULTURE

Land	
Total (1000 km^2) (1971)	164
% arable (1961)	27.5
% pasture (1961)	19.8
% cash crops	
Land Distribution (% of farms by size)	
0-1 hectare	
1-4 hectares	
5-9 hectares	
10-49 hectares	
50-99 hectares	
100+ hectares	
Food Trade ($100,000 US) (1970)	
Exports	2082
Imports	836
Production (% GNP) (1969)	15

HEALTH CARE

Facilities (1971)	
hospitals	88
hospital beds	12834
population/bed	408
total health units	
population/unit	
population/unit-rural	
Personnel (1971)	
doctors	1004
% in rural areas	
population/doctor	5219
nurses	7671
% nurses, rural	
population/nurse	683
midwives (gvt. serv.)	225
population/midwife	23285

EDUCATION

Expenditures (1966)	
total (million $US)	46.4
% on 1st level	50
% on 2nd level	37
% on 3rd level	7
Level completed, age 15+	
no school (%)	
partial 1st level	
finished 1st level	
partial 2nd level	
Adult Literacy (1966)	
male	36
female	17.6

TABLE REFERENCES: BIBLIOGRAPHICAL

	Bolivia		Brazil		Burma		Chile		Colombia		Ecuador	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
FOOD AVAILABILITY												
CALORIES	23	1971	23	1971	23	1971	23	1971	23	1971	23	1971
PROTEIN	23	1971	23	1971	23	1971	23	1971	23	1971	23	1971
IRON												
VITAMIN A												
FOOD INTAKE												
CALORIES	75	1964			82	1963			77	1961	78	1960
PROTEIN	75	1964			82	1963			77	1961	78	1960
IRON					82	1963			77	1961	78	1960
VITAMIN A					82	1963			77	1961	78	1960
GOMEZ			10	1974			10	1974			10	1974
BIRTH WEIGHTS							76	1961				
SEVERE DEFICIENCIES	75	1964	4	1973	82	1963			77	1961	78	1960
MORTALITY												
RESPIRATORY	67	1972			68	1973	67	1972	67	1972	67	1972
DIARRHEAL	67	1972			68	1973	67	1972	67	1972	67	1972
MEASLES	67	1972					67	1972	67	1972	67	1972
TUBERCULOSIS	68	1973							91	1974	91	1974
MATERNAL									91	1974	91	1974
LEADING CAUSES	51	1973	51	1973			90	1967	90	1967	91	1974
CHILD MORTALITY												
0-30 DAYS			65	1967	65	1967	72a	1974	72a	1974	72a	1974
1-12 MONTHS	72a	1974	67	1972	67	1972	72a	1974	72a	1974	72a	1974
1-4 YEARS	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
LIFE EXPECTANCY												
AT BIRTH	72a	1974	72a	1974			72a	1974	72a	1974	72a	1974
AT 10												
HEMOGLOBIN	75	1964			82	1963	76	1961	77	1961	78	1960
DISEASE INCIDENCES												
RESPIRATORY	90	1967							90	1967	90	1967
DIARRHEAL	90	1967							90	1967		
MEASLES	90	1967	91	1974			91	1974	90	1967	89	1966
PELLAGRA												
BERIBERI												

	Bolivia		Brazil		Burma		Chile		Colombia		Ecuador	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
SCURVY												
RICKETS												
GOITER											78	1960
KWASHIORKOR												
MARASMUS												
KERATOMALACIA									77	1961	78	1960
ANEMIAS												
PARASITES									77	1961		
TUBERCULOSIS	91	1974	89	1966							78	1960
POPULATION												
TOTAL	88	1973	88	1973	88	1973	88	1973	88	1973	88	1973
AGE DIST.	66	1971	68	1973	66	1971	67	1972	66	1971	67	1972
DENSITY	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
% URBAN	66	1971	67	1972	67	1972	66	1971	67	1972	66	1971
GROWTH RATES												
BIRTH	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
DEATH												
MACROECONOMIC MEASURES												
GNP												
TOTAL	71	1972	34	1973	71	1972	71	1972	71	1972	71	1972
PER CAP.												
GROWTH												
FOREIGN TRADE												
EXPORTS												
IMPORTS	71	1972	71	1972	71	1972	71	1972	71	1972	71	1972
BALANCE												
GOVT. EXPEND.												
TOTAL	71	1972	72	1973	72	1973	71	1972	72	1973	71	1972
HEALTH	52	1972	72	1973					52	1972	52	1972
EDUCATION	74	1972	72	1973	74	1972	74	1972	74	1972	74	1972
AGRICULTURE												
LABOR AND INCOME												
INCOME DIST.									70	1970		
UNEMPL RATE					63	1963						
LABOR FORCE												
% FEMALE	35	1971	35	1971			68	1973	35	1971	35	1971
% IN AGR.	25	1972	88	1973	25	1972	25	1972	25	1972	25	1972

	Bolivia		Brazil		Burma		Chile		Colombia		Ecuador	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
AGRICULTURE												
LAND												
TOTAL	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
% ARABLE	25	1972	67	1972	25	1972	25	1972	25	1972	25	1972
% PASTURE	25	1972	67	1972	25	1972	25	1972	25	1972	25	1972
% CASH												
LAND DIST.									64	1968	64	1968
FOOD TRADE												
EXPORTS												
IMPORTS	24	1971	73	1970	24	1971	24	1971	24	1971	24	1971
PRODUCTION	74	1972	74	1972	74	1972	74	1972	74	1972		
% OF INCOME ON FOOD	64	1968	64	1968	64	1968	64	1968	57	1974	78	1960
HEALTH CARE FACILITIES												
HOSPITALS	72	1973	85		72	1973	71	1972	72	1973	71	1972
BEDS	72	1973	85		72	1973	71	1972	72	1973	71	1972
TOTAL UNITS	85		85				85		85		85	
P/U RURAL												
PERSONNEL												
DOCTORS	72	1973	71	1972	72	1973	71	1972	72	1973	71	1972
% RURAL												
NURSES	72	1973	71	1972	72	1973	71	1972	72	1973	71	1972
MIDWIVES	91	1974	71	1972	72	1973	71	1972	72	1973	71	1972
EDUCATION												
EXPENDITURES												
TOTAL	74	1972			74	1972	74	1972	74	1972	74	1972
DISTRIB.												
LEVEL FINISHED	74	1972	74	1972	74	1972	74	1972	74	1972	74	1972
LITERACY	52	1972	66	1971	66	1971	88	1973	52	1972	52	1972

