POPULATION AND SOCIOECONOMIC DEVELOPMENT IN CENTRAL AMERICA AND SELECTED COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN

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CONTENTS

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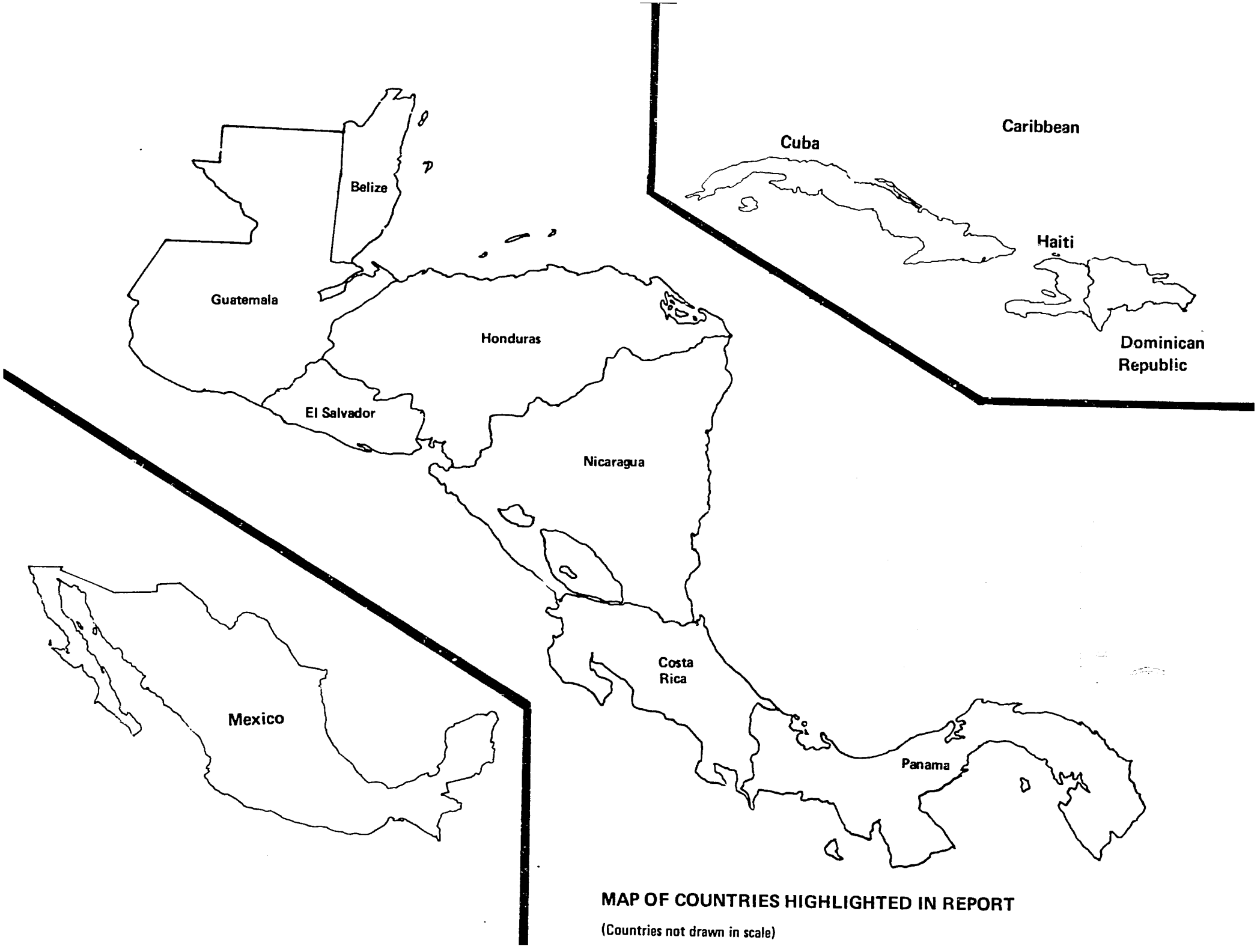


MAP OF COUNTRIES HIGHLIGHTED IN REPORT

(Countries not drawn in scale)

Executive Summary

I. Overview

A. Major Findings

1. The nations covered in this analysis* have a long list of conditions that must be improved if the standard of living and quality of life of the residents is to be raised to the levels regarded as "minimally adequate" by current world standards, and which the citizens expect their economy and government to provide. Figure A lists these problems. *Rapid population growth has helped to create most of these difficulties and now is a major direct and indirect impediment to their solution.* The validity of this finding is documented in the accompanying report.

2. Although slower population growth alone cannot usher in the hoped-for era of prosperity, without it that era can never materialize. Lowering the present annual growth rate of 3.0 percent (3.5 for some nations) to a level of between 1.0 and 1.5 percent over the next 15-20 years is a necessary (though not sufficient) condition for significant acceleration of the pace of improvement. To the extent that slower growth rates are not achieved, all other investments and efforts will be proportionately less effective, and progress will be postponed or slowed.

3. Because population growth is a net balance of births, deaths, and migration, the only practical way for slower growth to occur is through fertility reduction. Emigration to other countries, and especially to the United States, can absorb only a small fraction of the total growth, and re-

*This report emphasizes the countries of "Central America" (Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, and Belize) and Mexico. For comparative purposes, data on other countries are highlighted, especially Cuba, the Dominican Republic, and Haiti.

sistance to such migration is mounting, not only in North America, but in other Latin American and in Europen nations.

4. *Public opinion about population*— In every Central American nation for which data are available, there is overwhelming evidence that most of the childbearing beyond the third or fourth child is undesired. Negative attitudes towards contraception, on religious, political, or ethical grounds, are held by only a small minority among the masses. The major reason why debilitating growth rates, fueled by high fertility, persist in Central America is lack of information (including much misinformation) and lack of adequate contraceptive services (both counselling and medical attention). These are services that would be welcomed in rural and urban areas throughout the region.

B. Major Population Recommendations

1. Fertility-Family Planning

(a) All persons of reproductive age should be offered correct and sufficiently detailed information about all methods of contraception to enable them to make an informed, voluntary choice concerning contraceptive use.

(b) All persons of reproductive age should have reasonably convenient access to contraceptive services and supplies, at prices they can afford.

