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Hunger Signs in the Developing Countries

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HUNGER SIGNS IN THE DEVELOPING COUNTRIES

The easing of the drought in the Sahel and the general but modest improvement in food supplies in some other parts of the world has reduced public concern over world food problems. All the same, the problems remain. There are large numbers of malnourished people in many countries around the world. In its Assessment of the World Food Situation^{1/} FAO reported in 1974 that in the Far East 25%, and in Africa 30% of the population were estimated to suffer from significant malnutrition. For the countries of the developing world for which data are available, FAO has estimated that at least 460 million people are affected by malnutrition. For the world as a whole the period since the second World War has seen an improvement in per capita food supplies, but most all of the improvement has taken place in the industrialized developed countries. The food gap has widened, not narrowed, between the well-fed and the poorly-fed nations. Most ominous is the fact that 540 million people live in the 32 countries where the rate of growth of the population now exceeds the rate of growth of food production. Catastrophe, on a very large scale, is on the horizon.

In recent years there has been an impressive literature on the overall aspects of the growing world food problem. A 1968 OECD study^{2/} provided global food projections for 1980 and reviewed the problems and prospects for increased food production in the developing countries. Its analysis is still relevant to today's situation. Both the ERS study^{3/} and the FAO Assessment^{1/} review the factors underlying the world's food problems and present global projections for 1985. The second report to the Club of Rome^{4/} presents sobering conclusions as to world food supplies unless drastic action is taken soon on both food production and population control. Schuh,^{5/} in his paper presented at the 1976 meeting of the American Agricultural Economics Association

sounds a warning to the consumers in industrialized nations of the effects on their food prices of growing food needs abroad. Mayer, writing in the Scientific American^{6/} reviews the nutritional aspects of the problem and presents a list of the most hunger threatened countries.

The solution of the world's food problems, if there is a solution, requires intensive, country-by-country action. It is important to know which countries and their people are most threatened by present and potential hunger problems. The first research report from IFPRI^{7/} makes use of grains statistics to identify some countries and regions most threatened in the coming decade. The present paper makes an effort to utilize food data presented by FAO in its Assessment of the World Food Situation and population data from the World Bank Atlas^{8/} for 1974 to develop a preliminary list of the hunger threatened countries. Such a list should be helpful in centering the attention of multilateral and bilateral agencies and or private groups on the countries where the threat is greatest. Priority attention should now be given to those countries where significant numbers of people are under the threat of increasingly severe food shortages. For this reason, the listing includes only those developing countries with more than a half million people.

The results presented here should be considered as preliminary. They can be refined by the use of other sorts of data. For example, statistics on foreign trade in food products and medical statistics on malnutrition and nutrition-related diseases remain to be explored.

A further problem is the inherent quality of the available data. FAO's estimates of available food supplies are drawn from food balance sheet analyses. These are constructed from estimates of food production, inventories, trade and various types of utilization. They are subject to considerable error, but are

useful if used with care and judgment. The quality of data on the food situation tends to be poorest among countries where the hunger threat is the greatest. While the past three decades have seen major efforts to improve food statistics in the developing countries, it is unfortunate that so little progress has been made. As a consequence, analysts are forced to use what data is available, with all its flaws. As the authors of the FAO Assessment point out, considerable caution must be exercised in interpreting country data on food supplies. Thus the data reported in the Assessment can best be treated as reflections of reality, not as measurements of it.

It is believed that the FAO data reflect the chronic food problems of the developing countries more than they reveal the immediate, current situation. Thus while temporary shortages stemming from short-run events such as drought, political change or current economic crises, may be masked, the long-run, basic situation tends to be revealed. It is this basic situation to which assistance efforts must be directed, and in programs that of necessity will take many years to complete. Short-run, crash programs will not solve the basic food problems of the developing countries, but may only ascerbate them.

Food Supplies in Relation to Requirements

While no single statistical measure is enough to portray the food supply situation in a given country, one of the FAO data series is most illuminating. For purposes of the Assessment, FAO prepared country-by-country estimates of national food-energy supplies in terms of kilocalories per capita per day. These estimates were then compared with FAO's own set of standard caloric requirements for the same countries. The results are expressed as "percentages of requirements." It should be noted that the FAO analysts indicated that a supply of 110% of requirements was needed if a national food supply was to be

judged adequate. This is so primarily because of distortions in distribution stemming from differential abilities to pay. A nation might have national food supplies equal to 100 percent of overall requirements, but those with lowest incomes may be very poorly fed. Studies in Brazil, India and Tunisia all showed that the 20% of the population with the lowest income has half the per capita energy intake of the top 10%.*

An arbitrary, but suggestive classification of countries is possible if the FAO "percentages of requirements" data are put into five groups:

Over 110%	Adequate
100-110%	Marginal
95-99%	Inadequate
85-94%	Critical
Under 85%	Desperate

Table 1.