	El Salvador		Guatemala		Haiti		India		Indonesia		Jordan	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
FOOD AVAILABILITY												
CALORIES	23	1971	32	1973	23	1971	23	1971	23	1971	23	1971
PROTEIN	23	1971	32	1973	23	1971	23	1971	23	1971	23	1971
IRON			29	1969								
VITAMIN A												
FOOD INTAKE												
CALORIES	28	1969	29	1969	5							
PROTEIN	28	1969	29	1969	5							
IRON	28	1969	29	1969	69	1959						
VITAMIN A					69	1959						
GOMEZ	10	1974	10	1974	10	1974	10	1974	10	1974	10	1974
BIRTH WEIGHTS	28	1969	29	1969	6	1970					80	1963
SEVERE DEFICIENCIES	28	1969	29	1969	6	1970					80	1963
MORTALITY												
RESPIRATORY	67	1972	40	1974							67	1972
DIARRHEAL	67	1972	40	1974							67	1972
MEASLES	67	1972	40	1974					91	1974	67	1972
TUBERCULOSIS	91	1974	68	1973							91	1974
MATERNAL	91	1974	91	1974	6	1970	73	1970			90	1967
LEADING CAUSES	51	1973	91	1974	6	1970	73	1970			90	1967
CHILD MORTALITY												
0-30 DAYS	72a	1974	72a	1974			65	1967			72a	1974
1-12 MONTHS	72a	1974	72a	1974	6	1970	88	1973	88	1973	72a	1974
1-4 YEARS	88	1973	88	1973	6	1970	88	1973			67	1972
LIFE EXPECTANCY												
AT BIRTH	72a	1974	72a	1974								
AT 10												
HEMOGLOBIN	28	1969	29	1969	6;54	1970;59					80;80a	1963;64
DISEASE INCIDENCES												
RESPIRATORY	89	1966			90	1967					90	1967
DIARRHEAL	89	1966			90	1967					90	1967
MEASLES	91	1974	91	1974	91	1974			91	1974	90	1967
PELLAGRA					6	1970						
BERIBERI					6	1970						

	El Salvador		Guatemala		Haiti		India		Indonesia		Jordan	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
SCURVY					6	1970						
RICKETS					6	1970						
GOITER					6	1970						
KWASHIORKOR												
MARASMUS												
KERATOMALACIA												
ANEMIAS					6	1970						
PARASITES	28	1969	29	1969	38	1961						
TUBERCULOSIS	91	1974	91	1974	6	1970						
POPULATION												
TOTAL	88	1973	88	1973	88	1973	88	1973	88	1973	88	1973
AGE DIST.	67	1972	67	1972	67	1972	67	1972	67	1972	66	1971
DENSITY	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
% URBAN	67	1972	67	1972	66	1971	67	1972	67	1972	66	1971
GROWTH RATES												
BIRTH	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
DEATH												
MACROECONOMIC MEASURES												
GNP												
TOTAL												
PER CAP.	34	1973	34	1973	71	1972	34	1973	34	1973	71	1972
GROWTH												
FOREIGH TRADE												
EXPORTS												
IMPORTS	71	1972	71	1972	71	1972	71	1972	71	1972	71	1972
BALANCE												
GOVT. EXPEND.												
TOTAL	71	1972	71	1972	71	1972	71	1972	72	1973	72	1973
HEALTH	71	1972	40	1974	52	1972	71	1972	72	1973		
EDUCATION	71	1972	71	1972	74	1972	71	1972	72	1973	74	1972
AGRICULTURE	71	1972	71	1972			71	1972				
LABOR AND INCOME												
INCOME DIST.					6	1970						
UNEMPL. RATE	71	1972	71	1972	63	1963			71	1972		
LABOR FORCE												
% FEMALE	64	1968	64	1968	35	1971	64	1968	64	1968	35	1971
% IN AGR.	64	1968	64	1968	25	1972	64	1968	64	1968	25	1972

	El Salvador		Guatemala		Haiti		India		Indonesia		Jordan	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
AGRICULTURE												
LAND												
TOTAL	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
% ARABLE	67	1972	67	1972	25	1972	67	1972	67	1972	25	1972
% PASTURE	67	1972	67	1972	25	1972	67	1972	67	1972	25	1972
% CASH	67	1972										
LAND DIST.	64	1968	64	1968							64	1968
FOOD TRADE												
EXPORTS												
IMPORTS			24	1971	24	1971	24	1971	73	1970	24	1971
PRODUCTION	74	1972	74	1972	74	1972	74	1972	74	1972	74	1972
% OF INCOME ON FOOD	64	1968	64	1968			64	1968	64	1968	64	1968
HEALTH CARE FACILITIES												
HOSPITALS	71	1972	71	1972	71	1972	71	1972	71	1972	72	1973
BEDS	71	1972	71	1972	71	1972	71	1972	71	1972	72	1973
TOTAL UNITS	85		85		85		73	1970				
P/U RURAL												
PERSONNEL												
DOCTORS	71	1972	71	1972	71	1972	71	1972	71	1972	72	1973
% RURAL												
NURSES	71	1972	71	1972	71	1972	71	1972	71	1972	72	1973
MIDWIVES			74	1972	91	1974	74	1972	74	1972	72	1973
EDUCATION												
EXPENDITURES												
TOTAL												
DISTRIB.	74	1972	74	1972	74	1972	74	1972			74	1972
LEVEL FINISHED	67	1972	67	1972	74	1972	67	1972	74	1972	74	1972
LITERACY	67	1972	67	1972	52	1972	88	1973	88	1973	66	1971