(c) Where the two conditions just listed do not now exist, special programs to bring them into being should be launched, with international financial and technical assistance if necessary. Such programs should give priority to meeting the needs of the rural communities. The resources of the commercial sector, of the private medical sector, and of the private voluntary organizations as well as of the public sector, should be recruited and mobilized for this effort. Opportunities exist to expand the already successful efforts of the commercial and private voluntary organizations.

2. Mortality-Morbidity

(a) Programs to reduce infant and maternal mortality should continue to receive high priority. Although reduction of death rates has the direct effect of increasing the population growth rate, it has an indirect effect to reduce fertility.

(b) The programs of family planning, recommended in 1(c) above, should be promoted both by integration through existing health and medical facilities, including nutrition programs, and as long-term programs through pharmacies, private physicians, and private voluntary organizations.

3. Agriculture and Migration

(a) Little effort should be made to subsidize continued farming subsistence plots of land inappropriate for cropping or of insufficient size to provide an adequate livelihood. Residents of such subsistence operations need to be relocated on more appropriate lands, given supplementary employment in other rural industries, or encouraged to migrate to cities or other areas where a better standard of living is insured.

(b) As agriculture is diversified and modernized, attention should be paid to providing employment to rural workers, thereby reducing the pressure to migrate to cities.

C. Conclusion

Given the favorable attitudes of the population, the already existing trend toward increased use of family planning, and the favorable past experiences of limited family planning efforts, a stepped-up population planning program has excellent chances of improving the quality of life in Central America.

Problems of Economic and Social Development	Effects of Rapid Population Growth	Proposed Solutions
Development of the urban sector	**Large families and high fertility help cause:**	**Develop the urban sector**
Low growth in industrial employment Low ability to compete in foreign markets Lack of technical manpower Large "informal" sector of low productivity Excess of unskilled labor Lack of consumer demand High rates of unemployment High rates of underemployment	Widespread unemployment, especially of youth Low purchasing power per person Need to spend most of income on food Inability to save for investment Children work instead of attending school Incomes too low to tax Rapid growth of labor force	
Development of the rural sector	**Large families and high fertility help cause:**	**Develop the rural sector**
Large number of underemployed, landless rural poor population Large numbers of underemployed, submarginal farm operaters Rural economy unable to absorb its own population growth Decline in exports of traditional products Slow increase in productivity of agriculture Arable land inaccessible to those needing it Cultivation of steep slopes and other areas that should not be used as cropland	Large amounts of manpower that the rural economy cannot absorb Surplus labor forced to work at submarginal jobs, low wages, seasonal work Farming of plots of land too small to provide a livelihood Farming of land unfit for cropland Child labor instead of schooling Low productivity due to lack of capital for seeds, fertilizer, tools Subsistence rather than commercial farms Misuses of soil, erosion Massive out-migration to urban areas of surplus population	
Education	**High fertility exacerbates or causes:**	**Develop education sector**
Large numbers of children not attending school at primary levels Low rates of secondary school attendance Low enrollment in vocational, technical, higher level education Low quality of instruction, all levels Prevalent adult illiteracy, despite recent progress Low level of adult educational attainment	Large numbers of school age children demanding schooling Emphasis on expansion of schools instead of improvement of quality Emphasis on primary education, neglecting secondary, technical, higher education Concentration of educational resources in urban areas, neglecting rural areas Spreading limited national budget for education over too many pupils—low teacher salaries, loss of teachers	
Health and nutrition	**High fertility helps cause:**	**Develop health/ medical/ welfare sector**
One-half or more children malnourished High infant mortality rates, maternal death rates Insufficient and inadequate potable water systems Inadequate environmental sanitation Incomplete inoculation of children Inadequate health care facilities (especially for infants and mothers) Inadequate medical facilities to treat chronic and degenerative diseases	High infant mortality Malnutrition Maternal mortality Heavy demands for health care in excess of resources Lack of funds to build water systems, sewage disposal systems Lack of funds to improve quality of health care, build new facilities, provide better medicines	
Housing	**Rapid population growth helps cause:**	**Develop housing sector**
Shortage of housing—demand exceeds supply Large amounts of substandard housing needing upgrading/replacing Overcrowding in housing Lack of plumbing, sanitation in housing Lack of electricity in homes	Unmet demands for housing Incomes too small to create market for adequate housing Overcrowding of housing Insufficient saving to afford good housing Use of substandard housing rather than its abandonment and upgrading Construction of slums from scrap Immigrant communities with inadequate water, sewage, health, school, fire, etc.	
National government	**Large families and high fertility help cause:**	**Improve public service and promote sustained economic growth**
Large expenditures on imported food Large expenditures on public services—school, health, etc. Rapid urban growth Tax revenues inadequate to needs Large international debt High debt service costs Unfavorable terms of trade Unfavorable income distribution Decline of tourism Fears of foreign investors about long-term security of investment	Large demands on tax revenue for community and public services Need to use forcign exchange to import food Need to import essential consumer goods Overcrowded and scarce housing Overcrowded, disorderly slums Increases in social discontent, instability Loss of confidence by foreign investors Avoidance of travel by tourists Insufficient foreign exchange to purchase capital goods needed to create new jobs	

A— How Rapid Population Growth Impedes the Solution of Problems of Social and Economic Development.

II. Chapter Summaries

Part I.
Demographic Analysis

1. Fertility

Central America and the countries of the surrounding region have a jumble of high, intermediate, and low birth rates. Nations with very high fertility are Honduras, Nicaragua, El Salvador, Haiti, and Belize, where the average woman bears nearly six children or more Mexico, Guatemala, and the Dominican Republic have intermediate fertility (four or five children per woman). Low fertility is found in Cuba, Costa Rica, Panama, and Puerto Rico, where the average woman bears two or three children. Since 1970-75, birth rates in the high fertility areas have declined slightly. Areas with intermediate and low fertility acquired this status because of rapid declines in fertility, particularly during the 1970-80 decade.

2. Mortality

Mortality has declined steadily in all nations of Central America, but mortality rates still remain comparatively high in Honduras, Nicaragua, and Guatemala. A large share of this mortality occurs among infants. Mortality rates are higher among the poor and the rural folks, and lower among the middle and upper classes and in urban areas. Because of prolonged efforts at improving the environment, and more widespread use of modern medicines, great progress has been made in reducing death from the infectious and parasitic diseases, although infectious and parasitic diseases are still pandemic in Central America. As death rates from these diseases fall, death from heart disease, malignant neoplasms, and cerebrovascular diseases is becoming more important. Future progress in controlling mortality must deal with chronic and degenerative diseases, as well as with the diseases that respond readily to primary health care. Additional declines in the death rate are expected. Unless fertility declines also, the growth rate will go even higher.