COUNTRIES WHERE FOOD SUPPLY IS UNDER 85% OF REQUIREMENTS
"Desperate"

Country	Percentage of Requirements	Population (millions)
Algeria	72	14.3
Upper Volta	72	5.6
Haiti	77	4.4
Somalia	79	2.9
Bolivia	79	5.2
Bangladesh	80	72.5
Afghanistan	81	14.9
Indonesia	83	121.6
El Salvador	84	3.7
Rwanda	84	3.9
Yemen (Arab Republic)	84	<u>6.1</u>
	Total Population	255.1

*Assessment of the World Food Situation, page 6.

More than 255 million people live in the 11 countries where the food supply situation is "desperate." Two heavily populated Asian countries, Indonesia and Bangladesh, have the potential for major disaster. Included also are a number of small, very poor countries where the food situation is only a part of a tangle of problems. The countries on this list need first priority attention in the form of both short-term and long-term assistance. All these countries pose major challenges for effective analysis of their food and related problems, for the design of effective programs and for the building of capacities in their governments to deal effectively with hunger problems. Without exception, these countries lack sufficient numbers of trained scientists, technicians and managers to plan, organize and carry out the many kinds of programs needed to bring food and population into better balance. Even before massive capital assistance is provided, there should be intensive efforts to train people and to build and improve institutions for technical training. These countries probably provide the most opportunities for effective short-term projects involving work by volunteers at local levels and experienced foreign technicians and professionals to serve as project planners, managers and staff. Eventually, however, these, like the other hunger threatened countries must have their own trained manpower to operate their food supply systems and the supporting public agencies. The long-range goal should be to help them to help themselves.

Table 2.

COUNTRIES WHERE THE FOOD SUPPLY IS 85-94% OF REQUIREMENTS
"Critical"

Country	Percentage of Requirements	Population (millions)
<u>ASIA</u>		
Philippines	86	39.0
North Korea	89	14.7
China	91	786.4
Pakistan	93	66.7
India	94	653.5
<u>AFRICA</u>		
Mauritania	85	1.2
Angola	85	5.6
Botswana	87	0.6
Burundi	88	3.5
Guinea	88	5.1
Mali	88	5.3
Mozambique	88	8.0
Chad	89	3.8
Niger	89	4.2
Uganda	91	10.5
Sudan	92	16.6
Zambia	93	4.5
Zaire	93	19.1
Ethiopia	93	25.9
Benin	94	2.9
Liberia	94	1.6
<u>LATIN AMERICA-CARIBBEAN</u>		
Ecuador	88	6.5
Honduras	94	2.7
<u>NEAR EAST-NORTH AFRICA</u>		
Yemen (Dem. Republic)	86	1.5
Iraq	90	10.0
Lebanon	92	2.9
Morocco	92	15.8
Tunisia	94	5.3
Saudi Arabia	94	7.6
Total Population		1731.0

There are 29 countries with a total population of 1.7 billion where the food supply situation is "critical." Nearly 800 million of these people are in China, where the actual food supply situation may be somewhat better than the FAO statistics would suggest. Visitors to China have reported none of the visible signs of malnutrition one might expect if the FAO statistical data were completely accurate, but on the other hand China has recently accelerated its grain imports. The list also includes India and Pakistan where gains in food production have been made in recent years, but where there still is no margin of protection from weather hazards. The Philippines, producing only 86% of the food requirements of its 39 million people and with a very high population growth rate (3.0%), is on the verge of joining the "desperate" group. Most of the countries in this group are in Africa, particularly in central and west Africa, and in the areas most affected by the recent African drought. Only two Latin American countries, Ecuador and Honduras, are included. Two major oil producers, Iraq and Saudi Arabia, are listed in this group. Countries in this group have varied needs. Some are in better positions than others to make effective use of capital assistance. Some need early attention to their high population growth rates. All could use better systems for agricultural development planning and policy making. Many of these countries do not have sufficient trained personnel to give technical leadership to the development and operation of the units of their food supply systems.

Table 3.