	Kenya		Malaysia		Nicaragua		Nigeria		Pakistan		Panama	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
FOOD AVAILABILITY												
CALORIES	23	1971	23	1971	23	1971	23	1971	23	1971	23	1971
PROTEIN	23	1971	23	1971	23	1971	23	1971	23	1971	23	1971
IRON			18	1974	30	1969						
VITAMIN A			18	1974								
FOOD INTAKE												
CALORIES					30	1969	83	1967			33	1973
PROTEIN					30	1969	83	1967			33	1973
IRON					30	1969	83	1967			33	1973
VITAMIN A					30	1969	83	1967			33	1973
GOMEZ	10	1974	10	1974	10	1974	10	1974	10	1974	10	1974
BIRTH WEIGHTS												
SEVERE DEFICIENCIES	13	1968	18	1974	30	1969	83	1967			31	1969
MORTALITY												
RESPIRATORY	67	1972			67	1972	67	1972			67	1972
DIARRHEAL	67	1972			67	1972	67	1972			67	1972
MEASLES	68	1973			67	1972	67	1972			91	1974
TUBERCULOSIS	68	1973			89	1966	91	1974			91	1974
MATERNAL			41	1971							90	1967
LEADING CAUSES					51	1973					90	1967
CHILD MORTALITY												
0-30 DAYS	72a	1974	72a	1974	72a	1974	65	1967			72a	1974
1-12 MONTHS	68	1973	67	1972	68	1973	67	1972	88	1973	85	
1-4 YEARS	67	1972	67	1972	67	1972			88	1973	85	
LIFE EXPECTANCY												
AT BIRTH					72a	1974					72a	1974
AT 10												
HEMOGLOBIN			79	1964	30	1969	83	1967			31	1969
DISEASE INCIDENCES												
RESPIRATORY	90	1967			90	1967	83	1967	56	1968	90	1967
DIARRHEAL	90	1967			90	1967	83	1967	56	1968	90	1967
MEASLES	90	1967			90	1967	91	1974			90	1967
PELLAGRA												
BERIBERI												

	Kenya		Malaysia		Nicaragua		Nigeria		Pakistan		Panama	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
SCURVY												
RICKETS												
GOITER												
KWASHIORKOR												
MARASMUS												
KERATOMALACIA												
ANEMIAS												
PARASITES			18	1974							31	1969
TUBERCULOSIS	91	1974	89	1966			91	1974				
POPULATION												
TOTAL	88	1973	88	1973	88	1973	88	1973	88	1973	88	1973
AGE DIST.	66	1971	67	1972	67	1972	66	1971			67	1972
DENSITY	67	1972	68	1973	67	1972	67	1972	68	1973	67	1972
% URBAN	66	1971	68	1973	66	1971	67	1972	68	1973	66	1971
GROWTH RATES												
BIRTH DEATH	67	1972	67	1972	67	1972	67	1972	67	1972	67	1972
MACROECONOMIC MEASURES												
GNP												
TOTAL	71	1972	34	1973	71	1972	71	1972	34	1973	71	1972
PER CAP.												
GROWTH												
FOREIGN TRADE												
EXPORTS												
IMPORTS	71	1972			71	1972	71	1972			71	1972
BALANCE												
GOVT. EXPEND.												
TOTAL	72	1973	71	1972	74	1972	72	1973			71	1972
HEALTH	69	1970			52	1972	21	1970			52	1972
EDUCATION	74	1972	71	1972	74	1972	21	1970			74	1972
AGRICULTURE	69	1970					21	1970				
LABOR AND INCOME												
INCOME DIST.											70	1970
UNEMPL. RATE	45	1971	71	1972			63	1963			71	1972
LABOR FORCE												
% FEMALE			41	1972	35	1971	68	1973	35	1971	35	1971
% IN AGR.	25	1972	64	1968	25	1972	25	1972			25	1972

	Kenya		Malaysia		Nicaragua		Nigeria		Pakistan		Panama	
	ref	date	ref	date	ref	date	ref	date	ref	date	ref	date
AGRICULTURE												
LAND												
TOTAL	67	1972	68	1973	67	1972	67	1972			67	1972
% ARRABLE	25	1972			25	1972	25	1972			25	1972
% PASTURE	25	1972			25	1972	25	1972			25	1972
% CASH												
LAND DIST.	39	1971			52	1972					64	1968
FOOD TRADE												
EXPORTS	24	1971	73	1970	24	1971	24	1971			24	1971
IMPORTS												
PRODUCTION	74	1972	74	1972	74	1972	74	1972	74	1972	74	1972
% OF INCOME ON FOOD	64	1968	64	1968			64	1968			64	1968
HEALTH CARE FACILITIES												
HOSPITALS	72	1973	71	1972	71	1972	72	1973	71	1972	71	1972
BEDS	72	1973	71	1972					71	1972	71	1972
TOTAL UNITS					85						87	1972
P/U RURAL			18	1974								
PERSONNEL												
DOCTORS	72	1973	71	1972	71	1972	72	1973	71	1972	71	1972
% RURAL												
NURSES	72	1973	71	1972	71	1972	72	1973	71	1972	71	1972
MIDWIVES	72	1973	74	1972			72	1973	74	1972		
EDUCATION												
EXPENDITURES												
TOTAL	74	1972	74	1972	74	1972	74	1972			74	1972
DISTRIB.												
LEVEL FINISHED	74	1972	67	1972	74	1972			74	1972	74	1972
LITERACY	88	1973	88	1973	52	1972	66	1971	66	1971	66	1971

	Philippines		Thailand		Tunisia	
	ref	date	ref	date	ref	date
FOOD AVAILABILITY						
CALORIES	23	1971	23	1971	23	1971
PROTEIN	23	1971	23	1971	23	1971
IRON						
VITAMIN A						
FOOD INTAKE						
CALORIES	26	1972			60	1970
PROTEIN	26	1972			60	1970
IRON	26	1972				
VITAMIN A	26	1972				
GOMEZ	10	1974	10	1974	10	1974
BIRTH WEIGHTS						
SEVERE DEFICIENCIES			61	1971	60	1970
MORTALITY						
RESPIRATORY	67	1972	14	1971		
DIARRHEAL	67	1972	14	1971		
MEASLES	67	1972	91	1974		
TUBERCULOSIS	91	1974	91	1974		
MATERNAL	91	1974	91	1974		
LEADING CAUSES	90	1967	90	1967		
CHILD MORTALITY						
0-30 DAYS	72a	1974	72a	1974		
1-12 MONTHS	88	1973	68	1973	68	1973
1-4 YEARS	88	1973	68	1973	68	1973
LIFE EXPECTANCY						
AT BIRTH			72a	1974		
AT 10			72a	1974		
HEMOGLOBIN			81	1962		
DISEASE INCIDENCES						
RESPIRATORY	90	1967				
DIARRHEAL	90	1967				
MEASLES	90	1967				
PELLAGRA						
BERIBERI						