3. Population Growth

Population growth is a net balance among births, deaths, and migration. Since death rates have declined sharply while birth rates have remained high, the population of most Central American countries is growing very rapidly. Honduras, Nicaragua, Haiti, El Salvador, Guatemala, and Mexico will treble in population within less than 65-100 years unless their growth rates decline. Because no one wishes to see growth slowed by having death rates rise, and because internationational migration is able to drain only a small fraction of the annual increase, the only possible way for population growth rates to slow is for birth rates to decline.

4. Age and Sex Composition

Wherever fertility rates are high, a high percentage of the population is comprised of children. As a result, the proportion of population of working age is low, and each worker must support a larger load of dependent children. As fertility declines, this dependency load is reduced almost immediately. It is followed, several decades later, by moderately small increases in the proportion of persons over 65. As fertility declines increase, the dependency load due to aging is small in comparison with the reduced dependency load due to dependent children. If fertility could decline faster, this dependency load would be eased.

5. Marital Status

In Central America, almost one-half of all marriages are consensual unions (common law marriages). Most marriages do not occur at an extraordinarily young age, although in Honduras, Nicaragua, and Panama, the proportion of women who marry before age 20 is higher than in the other countries of the region. A substantial share of women in most of Central America (10 percent or more) go throughout their lives without ever marrying. High fertility is caused by childbearing within marriages at conventional ages.

6. Urban-Rural Residence and Migration

Cities in Central America are growing extremely rapidly—at the rate of 4 to 6 percent per year. This is caused by an inpouring of migrants from rural areas, as well as by moderately high birth rates within cities. Much of this urban growth is taking the form of a ring of squatter slums surrounding the cities. The trend toward urban concentration has been underway for more than three decades, and is expected to continue far into the future. As a result, by the end of this century, Central America will be overwhelmingly urban, with rural people comprising less than one-third of the total. Because fertility tends to be lower in urban than in rural areas, the urbanization trend is expected to help lower the birth rate. Until birth rates in rural areas fall, the flood of immigrants to the cities will continue unabated, because the rural economy cannot absorb them.

7. Educational Attainment and School Enrollment

Although Central America was a region of very low literacy only three decades ago, major efforts to educate oncoming generations have raised literacy levels remarkably. Rapid population growth, which pours large new cohorts of children into the school system, has impeded this progress. In order for the economy of these nations to modernize, there is need for more persons with secondary and university education. Remedying this deficiency is costly, and becomes even more difficult under conditions of such rapid expansion of the school-age population. A more rapid decline in birth rates would greatly ease the pressure on the educational system and the drain on the national treasuries for investment in building more schools that could otherwise go to improve the quality of schooling, especially at secondary levels.

8. Labor Force and Occupational Status

The labor force of Central American nations is growing even faster than the population, mostly because of the increasing employment of women. Employment is shifting rapidly from agricultural to nonagricultural employment, as urbanization takes places. However, the nonagricultural employment is not being offered by rapidly expanding industrial and modern technical industries. Industry is providing a small part of the total employment, and has grown disappointly slowly over the years. Instead, the urban workers are crowding into "service" occupations, a large percentage of which are submarginal and offer only underemployment, rather than adequate employment. In 1980, the equivalent of about 20 percent of the work force in Central America was unemployed—either because of open unemployment or because of underemployment t anslated into its equivalent in unemployment. Because of high fertility, the supply of workers is outstripping the demand. Underemployment is predicted to remain at about the same level, or even worsen, in the high fertility countries. Improvement in the economic condition of the labor force can occur most rapidly if the supply of new

workers increases at a slower rate and special measures are taken to increase the demand for workers at jobs that pay a sufficient wage on which to live. Only by reducing fertility can be the future flow of new workers into the work force be decelerated.

9. Nutrition and Health

Nutrition—Malnutrition is a serious problem in Central America, especially in Guatemala, Honduras, and El Salvador. The problem is two-fold. National production of food is insufficient to meet the demands of the population in several nations, and great poverty makes it impossible for a large segment of the population to get access to sufficient food to avoid malnutrition. In Central America as a whole, slightly more than one-half of all children are malnourished to some degree, and 15-20 percent have moderate or advanced malnutrition. The situation is much worse in the four countries mentioned above. Food production is not keeping up with population growth. The nations with the greatest nutrition problems and that are falling progressively behind in meeting food needs are the nations with the highest birth (growth) rates. Hunger and malnutrition are serious problems in all of the countries of Central America, but are most severe where fertility rates are highest, and are improving least or deteriorating where population growth is most rapid.

Health—Because of the tropical environment and insufficient health/medical facilities (and malnutrition), the health status of the population of Central America is still deficient. Nevertheless, rapid progress has been made in most of the countries, thanks to special programs by national governments and international technical assistance. However, major new investments in health and medical personnel and facilities will be needed in order to keep up with population growth and erase the deficiency. Because a high percentage of clients for health and medical care are pregnant women and young children, declining fertility would bring almost instantaneous relief to the system, enabling faster progress toward better health and medical care.

10. Housing and Amenities

In most countries of Central America, housing is seriously deficient. Much of it is temporary or inadequate shelter constructed by the household members from waste materials. Houses lack sufficient rooms to accommodate the number of occupants, and hence are overcrowded. Far more than one-half lack piped water, electricity, and toilet facilities. Although conditions are better in urban than in rural areas, rapid immigration to cities and the construction of temporary shelters around the peripheries of the large cities has created masses of substandard urban dwellings with few amenities. The high incidence of illness and infant death can be attributed in no small part to housing: unsafe drinking water, unsanitary living conditions, and overcrowding. Rapid population growth is making it extremely difficult to correct these deficiencies; keeping up with the pace of new household formation consumes such a large share of housing investment that improvement is difficult. Slower population growth would ease the pressure for more housing and make easier the goal of improving or replacing substandard housing.