COUNTRIES WHERE THE FOOD SUPPLY IS 95-99% OF REQUIREMENTS
"Inadequate"

Country	Percentage of Requirements	Population (millions)
<u>ASIA</u>		
Laos	95	3.1
Nepal	95	11.5
Sri Lanka	98	13.2
<u>AFRICA</u>		
Gabon	95	0.5
Malawi	95	4.7
Nigeria	96	69.5
Central African Republic	98	1.7
Senegal	98	4.0
Tanzania	98	13.6
<u>LATIN AMERICA-CARIBBEAN</u>		
Colombia	95	23.0
Guatemala	97	5.6
Trinidad-Tobago	98	1.0
Venezuela	98	11.1
Peru	99	14.1
<u>NEAR EAST-NORTH AFRICA</u>		
Iran	96	31.2
Jordan	99	2.5
Total Population		223.2

On the basis of the FAO data the food supply may be judged "inadequate" in 17 countries with 223.2 million people. Included in this group are Nigeria, the most heavily populated African country (69.5 million) and Colombia, with 23 million people. Also included are two major oil producers, Iran and Venezuela, where the needed assistance is probably technological and managerial. Capital

assistance will be essential in most of the others, and technical training programs are probably needed in all. In general however, these countries have more time and therefore need less massive assistance than those in previously discussed groups.

Table 4.

COUNTRIES WHERE THE FOOD SUPPLY IS 100-110% OF REQUIREMENTS
"Marginal"

Country	Percentage of Requirements	Population (millions)
<u>ASIA</u>		
Burma	102	28.9
South Korea	107	32.4
Kymer Republic	109	7.3
Malaysia	110	11.4
Viet Nam	110	41.3
<u>AFRICA</u>		
Ghana	101	9.1
Togo	101	2.1
Congo	102	1.2
Kenya	102	12.1
Mauritius	104	0.8
Cameroon	104	6.1
Ivory Coast	105	5.4
<u>LATIN AMERICA-CARIBBEAN</u>		
Guyana	105	0.8
Jamaica	105	1.9
Uruguay	108	3.0
Nicaragua	109	2.2
Chile	109	10.0
Brazil	110	98.2
Mexico	110	54.1
<u>NEAR EAST-NORTH AFRICA</u>		
Egypt	100	34.8
Syria	107	6.7
Libya	109	2.1
Total Population		371.9

A total of 371.9 million people live in the 22 countries where the food supply is "marginal" (100-110% of requirements). This group includes some countries for which the data may not accurately reflect the current situation, as for example, the Kymer Republic (Cambodia). It also includes such countries as Mexico, Brazil and Egypt where a single national statistic masks wide disparities between income groups. To a considerable extent these countries need to focus on the formulation of internally equitable national food policies and pricing and distribution programs to implement them. They tend also to need sustained collaboration in technological development, access to investment capital, and improvements in facilities for technical and managerial training. Egypt and Mexico pose special problems in terms of their need for drastic control of population growth.

Table 5.

COUNTRIES WITH LESS THAN ADEQUATE FOOD SUPPLIES
AND WHERE THE RATE OF GROWTH IN FOOD PRODUCTION
IS LESS THAN THE RATE OF GROWTH OF POPULATION

Country	Food Supply As A % of Requirements ^{1/}	Population Growth Rate ^{2/}	Food Production Growth Rate ^{3/}
<u>ASIA</u>			
Bangladesh	80	2.5	1.6
Afghanistan	81	2.0	1.7
Indonesia	83	2.1	2.0
Pakistan	93	4.1	3.0
Nepal	95	1.8	0.1
<u>AFRICA</u>			
Somalia	79	2.5	1.1
Rwanda	84	3.2	1.8
Guinea	88	2.8	2.0
Mali	88	2.1	1.6
Chad	89	1.8	0.9
Uganda	91	2.9	1.8
Ethiopia	93	2.4	2.3
Zaire	93	2.6	0.2
Benin	94	2.8	2.2
Liberia	94	3.1	1.1
Nigeria	96	2.5	2.0
Zambia	93	2.9	0.2
<u>LATIN AMERICA-CARIBBEAN</u>			
Colombia	95	3.2	3.1
Dominican Rep.	94	2.6	2.2
<u>NEAR EAST-NORTH AFRICA</u>			
Algeria	72	3.5	-0.8
Yemen (Arab Rep.)	84	2.2	-0.2
Yemen (Dem. Rep.)	86	2.9	1.6
Iraq	90	3.3	2.8
Tunisia	94	3.0	0.8
Jordan	99	3.5	1.8

^{1/}FAO: Assessment of the World Food Situation

^{2/}IBRD: World Bank Atlas, 1974

^{3/}FAO: Assessment of the World Food Situation

Growth Rates, Food Production and Population

In 25 countries where the food supply is now less than adequate, (99% of requirements or less) the population growth rate exceeds the rate of growth of food production. In other words, the 500 million people who live in these countries now are inadequately fed and face a high probability of still less food per capita in the future (Table 5). Unless there is a significant improvement in food production in these 25 countries, the food supply outlook is grim indeed. In principle, food imports may be used to substitute for domestic food production to the extent that there are offsetting exports or foreign assistance. With few exceptions, however, the countries on this list do not have promising alternatives to increased domestic food production if large-scale hunger is to be avoided.