	Philippines		Thailand		Tunisia	
	ref.	date	ref	date	ref	date
SCURVY						
RICKETS						
GOITER					60	1970
KWASHIORKOR						
MARASMUS						
KERATOMALACIA					60	1970
ANEMIAS						
PARASITES						
TUBERCULOSIS					60	1970
POPULATION						
TOTAL	88	1973	88	1973	88	1973
AGE DIST.	66	1971	67	1972	67	1972
DENSITY	67	1972	67	1972	67	1972
% URBAN	67	1972	66	1971	66	1971
GROWTH RATES						
BIRTH	67	1972	67	1972	67	1972
DEATH						
MACROECONOMIC MEASURES						
GNP						
TOTAL						
PER CAP.	71	1972	71	1972	71	1972
GROWTH						
FOREIGN TRADE						
EXPORTS						
IMPORTS	71	1972	71	1972	71	1972
BALANCE						
GOVT. EXPEND.						
TOTAL	72	1973	71	1972	74	1972
HEALTH	72	1973	14	1971		
EDUCATION	72	1973	14	1971	74	1972
AGRICULTURE	72	1973	14	1971		
LABOR AND INCOME						
INCOME DIST.						
UNEMPL. RATE	71	1972			36;72/1971;73	
LABOR FORCE						
% FEMALE	35	1971	35	1971	35	1971
% IN AGR.	25	1972	25	1972	25	1972

	Philippines		Thailand		Tunisia	
	ref	date	ref	date	ref	date
AGRICULTURE						
LAND						
TOTAL	67	1972	67	1972	67	1972
% ARABLE	25	1972	25	1972	25	1972
% PASTURE	25	1972	25	1972	25	1972
% CASH						
LAND DIST.	64	1968	69	1970		
FOOD TRADE						
EXPORTS	24	1971	24	1971	24	1971
IMPORTS						
PRODUCTION	74	1972	74	1972	74	1972
% OF INCOME ON FOOD	64	1968	64	1968	64	1968
HEALTH CARE FACILITIES						
HOSPITALS	72	1973	71	1972	71	1972
BEDS						
TOTAL UNITS			59	1968		
P/U RURAL						
PERSONNEL						
DOCTORS	72	1973	71	1972	71	1972
% RURAL						
NURSES	72	1973	71	1972	71	1972
MIDWIVES	72	1973	71	1972	71	1972
EDUCATION						
EXPENDITURES						
TOTAL			74	1972	74	1972
DISTRIB.						
LEVEL FINISHED	74	1972	74	1972		
LITERACY	52	1972	88	1973	66	1971

TABLE REFERENCES: NOTES ON THE DATA

Bolivia:

Food intake: 24-hour recall survey of nationwide sample of 56 families including 396 individuals.

Severe deficiencies: Table 21, pp. 88-89. 24-hour recall survey of 46 families including 338 persons. Problems with interpreting Indian language. Not in order of severity; intake varied among areas.

Hemoglobin: 42 rural and urban low-income individuals remained in health centers and other institutions.

Brazil:

Gomez: sample of 5864 children age 0-4 in Pernambuco.

Leading causes of child deaths: limited sample.

Burma:

Food intake: questionnaire survey of 1848 individuals in 386 households, nationwide "representative sample."

Severe deficiencies: based on food-composition analyses of above surveys.

Hemoglobin: sample of 164 persons.

Chile:

Gomez: 50,839 children age 0-5 years in Santiago.

Birth weights: 4081 M, 3939 F, full term infants surviving 48 hours or more, born at clinics and from low and middle income groups.

Hemoglobin: nationwide urban sample of 368 individuals comprising randomly chosen entire households.

Colombia:

Food intake: 24-hour recall questionnaire administered to housewives in 322 families.

Gomez: sample of 1,094 children age 0-5 years in Candelaria

Severe deficiencies: intakes as indicated by nutrition survey, compared to recommended allowances.

Disease prevalence: parasite level based on lab study of 1,263 children in 35 locations; PCM based on sample of 2,340 children age 0-5.

Hemoglobin: national sample of 647 lower-income persons examined at health centers.

Ecuador:

Food intake: 24-hour recall of 2,000 individuals in 341 families from coastal and sierra regions.

Gomez: sample of 426 children in Guayaquil.

Severe dificiencies: based on food intake study; mean intakes for total sample as % RDA (NRC).

% of income on food: survey of 328 families of low to moderate income.

Hemoglobin: sample of 300 obtained by testing first 15 persons coming through health survey examination each day.

El Salvador:

Food intake: 24-hour recall study of 151 families.

Gomez: nationwide sample of 574 children age 0-4.

El Salvador: contd.

Birth weights: nationwide survey of 671 children.

Severe deficiencies: based on 24-hour recall study of 142 families.

% of income on food: urban only.

Hemoglobin: 666 individuals.

Guatemala:

Food intake: diet survey of 200 families.

Gomez: national survey of 763 children age 0-4.

Birth weights: national survey of 867 children age 0-4.

Severe deficiencies: based on food intake study; nutrients found most seriously lacking.

Hemoglobin: survey of 910 individuals at all altitudes.

Haiti:

Food intake: iron and vitamin A from national survey, urban and rural.

Gomez: Fonds Parisiens sample of 298 children age 1-5 years.

Severe deficiencies: based on WHO and Health Bureau survey of existing nutrition-status studies and their recommendations.

India:

Gomez: rural sample of 3029 children age 1-5 years.

Leading causes of child deaths: for ages 2-12 months.

Indonesia:

Gomez: sample of 616 children in Java ages 0-4 years.

Jordan:

Gomez: 1,050 children age 0-5 years in Amman and Jerusalem.

Birth weights: study of 2,127 infants at Government Maternity Hospital in Amman, June-December 1962.

Severe deficiencies: based on nutrition survey of 613 individuals in 61 refugee and 39 non-refugee families using dietary interview.

Hemoglobin: age 0-5 years based on 2843 children, mostly visiting MCH centers; proportional amounts from urban, rural, and refugee groups. Age 5-45 based on 125 males, 128 females and 46 pregnant and lactating.

Kenya:

Gomez: sample of 353 children.

% Income on Food: Nairobi only.

Malaysia:

Gomez: sample of 1404 children age 0-5 years.

Hemoglobin: random sample of 604 civilian individuals given detailed clinical examinations in health survey.

Nicaragua:

Food intake: 24-hour recall study of 98 families (673 individuals) in Managua. Survey of 355 rural households (2244 individuals) showed: calories 1986, protein 64.4 gm., vitamin A .508 mg, iron 18.2 mg.