Part II.
Economic Development

The nations of Central America have a level of economic development that categorizes them as "middle-income nations" rather than "low-income nations." Some of them, such as Mexico, Panama, and Costa Rica, have achieved a level of development which approaches the threshold where they will cease to be classified as "underdeveloped." Even Honduras and El Salvador, the two poorest nations in the region, have more than twice the per capita income of Mainland China, India, and the developing nations of sub-Sahara Africa. However, there is a strong inverse correlation between the rate of population growth and level of development. Nations with the highest rates of population growth have the lowest per capita gross domestic product. Computations of what the per capita GDP would have been had they grown more slowly reveal that, had growth been slowed between 1960 and 1980, the GDP would have been 30-50 percent higher than it actually was. The efforts of individual nations of Central America at closing the gap between themselves and the more developed nations of the world will continue to be disappointing until they have lower birth rates.

Part III.
Family Planning

Almost the entire public of Central America is aware that contraception is possible, and are familiar with the principal contraceptive methods. The practice of contraception is rising slowly, especially in the cities. Resistance to family planning on religious or moral grounds is very low. The major barriers seem to be lack of detailed information and counselling and convenient access to contraceptive services, at affordable cost. Thus, national programs to promote family planning would receive strong grassroot support and yield immediate multifold dividends in ameliorating the problems which impede development.

Stimulating such services through the private sector (commercial, medical and private voluntary organizations) may be a faster, cheaper and more enduring way of accomplishing this than subsidies to the public health sector, in some countries at least.

Introduction

Without question, a considerable number of factors, interacting, are responsible for the disappointing slowness of the developing nations of Central America to progress toward the goals of a higher per capita income and a more healthful and comfortable life to which their citizens and leaders aspire. The evidence is strong that population dynamics—rate of growth, changing socioeconomic characteristics, and shifting territorial distribution—have had important effects upon the economic development and social welfare of these nations. It would be absurd to place the full blame on the unprecedentedly high rates of population growth that have affected these countries as they have tried to catch up to the economic and social welfare levels of Europe and northern America. It is equally difficult, in view of the evidence, to dismiss population growth in Central America as an unimportant and unrelated force, and to argue that the high and unfavorable correlation of population dynamics with the pace of socioeconomic progress is sheer coincidence.

This report analyzes demographic trends in eleven countries that geographers would identify as "Central America, Mexico, and the Caribbean":

Central America	Mexico
Belize	
Costa Rica	Caribbean
El Salvador	Cuba
Guatemala	The Dominican
Honduras	Republic
Nicaragua	Haiti
Panama	

The countries of Central America (along with Mexico) are emphasized in this report, but for comparative purposes, data for Cuba, Haiti, and the Dominican Republic are also highlighted.

This report will review the socioeconomic development situation and trends in the Central America Region and the demographic situation and trends, and examine the impact of each on the other. The hypothesis to be tested is that *slower population growth tends to foster economic and social progress, while faster population growth tends to retard it.* The Central America Region is an almost ideal laboratory in which to test this hypothesis. On the one hand there is a comparatively high degree of homogeneity of geographic characteristics, natural resources and environmental conditions. But on the other hand there is a wide variety of demographic trends.

This monograph has two principal objectives:

* To describe the present demographic situation existing in these countries and the changes that have taken place recently. This will involve their comparison with each other, with the remainder of Latin America, and with other developing and developed nations of the world.
* To review the evidence that the dynamic population situation has affected, is affecting, and in the future will continue to affect economic and social development in the countries of this region.

Table P-1 reports the population estimated by the United Nations to have been present in each of these countries, and in the region as a whole, at each decennium since 1930.

The population for all of Latin America as a region is estimated at 410 million (1985). Of this, 140 million (34 percent) is concentrated in the Central America region. An overwhelming proportion (95 percent) of this region is of Spanish or Latin origin. The following tabulation shows the details:

	Population (millions)	Percent
Central America, total	140.4	100.0
Latin (Spanish)	134.4	95.7
Mexico	80.5	57.3
Central America	26.2	18.7
Caribbean	27.7	19.7
English/other (Caribbean)	6.0	4.3

Within the Latin category, there are three major clusters of population: Central America, Mexico, and the Caribbean. Often it is not appreciated that the Caribbean is also predominantly Latin—only 6.0 million out of 33.7 million speak English or a non-Latin language. (Jamaica, Trinidad and Tobago, and the multitude of small islands in the Caribbean comprise less than 20 percent of the population of the Caribbean region.)

Figures P-1 and P-2 chart the dramatic increase in population over the period 1930-1985. It is growth of this magnitude, where population has been doubling in size every 20-25 years, that has worried many observers. Extrapolation of this growth trend for even so short a historical span as 100 years yields astounding figures: 64 times the present number of inhabitants—amounts that clearly cannot be supported at desired standards of living by these coun-

Table P-1. Number of Inhabitants of Latin American Countries: 1930-1985.