Table 7.

COUNTRIES WHERE THE GROSS NATIONAL PRODUCT IS \$500 OR LESS PER CAPITA,
AND WHERE THE GNP GROWTH RATE IS LESS THAN THE POPULATION GROWTH RATE

Country	GNP	Growth Rates	
		GNP	Population
<u>ASIA</u>			
Mongolia	380	0.6	2.7
Philippines	220	2.4	3.0
Viet Nam	140	0.4	2.3
Pakistan	130	1.7	4.1
India	110	1.4	2.3
Sri Lanka	110	2.0	2.3
Burma	90	1.0	2.2
Afghanistan	80	0.8	2.0
Bhutan	80	0.4	1.7
Nepal	80	0.1	1.8
Bangladesh	70	-1.6	2.5
<u>AFRICA</u>			
Zambia	380	-0.1	2.9
Rhodesia	340	2.9	3.5
Ghana	300	1.0	2.6
Uganda	150	2.0	2.9
Madagascar	140	1.4	2.5
Sudan	120	-1.1	2.8
Guinea	90	-0.3	2.8
Niger	90	-5.1	2.8
Ethiopia	80	1.2	2.4
Mali	80	1.3	2.1
Upper Volta	70	0.6	2.1
<u>LATIN AMERICA-CARIBBEAN</u>			
Nicaragua	470	1.5	3.0
Cuba	450	-1.0	1.8
Guatemala	420	2.2	3.4
Colombia	400	2.4	3.2
Guyana	400	1.3	2.4
El Salvador	340	1.2	3.3
Honduras	320	1.7	2.9
Paraguay	320	2.1	2.5
Bolivia	200	1.4	2.6
Haiti	130	1.3	1.6

(Table 7 Continued)

Table 7. (Continued)

Country	GNP	Growth Rates	
		GNP	Population
<u>NEAR EAST-NORTH AFRICA</u>			
Iraq	370	1.8	3.3
Jordan	270	-2.8	3.5
Egypt	240	0.6	2.5
Yemen (Arab Republic)	100	-7.2	2.9

Levels of Economic Activity

A low level of economic activity and the widespread poverty thus generated is a drag on efforts to maintain or improve national food supplies. Countries with strictly limited capacities for capital formation or tax collection have difficulties in developing the facilities of a modern food supply system. The countries where food supplies are inadequate tend also to be countries where general levels of economic activity are low (Table 7). There are more than 80 countries where the per capita annual gross national product is \$500 or less. In 36 of these countries, the rate of growth of the GNP is LESS than the rate of growth of the population. Unless there is some acceleration of overall economic activity in these countries, there is little possibility for effective local economic support for improving the national food supply.

Table 8.

COUNTRIES WHERE THE RATE OF GROWTH IN THE DEMAND FOR
FOOD EQUALS OR EXCEEDS THE RATE OF GROWTH IN
FOOD PRODUCTION

Country	Rates of Growth Per Year	
	Demand for Food	Food Production
<u>ASIA</u>		
India	3.0	2.4
Pakistan	4.2	3.0
Indonesia	2.6	2.0
Philippines	4.2	3.2
Burma**	3.3	2.4
Afghanistan	2.2	1.7
Nepal	2.1	0.1
Kymer Republic**	4.3	3.5
Laos	3.7	3.7
<u>AFRICA</u>		
Nigeria	3.1	2.0
Ethiopia	3.0	2.3
Zaire	2.3	0.2
Kenya**	4.7	2.6
Uganda	3.2	1.8
Mozambique	3.2	2.7
Angola	3.0	2.7
Rhodesia**	4.1	3.9
Mali	4.3	1.6
Guinea	3.4	2.0
Zambia	2.3	0.2
Rwanda	1.9	1.8
Chad	1.2	0.9
Burundi	2.4	2.4
Somalia	1.5	1.1
Benin	3.6	2.2
Sierra Leone	3.9	2.4
Liberia	1.8	1.1
Mauritania	3.0	2.4
Congo	3.7	2.2
Mauritius**	3.0	1.3