Gomez: national survey of 708 children age 0-4 years.

Severe deficiencies: based on Managua food intake survey and rural surveys; on nutrient content of foods and on incidence of goiter in nationwide clinical study.

Nicaragua: contd.

Hemoglobin: nationwide sample of 745 from all altitudes; age 3-11 sample size 7.

Nigeria:

Food intake: recipe-method evaluation of intakes of 68 families (444 persons) selected for distribution of occupation, income, family size, age, and cultural background.

Gomez: sample of 551 children age 0-5 years.

Severe deficiencies: based on nutrition survey results as compared to recommended levels.

% income on food, and mortalities: Lagos only.

Hemoglobin: 648 individuals in nationwide sample.

Pakistan:

Gomez: sample of 430 children age 0-4.

Panama:

Food intake: 24-Hour recall survey of 36 rural families (2284 individuals). Panama City survey of 96 families (539 persons) showed intake of 2101 calories, 70.9 gm. protein, 1.11 mg. vitamin A, 14.9 mg. iron.

Philippines:

Gomez: sample of 2468 children age 0-4 years.

Thailand:

Gomez: sample of 1,947 children ages 0-6 in urban slums.

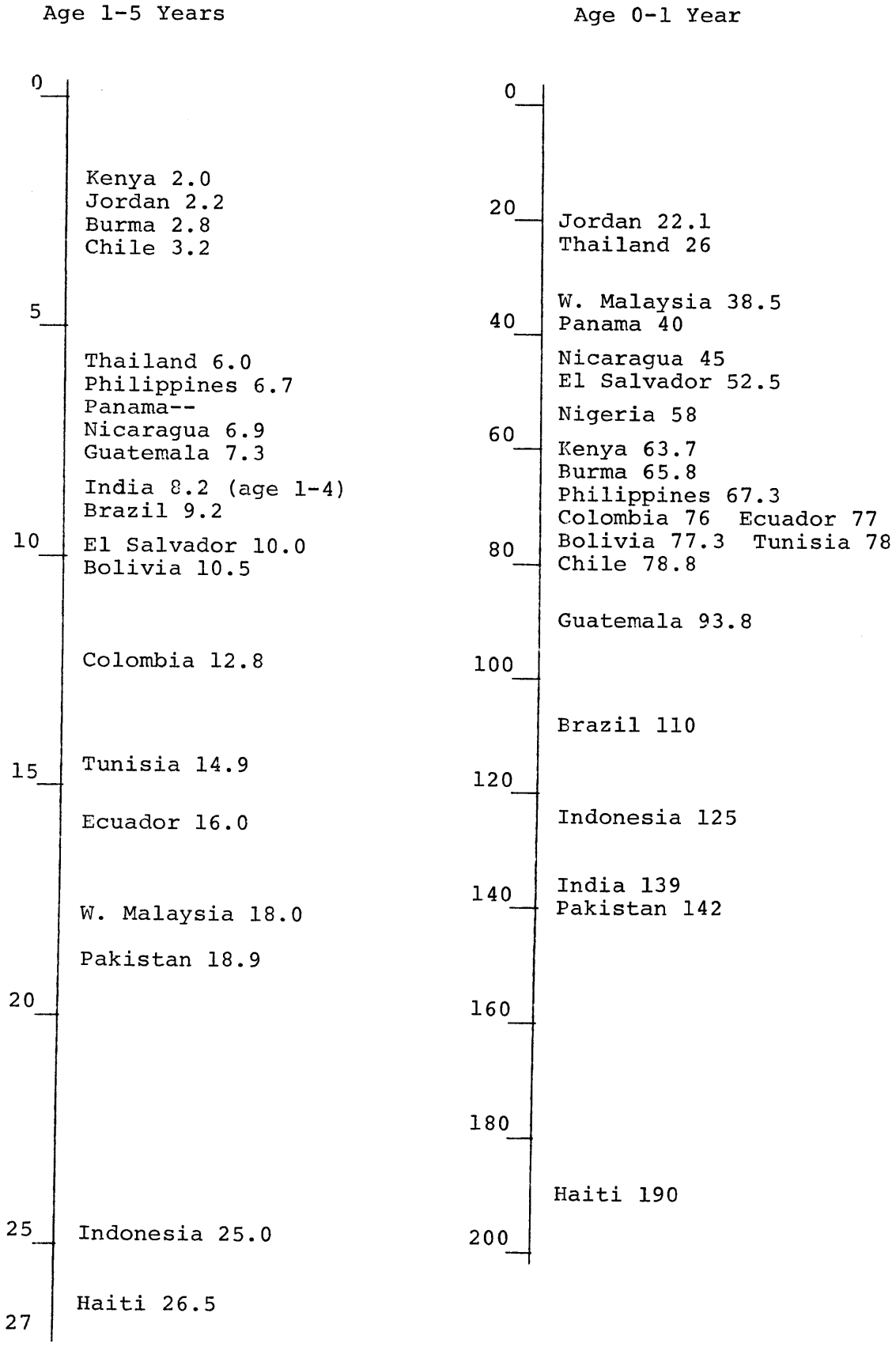
Hemoglobin: 93% rural sample, total of all categories 182 persons.

Tunisia:

Gomez: sample of 258 children age 0-4 years.