Region and country	Population (000)							Rate of annual change (percent per year)					
	1930	1940	1950	1960	1970	1980	1985	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85
Latin America total[a]	--	--	164,053	215,731	283,496	363,704	409,743	2.73	2.80	2.66	2.54	2.45	2.38
Central America/other[b]	29,680	35,580	49,516	65,632	88,474	117,652	134,482	3.04	3.23	3.23	3.15	2.98	2.88
Belize	--	--	--	198	120	145	170						
Costa Rica	500	620	858	1.236	1,732	2,213	2,485	3.53	3.63	3.11	2.52	2.38	2.31
Cuba	3,650	4,290	5,858	7,029	8,580	9,732	10,036	1.85	2.11	1.87	1.68	0.84	0.62
Dominican Republic	1,260	1,760	2,361	3,258	4,523	5,947	6,715	3.03	3.36	3.21	2.91	2.56	2.43
El Salvador	1,440	1,630	1,940	2,574	3,582	4,797	5,552	2.68	3.09	3.52	2.91	2.93	2.93
Guatemala	1,760	2,200	2,962	3,966	5,353	7,262	8,403	2.89	3.03	2.97	3.07	3.03	2.92
Haiti	2,420	2,830	3,097	3,723	4,605	5,809	6,585	1.73	2.11	2.14	2.26	2.38	2.51
Honduras	950	1,150	1,401	1,942	2,640	3,691	4,372	3.19	3.41	2.74	3.17	3.53	3.39
Mexico	16,550	19,650	26,886	36,881	51,187	69,752	80,484	3.08	3.26	3.29	3.21	2.98	2.86
Nicaragua	680	830	1,109	1,472	1,970	2,733	3,218	2.84	2.90	2.93	3.26	3.29	3.27
Panama	470	620	825	1,095	1,464	1,896	2,117	2.77	2.94	2.87	2.72	2.45	2.20
Puerto Rico	1,543	1,869	2,219	2,358	2,718	3,675	4,345	0.28	1.91	0.93	2.67	3.37	3.35
Tropical South America[c]	54,990	66,870	85,628	115,272	154,251	199,452	225,530	3.00	3.00	2.82	2.61	2.53	2.46
Bolivia	2,400	2,700	2,766	3,428	4,325	5,570	6,371	2.10	2.27	2.37	2.48	2.59	2.69
Brazil	33,570	41,100	52,842	71,513	95,322	122,320	137,233	3.11	2.98	2.77	2.57	2.42	2.30
Colombia	7,430	9,100	11,597	15,538	20,803	25,794	28,714	2.88	3.07	2.77	2.16	2.14	2.15
Ecuador	1,940	2,470	3,307	4,422	5,958	8,021	9,380	2.84	2.99	2.98	2.91	3.04	3.13
Paraguay	880	1,110	1,371	1,778	2,290	3,168	3,681	2.67	2.54	2.52	3.19	3.30	3.00
Peru	5,650	6,680	7,988	10,181	13,461	17,625	20,273	2.30	2.77	2.81	2.69	2.70	2.80
Venezuela	3,120	3,710	5,139	7,550	10,962	15,620	18,386	3.78	3.88	3.57	3.58	3.50	3.26
Temperate South America	18,150	21,020	25,437	30,729	35,941	41,607	43,801	1.94	1.66	1.48	1.33	1.33	1.29
Argentina	12,050	14,170	17,150	20,611	23,748	27,036	28,689	1.97	1.47	1.37	1.33	1.27	1.19
Chile	4,370	5,060	6,091	7,585	9,368	11,104	12,074	2.03	2.30	1.92	1.70	1.71	1.68
Uruguay	1,730	1,970	2,194	2,531	2,824	2,924	3,036	1.40	1.24	0.95	0.13	0.57	0.75

NOTES: [a]Latin America total includes English and other non-Spanish Carribean countries.

[b]Central America rate of annual change does not include Cuba, Dominican Republic, Haiti, or Puerto Rico.

[c]Tropical South America total includes Guyana from 1950 to 1985.

SOURCE: Years 1930 and 1940 from UCLA, Statistical Abstract of Latin America. Years 1950-1985 from United Nations, Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