(Table 8 Continued)

**Food energy supply "marginal"

Table 8. (Continued)

Country	Rates of Growth Per Year	
	Demand for Food	Food Production
<u>LATIN AMERICA-CARIBBEAN</u>		
Argentina**	2.0	1.8
Colombia	3.9	3.1
Peru	3.9	2.9
Chile**	3.3	2.2
Cuba**	2.0	1.1
Guatemala	4.2	4.1
Haiti	3.6	2.5
Dominican Republic	3.6	2.5
El Salvador	4.1	3.6
Uruguay**	1.2	0.8
Honduras	4.2	4.0
Paraguay**	3.4	2.6
Jamaica**	3.3	1.9
Panama**	4.8	4.3
Trinidad	4.8	1.9
Guyana**	3.6	2.5
<u>NEAR EAST-NORTH AFRICA</u>		
Egypt**	3.8	3.4
Iran	5.4	3.3
Morocco	3.3	2.8
Algeria	3.4	-0.8
Iraq	5.2	2.8
Saudi Arabia	5.0	2.9
Syria**	4.6	1.8
Yemen (Arab Republic)	3.9	-0.2
Tunisia	4.3	-0.8
Jordan	6.6	1.8
Turkey**	3.8	3.0

**Food energy supply "marginal"

Food Demand in Relation to Food Production

In addition to the strictly nutritional requirements estimated as part of the 1974 Assessment, FAO also prepared estimates of the changing demand for food. These estimates took into account not only population changes, but also changes in income levels. The FAO data indicates that there are 57 countries where rate of growth in the demand for food is higher than the rate of growth of food production (Table 8). Some of these countries have economic resources from exports or otherwise to cover the costs of increased imports of food products. Many will find it difficult to finance required food imports. Only sixteen of these countries had "marginal" or better food supplies in 1974 according to FAO. In all the others the food supply was already "inadequate" or worse, and food demand was outrunning food production.

A Preliminary Listing of Hunger Threatened Countries

The list which follows has been built up by grouping those countries where the food supply situation is "desperate" or "critical" with countries where the situation is merely "inadequate" but where the population growth rate exceeds the rate of growth of food production. The list also includes countries where the food supply is "marginal" but where the rate of growth in the demand for food exceeds the rate of growth in food production. The countries are listed in order of population, by major regions.

The listing is generally consistent with the conclusions reported by IFPRI in its report, Meeting the Food Needs of the World. The IFPRI analysis is based on projections of cereals production and consumption. Adjustments were made by IFPRI for utilization of root crops as a food-energy source for those countries where their utilization is important. The IFPRI study highlights the prospective food problems in India, Bangladesh, Indonesia, Nigeria and the African countries with GNP's of \$200 and less.

The listing presented here excludes some countries included by IFPRI, such as Rhodesia, Cameroon, Ghana, Ivory Coast, Senegal, Costa Rica, Cuba, Panama, Chile and Uruguay. It includes a few countries which IFPRI's projection suggests may not have serious food deficits in the future. These are Pakistan, Tunisia, Morocco and four oil-exporting countries, Algeria, Iran, Iraq and Saudi Arabia. The last four can probably meet their national food needs by imports and their inclusion on the preliminary list is simply to indicate that some developing countries with substantial net trade balances also have potential food problems.

Table 9.

A PRELIMINARY LIST OF HUNGER-THREATENED COUNTRIES

<u>Country</u>	<u>Population (millions)</u>
<u>ASIA</u>	
China	786.4
India	563.5
Indonesia	121.6
Bangladesh	72.5
Pakistan	66.7
Philippines	39.0
Burma	28.9
Afghanistan	14.9
North Korea	14.7
Nepal	11.5
Kymer Republic	7.3
<u>AFRICA</u>	
Nigeria	69.5
Ethiopia	25.9
Zaire	19.1
Sudan	16.6
Kenya	12.1
Uganda	10.5
Mozambique	8.0
Angola	5.6
Upper Volta	5.6
Mali	5.3
Guinea	5.1
Zambia	4.5
Niger	4.2
Rwanda	3.9
Chad	3.8
Burundi	3.5
Somalia	2.9
	2.9

(Table 9 Continued)

Table 9. (Continued)