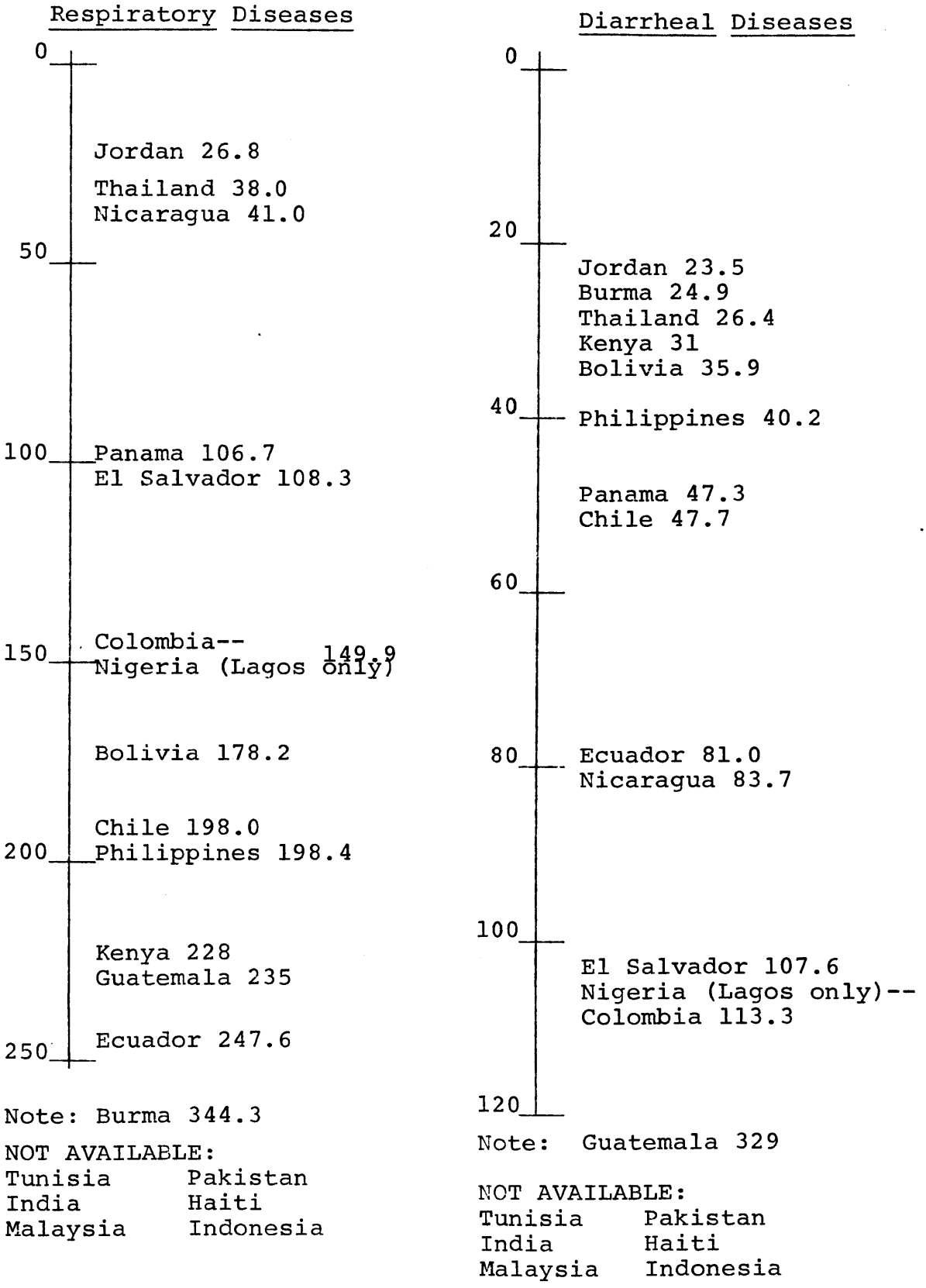
GRAPHS SHOWING RELATIVE STATUS AMONG COUNTRIES

INFANT AND CHILD MORTALITY RATES
(deaths/1,000)



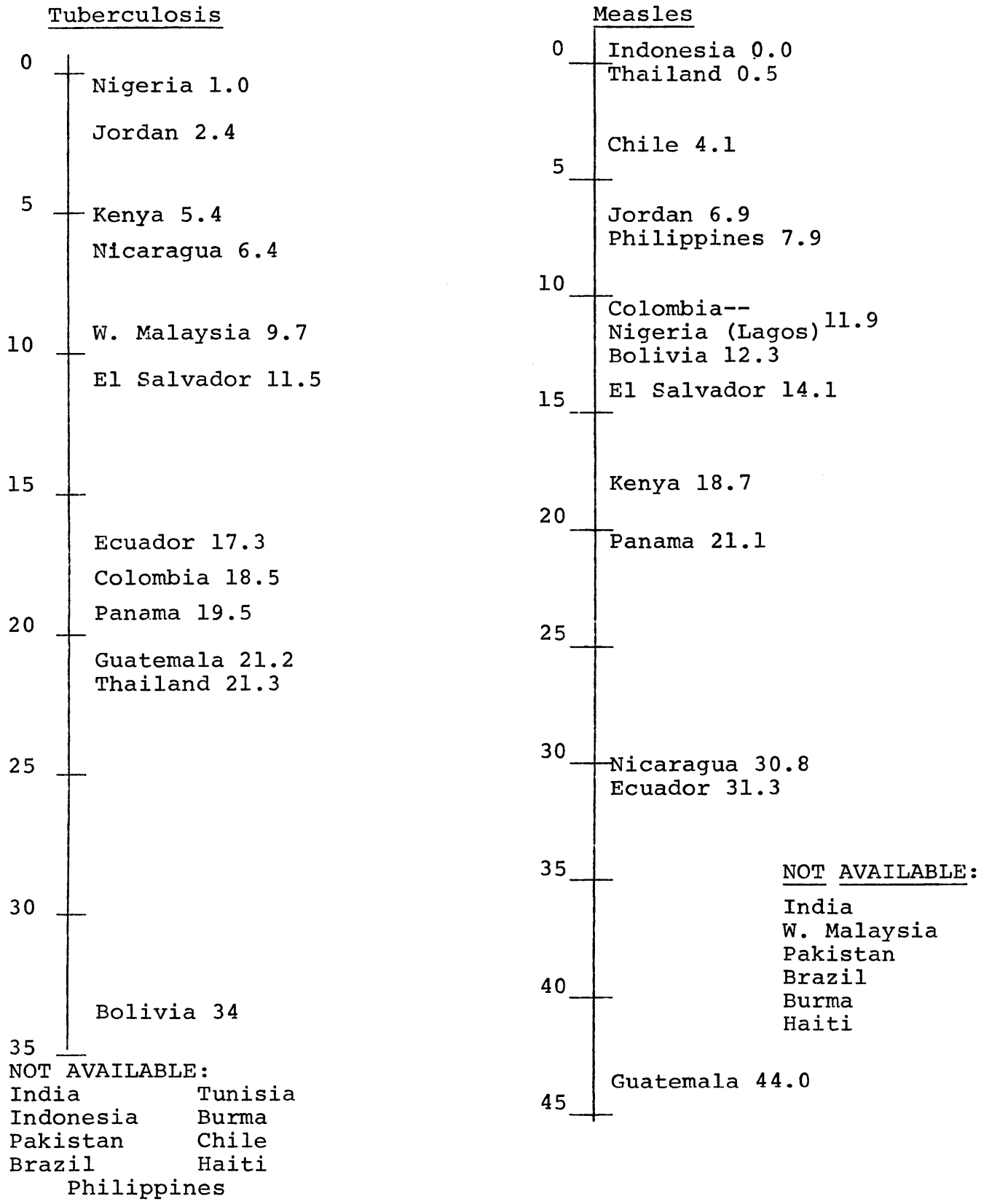
MORTALITY RATES OF CONTAGIOUS DISEASES I