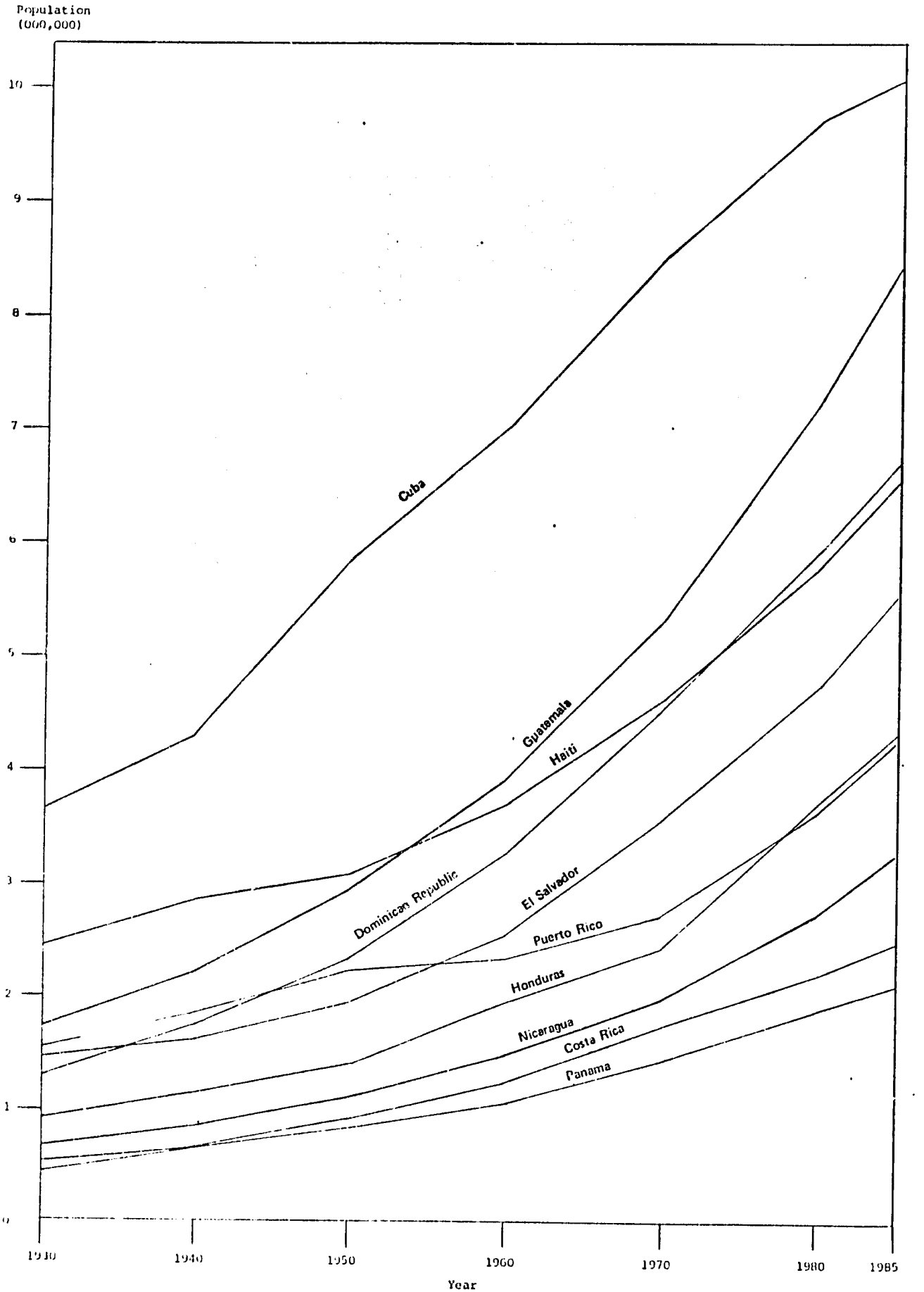


Figure P-1. A Half-Century of Population Growth in Central America

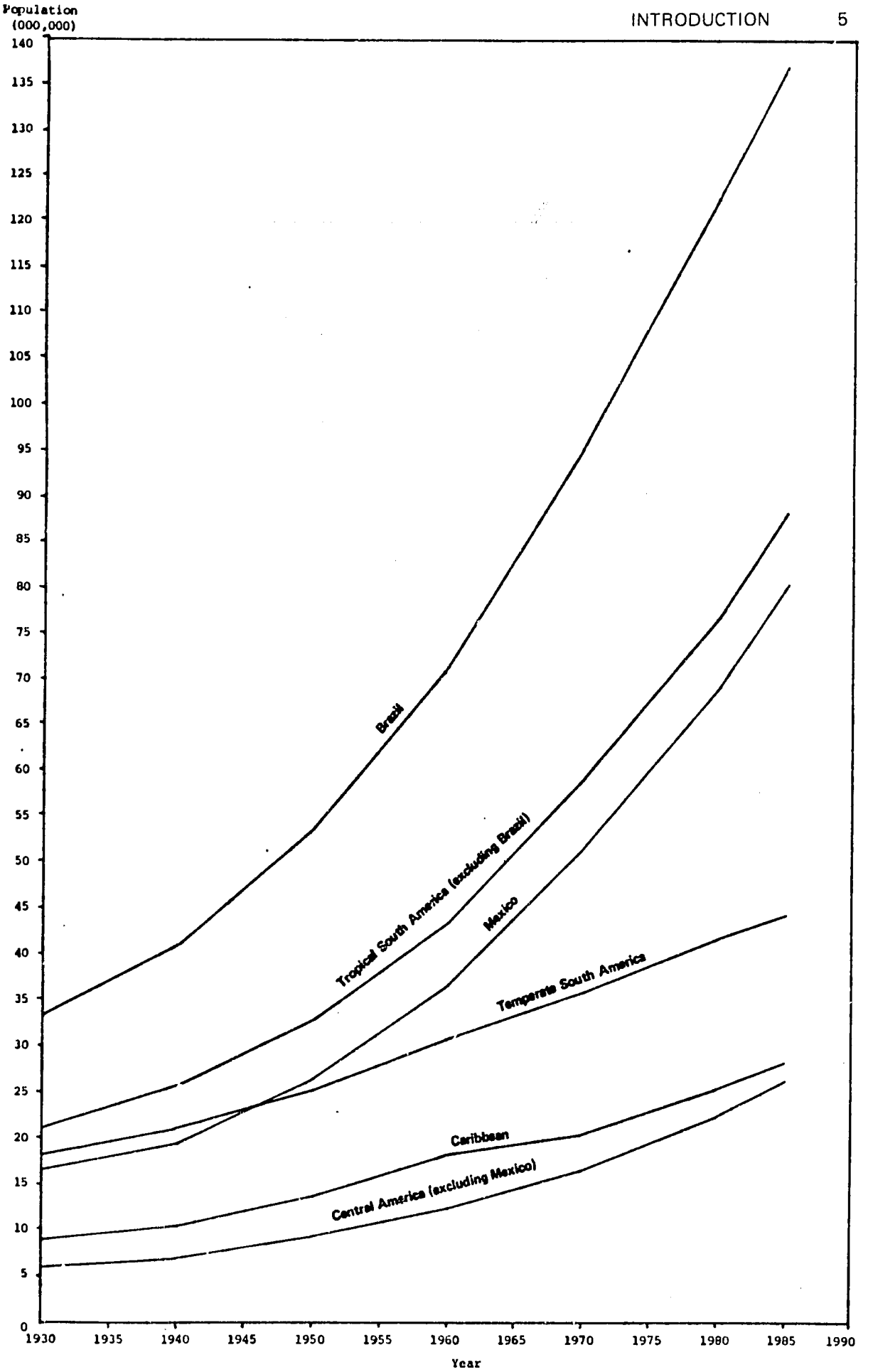


Figure P-2. Regional Population Growth in Latin America (including Mexico and Brazil).

tries' present economy. However, as this analysis will show, such a trend is unlikely to continue. There is already evidence that growth rates are slowing down, and a careful review of the forces at work suggests a continued deceleration of growth over the next half-century.

The present report will emphasize, however, that conditions of life are already at the subsistence level for a major share of the citizens in these countries. Efforts to improve those conditions are being confronted by huge annual population increases. Having to absorb this large addition while trying to elevate the already underprivileged majority creates a large array of difficulties. It would appear that the more quickly a transition can be made to slower growth rates the easier it will be to bring the quality of life to the level which the citizens and their leaders aspire.

Sources of information

This report is based on information provided by official organizations and already published research reports. Publications of the United Nations, World Bank, U.S. Bureau of the Census, Pan American Health Organization, U.S. Department of Agriculture, U.S. Agency for International Development, and the individual countries being studied provide most of the data. Heavy reliance has been placed on the U.N. *Demographic Yearbook*, the U.N. *Statistical Yearbook*, reports of Centro Latinoamericano de Demografía (Santiago), and publications of the World Bank, Pan American Health Organization, and specialized reports, monographs, and articles. Research performed by individuals and private organizations has been used to a limited extent. Each table is accompanied by a source note giving the identification of the source.

Organization of this report

The materials of this report are organized as follows:

Part I. Demographic Analysis

1. Fertility
2. Mortality
3. Population Growth
4. Age and Sex Composition and Dependency
5. Marital Status
6. Urban-Rural Residence and Migration
7. Literacy and Educational Attainment
8. Labor Force and Occupational Status
9. Nutrition and Health
10. Housing and Amenities

Part II. National Economic Development

Part III. Family Planning and Socioeconomic Development

Bibliography

Part I. Demographic Analysis

Fertility

1.

Only thirty years ago, the fertility of Central America was almost everywhere near the upper limits of the biological capacity of the human race to reproduce. Today, in no other region of the world is there more of a jumble of high birth rates, low birth rates, and intermediate birth rates than here. Table F-1 provides data that document the dramatic changes that have taken place in some of the nations—and the comparative lack of change in others.

The two measures of fertility presented in Table F-1 are defined as follows:

* *Crude birth rate (CBR)* is the number of live births in a given year per 1,000 total population as of the midpoint of that year.
* *Total fertility rate (TFR)* is the number of children that each woman will bear during her lifetime if she bears children at each age according to the fertility rates of a given year.