<u>Country</u>	<u>Population (millions)</u>
<u>AFRICA (Continued)</u>	
Sierra Leone	2.9
Liberia	1.6
Congo	1.2
Mauritania	1.2
Lesotho	1.0
Mauritius	0.8
Botswana	0.6
<u>LATIN AMERICA-CARIBBEAN</u>	
Colombia	23.0
Peru	14.1
Guatemala	5.6
Bolivia	5.2
Haiti	4.4
Dominican Republic	4.2
El Salvador	3.7
Honduras	2.7
Jamaica	1.9
Trinidad-Tobago	1.0
Guyana	0.8
<u>NEAR EAST-NORTH AFRICA</u>	
Egypt	34.8
Iran	31.2
Morocco	15.8
Algeria	14.3
Iraq	10.0
Saudi Arabia	7.6
Yemen (Arab Republic)	6.1
Tunisia	5.3
Lebanon	2.9
Jordan	2.5
Yemen (Dem. Republic)	1.5
Total Population	2143.9

Appendix A. Food Situation Indicators for Developing Countries with 500,000 People or More

Country	IBRD 1972 Population (000,000)	IBRD GNP Per Capita	1965-72		FAO Daily Food Supply Calories Per Capita	FAO % of Food Require- ments	IBRD 1965-72 Population Growth Rate	Growth Rates		FAO Total Land Area (000 HA)	Hectares Per Person
			GNP Growth Rate	Population Growth Rate				Demand for Food	Food Supply		
<u>ASIA-PACIFIC</u>											
China	786.4	170	2.6	2170	91	1.8	-	2.3	959699	1.2	
India	563.5	110	1.4	2070	94	2.3	3.0	2.4	328048	.6	
Bangladesh	72.5	70	-1.6	1840	80	2.5	-	1.6	14278	.2	
Pakistan	66.7	130	1.7	2160	93	4.1	4.2	3.0	80394	1.2	
Indonesia	121.6	90	4.3	1790	83	2.1	2.6	2.0	181135	1.5	
Philippines	39.0	220	2.4	1940	86	3.0	4.2	3.2	29801	.8	
Thailand	38.5	220	4.2	2560	115	3.1	4.6	5.3	51177	1.3	
Korea (S)	32.4	310	8.5	2520	107	1.9	4.7	4.8	9848	.3	
Burma	28.9	90	1.0	2210	102	2.2	3.3	2.4	66036	2.3	
Viet Nam	41.3	140	-0.4	2330	110	2.3	3.2	4.3	33256	.8	
Afghanistan	14.9	80	0.8	1970	81	2.0	2.2	1.7	64750	4.3	
Taiwan	15.1	490	6.9			2.9					
Korea (N)	14.7	320	4.0	2240	89	2.8	-	-	12056	.8	
Sri Lanka	13.2	110	2.0	2170	98	2.3	3.1	3.6	6474	.5	
Nepal	11.5	80	0.1	2080	95	1.8	2.1	0.1	14080	1.2	
Malaysia	11.4	430	2.9	2460	110	2.8	4.3	5.2	32975	2.9	
Kymer Republic	7.3	120	-3.8	2430	109	2.6	4.3	3.5	17652	2.4	
Laos	3.1	130	3.1	2110	95	2.4	3.7	3.7	23680	7.6	
Mongolia	1.3	380	0.6			2.7			156500	120.4	
Bhutan	0.9	80	0.4			1.7			4700	5.2	
Papua New Guinea	2.6	290	7.5			2.8			46169	17.8	
Fiji	0.5	500	4.9			2.3			1827	3.7	
<u>AFRICA</u>											
Nigeria	69.5	130	5.4	2270	96	2.5	3.1	2.0	92377	1.3	
Ethiopia	25.9	80	1.2	2160	93	2.4	3.0	2.3	110100	4.3	

(Continued)

Appendix A. (Continued)