(deaths/100,000)



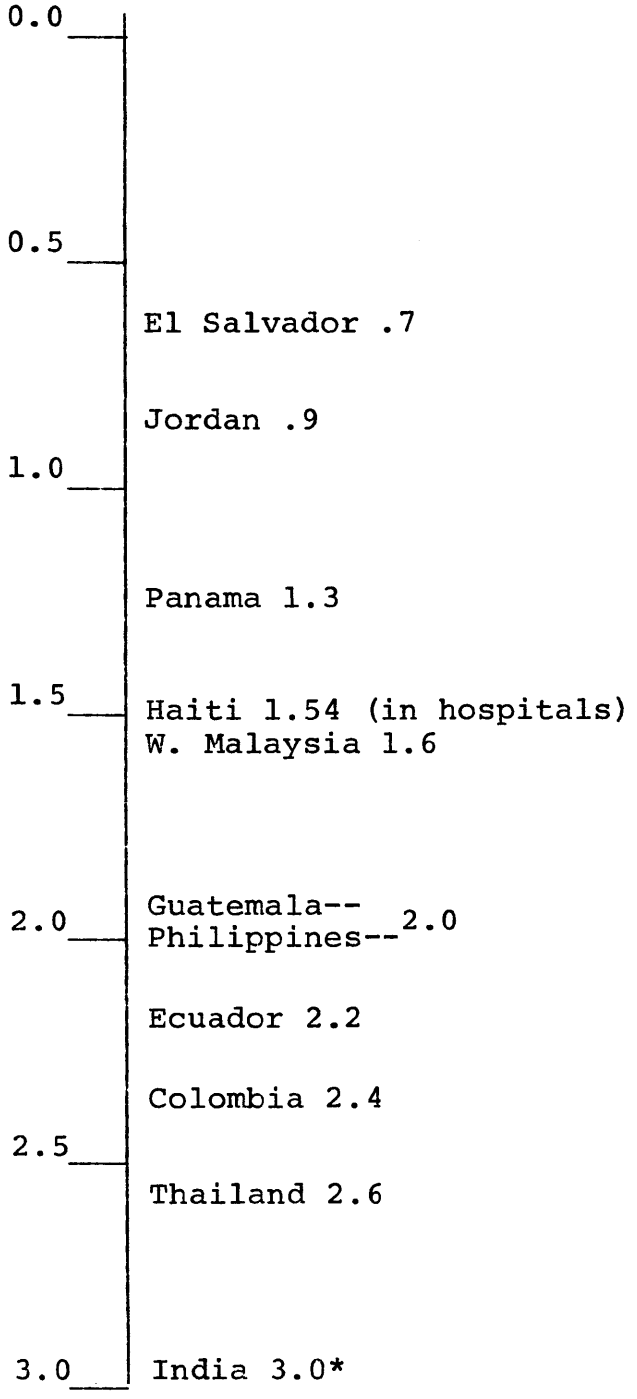
MORTALITY RATES OF CONTAGIOUS DISEASES II

(deaths/100,000)



MATERNAL MORTALITY

(deaths per 1,000 live births)



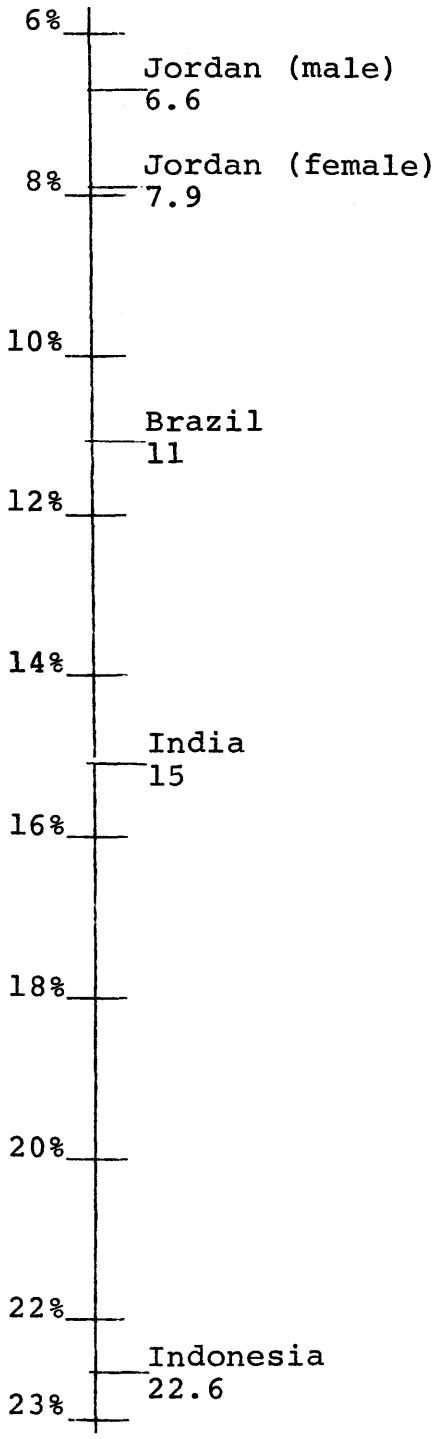
*India separate conflicitng sources also report 6.0

NOT AVAILABLE:

Kenya	Nicaragua	Indonesia	Chile	Burma
Nigeria	Tunisia	Pakistan	Brazil	Bolivia

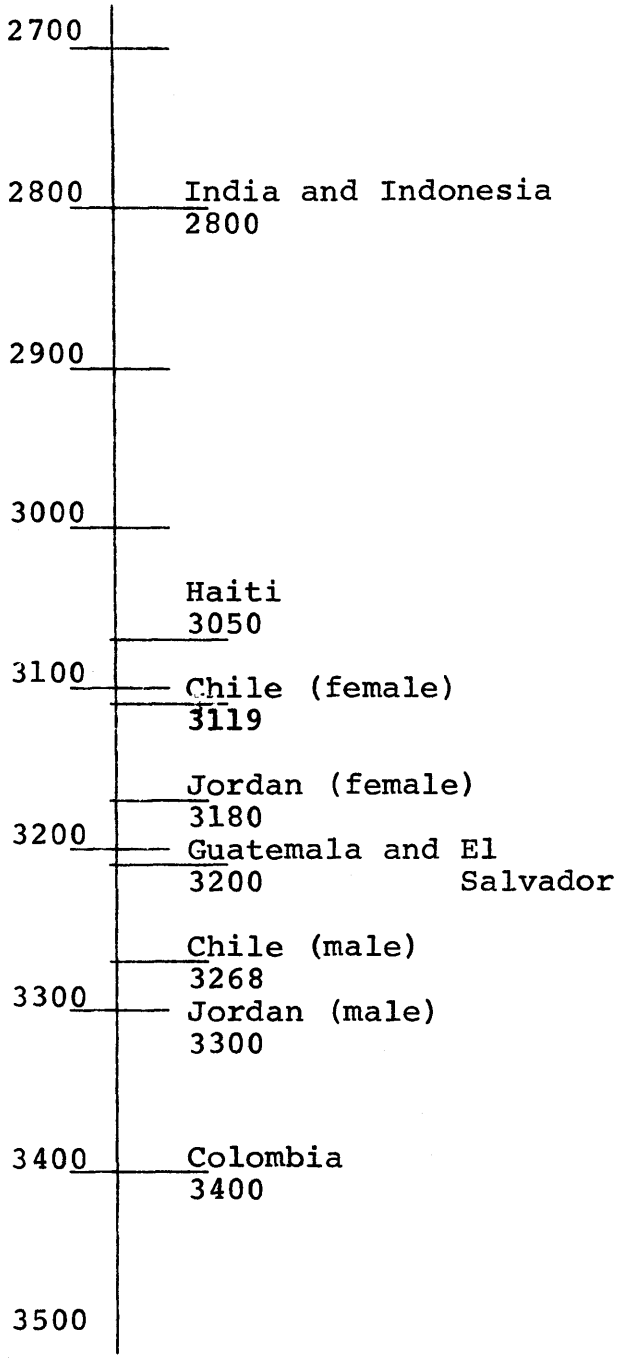
PREMATURITY RATE

(% Birth Weight Below 2500 grams)

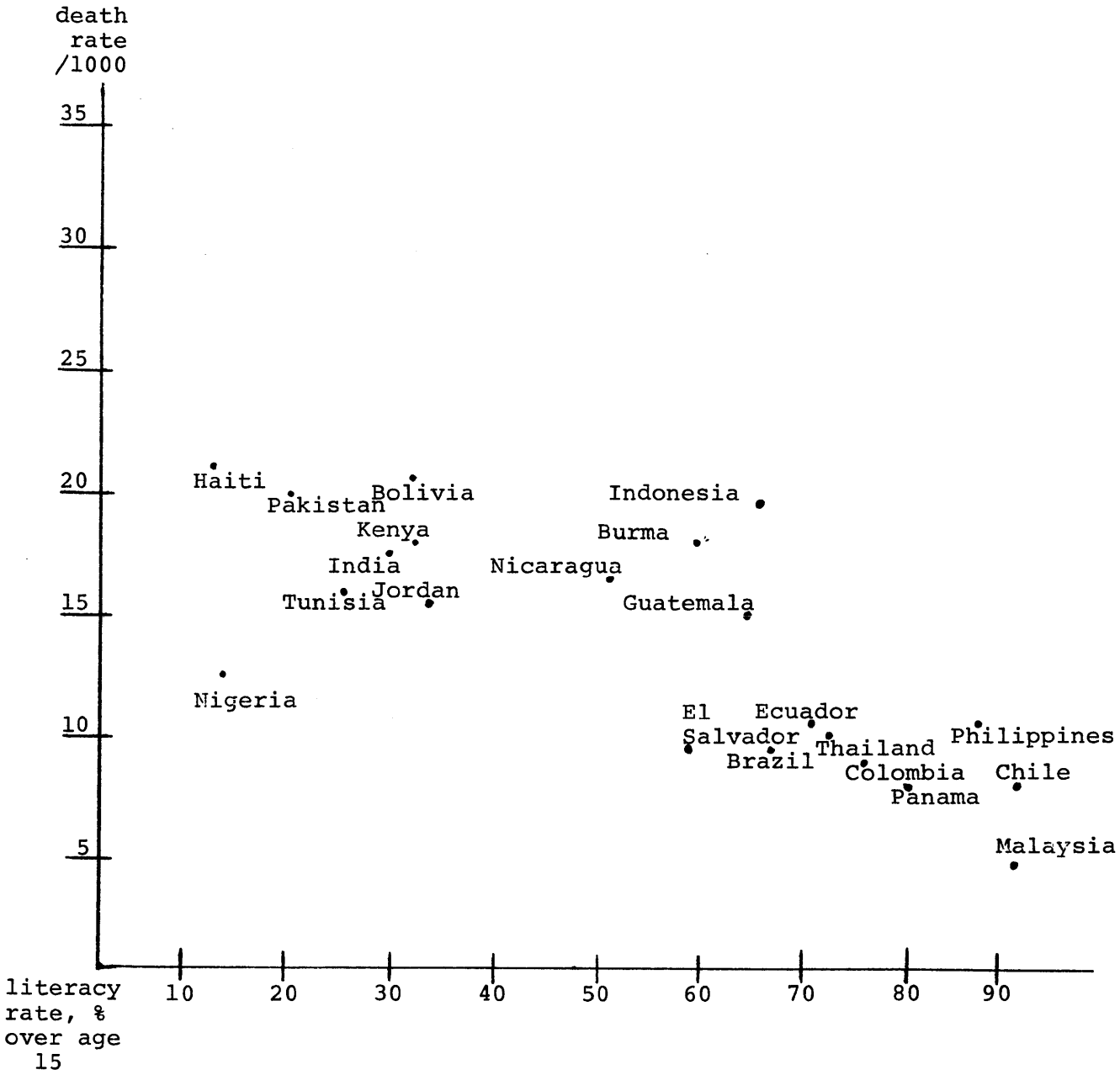


AVERAGE BIRTH WEIGHT

(grams)



COMPARISON OF LITERACY AND DEATH RATES



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