(a) High fertility countries. Five countries in the region have very high fertility, although there have been moderately small fertility declines in each since 1965. In Honduras, Nicaragua, El Salvador, Haiti, and Belize, the average woman bears nearly 6 children or more.

(b) Low fertility countries. Three countries have had truly amazing declines in their fertility, and today have birth rates at levels common in northern America as recently as 1960-65. These are Cuba, Costa Rica, and Panama. The average woman bears only 2 to 3 children in these places.

(c) Intermediate fertility countries. Three nations have fertility rates falling between high and low: Mexico, Guatemala, and Dominican Republic. In all three, birth rates were very high until about 1970; since then, there has been substantial decline, with evidence that it is continuing. As of

Table F-1. Fertility: Crude Birth Rate and Total Fertility Rate, Latin American Countries, 1950-85.

Region and country	Crude birth rate						Total fertility rate					
	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85*
Latin America total	42.4	41.0	38.6	35.8	33.6	32.3	5.87	5.0	5.0	5.0	4.58	4.20
Central America/other												
Belize	--	--	--	--	40.0	--	--	--	--	--	5.70	--
Costa Rica	47.6	45.3	38.3	31.0	29.1	28.1	6.72	6.95	5.80	4.26	3.57	3.18
Cuba	29.7	35.2	31.9	25.8	17.0	16.9	4.01	2.27	2.09	1.69	2.18	1.97
Dominican Republic	51.4	49.8	47.3	42.0	36.7	34.0	7.50	7.50	7.13	6.19	5.00	4.25
El Salvador	48.8	47.4	44.9	43.2	42.1	40.2	6.46	6.85	6.62	6.33	6.01	5.56
Guatemala	50.9	47.6	44.6	43.5	41.1	38.4	7.09	6.85	6.40	6.15	5.68	5.17
Haiti	45.5	44.4	43.7	42.7	41.8	41.3	6.15	6.15	6.15	6.07	5.92	5.74
Honduras	51.3	50.9	50.0	48.6	47.1	43.9	7.05	7.35	7.43	7.37	7.14	6.50
Mexico	46.9	44.6	43.9	41.8	38.3	36.2	6.74	6.74	6.70	6.19	5.40	4.85
Nicaragua	53.4	50.0	48.6	48.3	46.6	44.6	7.32	7.32	7.09	6.93	6.57	6.21
Panama	42.2	40.1	38.1	35.1	31.4	28.4	5.90	5.74	5.41	4.84	4.12	3.57
Puerto Rico	36.6	31.2	26.7	22.6	22.1	21.5	5.02	2.11	1.68	2.81	2.36	2.15
Tropical South America												
Bolivia	47.1	46.1	45.6	45.4	44.8	44.0	6.74	6.62	6.56	6.50	6.39	6.25
Brazil	44.2	42.1	38.8	35.8	33.2	31.4	6.15	6.15	5.66	5.08	4.50	4.02
Colombia	47.6	44.6	39.6	33.3	32.1	31.0	6.72	6.72	5.94	4.78	4.31	3.93
Ecuador	47.8	46.1	44.2	42.2	41.6	40.6	6.99	6.99	6.81	6.50	6.29	6.00
Paraguay	45.5	42.2	40.4	37.5	36.7	36.0	6.62	6.62	6.40	5.70	5.20	4.85
Peru	46.3	46.4	44.5	40.0	38.6	38.3	6.65	6.85	6.56	5.84	5.49	5.29
Venezuela	47.3	45.2	40.9	37.5	36.9	35.2	6.64	6.70	6.01	5.15	4.74	4.33
Temperate South America												
Argentina	25.4	23.0	21.9	21.6	21.2	20.6	3.16	3.10	3.01	2.95	2.87	2.78
Chile	35.2	35.7	30.0	26.0	25.4	24.8	4.84	5.02	4.08	3.32	3.10	2.90
Uruguay	22.7	22.0	21.3	21.2	20.3	19.9	2.87	2.93	2.93	2.99	2.89	2.78

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

*Based upon population projections under assumption of continuation of past trends.

1980-85, the average number of children born by women during their lifetime is about 4.5 to 5.0.

Table F-1 also provides fertility measures for the remaining Latin American countries. It may easily be verified that in Central America one finds both the highest and the lowest fertility rates of all of Latin America. Temperate South America's "cone" has low fertility, while most of the nations of Tropical South America fall in the intermediate range, except for Bolivia and Ecuador, which have high fertility.

The following data for the world and its major regions help to place the fertility data for Central America in perspective:

Region	Crude birth rate (CBR)	Total fertility rate (TFR)
World	*27.5*	*3.62*
Africa	45.6	6.30
Latin America	32.3	4.20
Central America	36.6	4.80
Northern America	17.3	2.01
East Asia	19.1	2.43
South Asia	34.8	4.79
Europe	14.1	1.91
Oceania	21.4	2.74
U.S.S.R.	18.8	2.36
Less developed regions	31.4	4.17
More developed regions	15.8	2.02

[Source: United Nations. *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980,* 1982.]

This tabulation shows Latin America as a whole to be squarely in the "intermediate fertility" category, together with South Asia. Only Africa remains as a truly high fertility region, with the remainder of the world--Europe, Northern America, East Asia (primarily China, Japan, and Korea), Oceania, and U.S.S.R.—in the low fertility category.

Because of its mixture of high, intermediate, and low rates, Central America falls above the average for all of Latin America, at about the same level as South Asia. However, in considering this region, the four low fertility nations and the four high fertility nations should not be forgotten. Its intermediate fertility position is based on an average of extremes, rather than a homogeneous condition.

Differentials in fertility

The fertility measure provided for each of the countries in Table F-1 is only an average. Within each country, there is very substantial variation in fertility rates. This variation will be discussed in more detail in later sections of this report. It is important at this point to indicate that two major differentials permeate fertility trends, and influence the recommendations at which the report arrives.

(a) Socioeconomic status. Persons who have a secondary or university level of education in Latin America tend to have low birth rates, not too dissimilar from those of Europe and North America. However, such persons comprise only a tiny fraction of the population. The high birth rates described above are concentrated among the illiterate population living in poverty. There is a strong inverse relationship between socioeconomic status and fertility. The people who are least able to provide for the material, emotional, and social needs of children are having most of them.