Country	IBRD 1972 Population (000,000)	IBRD GNP Per Capita	IBRD 1965-72		FAO Daily Food Calories Per Capita	FAO Food Supply % of Food Require- ments	IBRD 1965-72 Population Growth Rate	FAO Growth Rates		FAO Total Land Area (000 HA)	Hectares Per Person
			GNP Growth Rate	GNP Growth Rate				Demand for Food	Supply		
Zaire	19.1	100	3.9	2.6	2060	93	2.6	2.3	0.2	234541	12.3
Sudan	16.6	120	-1.1	2.8	2160	92	2.8	3.9	4.3	237600	14.3
Tanzania	13.6	120	2.9	2.8	2260	98	2.8	3.0	3.1	94509	6.9
Kenya	12.1	170	4.1	3.3	2360	102	3.3	4.7	2.6	56925	4.7
Uganda	10.5	150	2.0	2.9	2130	91	2.9	3.2	1.8	19365	1.8
Ghana	9.1	300	1.0	2.6	2320	101	2.6	3.2	3.9	23002	2.5
Mozambique	8.0	300	5.6	2.0	2050	88	2.0	3.2	2.7	78303	9.8
Madagascar	7.4	140	1.4	2.5	2530	111	2.5	2.1	2.8	58154	7.9
Cameroon	6.1	200	3.8	1.9	2410	104	1.9	2.5	3.3	46944	7.7
Angola	5.6	390	5.5	1.3	2000	85	1.3	3.0	2.7	124670	22.2
Upper Volta	5.6	70	0.6	2.1	1710	72	2.1	1.2	4.7	27380	4.9
Rhodesia	5.6	340	2.9	3.5	2660	111	3.5	4.1	3.9	39058	7.0
Ivory Coast	5.4	340	4.1	3.3	2430	105	3.3	2.6	4.9	31800	5.9
Mali	5.3	80	1.3	2.1	2060	88	2.1	4.3	1.6	122000	23.0
Guinea	5.1	90	-0.3	2.8	2020	88	2.8	3.4	2.0	24586	4.8
Malawi	4.7	100	2.9	2.6	2210	95	2.6	3.7	4.7	9408	2.0
Zambia	4.5	380	-0.1	2.9	2590	93	2.9	2.3	0.2	75261	16.7
Niger	4.2	90	-5.1	2.8	2080	89	2.8	2.2	4.1	126670	30.1
Senegal	4.0	260	-0.7	2.2	2370	98	2.2	3.1	3.6	19200	4.8
Rwanda	3.9	60	2.1	3.2	1960	84	3.2	1.9	1.8	2509	.6
Chad	3.8	80	1.6	1.8	2110	89	1.8	1.2	0.9	127000	33.4
Burundi	3.5	70	1.1	2.0	2040	88	2.0	2.4	2.4	2565	.7
Somalia	2.9	80	1.1	2.5	1830	79	2.5	1.5	1.1	62734	21.6
Benin	2.9	110	1.7	2.8	2120	94	2.8	3.6	2.2	11262	3.9
Sierra Leone	2.7	190	1.8	2.2	2280	99	2.2	3.9	2.4	7174	2.7
Togo	2.1	160	3.3	2.7	2330	101	2.7	2.4	5.4	5600	2.7
Central African Republic	1.7	160	2.2	2.3	2200	98	2.3	1.1	2.8	62298	36.6
Liberia	1.6	250	4.0	3.1	2170	94	3.1	1.8	1.1	11137	7.0

(Continued)

Appendix A. (Continued)

Country	IBRD	IBRD	IBRD	FAO	FAO	IBRD	FAO	FAO	FAO	FAO	FAO	Total Land Area (000 HA)	Hectares Per Person
	1972 Population (000,000)	GNP Per Capita	1965-72 GNP Growth Rate	Daily Food Supply Calories Per Capita	% of Food Require- ments	1965-72 Population Growth Rate	Demand for Food	Growth Rates	Food Supply				
Mauritania	1.2	180	2.0	1970	85	1.9	3.0	2.4	2.4	103070	85.9		
Lesotho	1.0	90	1.1	-	-	2.0	-	0.5	0.5	3035	3.0		
Congo, P.R.	1.2	300	1.4	2260	102	2.2	3.7	2.2	2.2	34200	28.5		
Mauritius	0.8	300	0	2360	104	1.6	3.0	1.3	1.3	186	.2		
Botswana	0.6	240	10.0	2040	87	1.9	-	2.3	2.3	58537	97.6		
Guinea-Bissau	0.6	230	3.4			0.9				2800	4.7		
Gabon	0.5	880	10.0	2220	95	1.0	2.4	3.6	3.6	26767	53.5		
<u>LATIN AMERICA-CARIBBEAN</u>													
Brazil	98.2	530	5.6	2620	110	2.9	4.0	4.4	4.4	845651	8.6		
Mexico	54.1	750	2.8	2580	110	3.5	4.3	5.3	5.3	197255	3.6		
Argentina	23.9	1290	2.8	3060	115	1.6	2.0	1.8	1.8	277689	11.6		
Colombia	23.0	400	2.4	2200	95	3.2	3.9	3.1	3.1	113891	4.9		
Peru	14.1	520	1.1	2320	99	2.8	3.9	2.9	2.9	128522	9.1		
Venezuela	11.1	1240	1.1	2430	98	3.6	4.0	6.1	6.1	91205	8.2		
Chile	10.0	800	2.2	2670	109	2.1	3.3	2.2	2.2	75695	7.6		
Cuba	8.8	450	-1.0	2700	117	1.8	2.0	1.1	1.1	11452	4.1		
Ecuador	6.5	360	3.8	2010	88	3.4	4.0	5.4	5.4	28356	4.4		
Guatemala	5.6	420	2.2	2130	97	3.4	4.2	4.1	4.1	10889	1.9		
Bolivia	5.2	200	1.4	1900	79	2.6	2.7	5.0	5.0	108547	20.9		
Haiti	4.4	130	1.3	1730	77	1.6	3.6	2.5	2.5	2700	.6		
Dominican Rep.	4.2	480	5.0	2120	94	2.6	3.6	2.2	2.2	4873	1.2		
El Salvador	3.7	340	1.2	1930	84	3.3	4.1	3.6	3.6	2031	.6		
Uruguay	3.0	760	0.4	2880	108	1.2	1.2	0.8	0.8	17751	5.9		
Honduras	2.7	320	1.7	2140	94	2.9	4.2	4.0	4.0	11209	4.2		
Paraguay	2.4	320	2.1	2740	119	2.5	3.4	2.6	2.6	40675	16.9		
Nicaragua	2.2	470	1.5	2450	109	3.0	3.9	4.9	4.9	12100	5.5		
Jamaica	1.9	810	3.9	2360	105	1.3	3.3	1.9	1.9	1096	.6		
Costa Rica	1.8	630	4.1	2610	116	2.9	4.8	5.4	5.4	4888	2.7		

(Continued)

Appendix A. (Continued)

Country	IBRD	IBRD	IBRD	FAO	FAO	FAO	IBRD	FAO	FAO	FAO	FAO	FAO
	1972 Population (000,000)	GNP Per Capita	1965-72 GNP Growth Rate	Daily Food Calories Per Capita	1965-72 Population Growth Rate	FAO Daily Food Supply % of Food Require- ments	1965-72 Population Growth Rate	FAO Demand for Food	FAO Supply	FAO Growth Rates	FAO Total Land Area (000 HA)	Hectares Per Person
<u>LATIN AMERICA-CARIBBEAN</u> (Continued)												
Panama	1.5	880	4.5	2580	3.1	112	3.1	4.8	4.3	7505	5.0	
Trinidad-Tobago	1.0	970	3.6	2380	0.9	98	0.9	4.8	1.9	513	.5	
Guyana	.8	400	1.3	2390	2.4	105	2.4	3.6	2.5	19171	23.9	
<u>NEAR EAST-NORTH AFRICA</u>												
Egypt	34.8	240	0.6	2500	2.5	100	2.5	3.8	3.4	100145	2.9	
Iran	31.2	490	7.2	2300	3.2	96	3.2	5.4	3.3	163600	5.2	
Morocco	15.8	270	3.0	2220	2.5	92	2.5	3.3	2.8	44655	2.8	
Algeria	14.3	430	3.5	1730	3.5	72	3.5	3.4	-0.8	238174	16.6	
Iraq	10.0	370	1.8	2160	3.3	90	3.3	5.2	2.8	43397	4.3	
Saudi Arabia	7.6	550	6.8	2270	1.7	94	1.7	5.0	2.9	214969	28.3	
Syria	6.7	320	3.8	2650	3.3	107	3.3	4.6	1.8	18428	2.8	
Yemen A.R.	6.1	90	2.4	2040	2.2	84	2.2	3.9	-0.2	19000	3.1	
Tunisia	5.3	380	3.7	2250	3.0	94	3.0	4.3	0.8	15536	2.9	
Lebanon	2.9	700	1.4	2280	2.7	92	2.7	3.1	5.0	1023	.4	
Jordan	2.5	270	-2.8	2430	3.5	99	3.5	6.6	1.8	9774	3.9	
Yemen D.R.	1.5	100	-7.2	2070	2.9	86	2.9	-1.0	1.6	28768	19.2	
Libya	2.1	1830	8.1	2570	3.7	109	3.7	-	1.8	175954	83.8	
Turkey	37.0	370	4.3	3250	2.4	129	2.4	3.8	3.0	77076	2.1	

FAO data from Assessment of the World Food Situation, FAO, 1974; or Production Year Book, 1975.

IBRD data from World Bank Atlas, 1974.

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