(b) Rural-urban residence. Fertility rates are everywhere higher in rural than in urban areas. Moreover, the size of the urban agglomeration affects fertility rates; they are lowest in the large, capital, or industrial/commercial metropolises, and higher in the hinterland regional or local commercial centers. They are highest of all in the rural setting, and especially in regions remote from urban influence. This differential is explained, in part, by socioeconomic status differences; those who live in rural areas tend to have less education, to be poorer, and to have menial occupations. However, there appears to be a "rural effect" and an "urban

Table F-2. Estimated Age-Specific Fertility Rates and Proportional Distribution of Fertility in Latin American Nations: 1980-85.

Region and country	Estimated age-specific fertility rate, 1980-85							Percent of lifetime fertility at each age						
	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
Central America/other														
Costa Rica	76	164	152	116	81	39	8	12.4	26.5	24.6	13.8	14.2	7.1	1.4
Cuba	68	121	88	62	39	14	2	17.3	30.7	22.2	15.7	10.0	3.5	0.6
Dominican Republic	76	209	212	157	138	41	17	8.9	24.6	24.9	18.5	16.2	4.9	2.0
El Salvador	135	272	254	210	157	64	20	12.1	24.5	22.8	18.9	14.1	5.8	1.8
Guatemala	128	250	236	188	151	64	17	11.5	25.0	21.9	18.0	15.0	6.9	1.7
Haiti	46	236	271	262	191	82	56	4.0	20.6	23.6	22.8	17.0	7.1	4.9
Honduras	156	293	294	256	187	92	22	11.0	20.9	21.8	18.1	13.5	6.7	8.0
Mexico	79	239	237	190	148	64	13	8.2	24.6	24.4	19.6	15.3	6.6	1.3
Nicaragua	104	272	289	250	199	93	35	8.4	21.9	23.3	20.1	16.0	7.5	2.8
Panama	111	303	170	123	73	28	6	13.3	27.6	24.6	17.2	11.1	5.1	0.8
Puerto Rico	65	146	127	71	31	9	1	13.8	29.2	29.4	17.0	7.8	2.4	0.4
Tropical South America														
Bolivia	71	232	326	275	198	95	53	5.7	18.6	26.1	22.0	15.8	7.6	4.2
Brazil	78	216	211	151	98	43	7	6.8	22.1	25.3	21.6	15.2	7.4	1.6
Colombia	86	195	186	144	107	48	20	10.9	24.8	23.7	18.4	13.6	6.1	2.5
Ecuador	103	300	279	223	178	92	25	7.6	23.0	23.8	19.1	16.3	7.9	2.3
Paraguay	71	187	218	198	157	99	40	7.3	19.3	22.5	20.4	16.2	10.2	4.1
Peru	79	208	270	240	177	72	12	7.5	19.7	25.5	22.7	16.7	6.8	1.1
Venezuela	94	215	204	169	122	51	11	10.8	24.8	23.5	19.6	14.1	5.9	1.3
Temperate South America														
Argentina	59	145	155	107	61	23	6	10.7	26.0	27.8	19.3	11.0	4.1	1.1
Chile	71	167	144	100	65	28	5	12.3	28.9	24.8	17.2	11.2	4.8	0.8
Uruguay	61	151	159	107	56	19	3	11.0	27.1	28.5	19.2	10.1	3.5	0.6

SOURCE: The right-hand panel is derived from U.S. Bureau of the Census, Current Population Reports ["International Fertility Indicators"], Series P-23, no. 123, 1982. The left-hand panel is computed by applying the distribution of the right-hand panel to the values of the total fertility rates reported in Table F-1. Data for Belize not available.

effect" on fertility, independently or in addition to the socioeconomic effect.

Data illustrating these differentials will be provided in later sections of this report.

Age patterns in fertility

Throughout the world, there is a typical age pattern to fertility. Childbearing is low before age 20, rises rapidly to a peak between ages 20-24 or 25-29, and thereafter declines gradually toward zero at age 50. These patterns may be studied by statistics of age specific fertility rates. [Definition: An age specific fertility rate is the number of births per year per 1,000 women of a given age; thus, the ASFR for age 20-24 is the number of births to women aged 20-24 years divided by the population of women aged 20-24, in thousands.] Table F-2 provides such data for every nation of Central America and the other nations of Latin America for the 1980-85 period. These are estimates, derived by a procedure described at the foot of the table. With these data, it is possible to note regional and intercountry differences. The right-hand panel of this table shows what proportion of childbearing is occurring at each age.

Obstetricians and sociologists agree that childbearing before age 20 and after age 40 should be discouraged, for the welfare of both the infant and the mother. On the one hand, childbearing before age 20 and after age 40 is beset with greater medical problems and higher mortality of both mother and child. On the other hand, childbearing during adolescence prevents school attendance, self development, and complete maturation to adulthood before assuming the responsibilities of parenthood. Childbearing after age 40 has adverse sociological implications also—parents often are unable or neglect to give the intensive and sustained loving care essential for intellectual and stable emotional development.

Therefore, if childbearing before age 20 and after age 40 is to be discouraged, it is clear that *there are serious problems of birth timing in every nation of this region.* In El Salvador, Guatemala, Honduras, and Nicaragua, the age-specific rates for ages 15-19 are above 100—one person in ten of these ages bears a child each year. In all of the nations, the birth rates at ages 40-44 are still quite high, and for some nations remain high even at ages 45-49. Teenage pregnancy is serious in Cuba, Puerto Rico, and Panama—even though their birth rates are quite low. Late childbearing is especially serious in Haiti, Honduras, and Nicaragua. One of the unmet health and family welfare needs throughout Central America is fertility reduction at these extreme ages.

Mortality

2.

Rapid and steady progress in reducing death rates has been made throughout the world, and the countries of Central America have all participated in this happy accomplishment. Table M-1 provides data on mortality trends in all Latin American countries from 1950 to 1980-85. The following tabulation documents the rapid decline in mortality for Central America as a whole since 1950.

	Crude death rate	
Time	Central America	Europe
1950-55	16.3	10.9
1960-65	12.0	10.2
1965-70	10.8	10.3
1970-75	9.5	10.4
1975-80	8.3	10.5
1980-85	7.4	10.7

	Life expectancy at birth	
	Central America	Europe
1950-55	50.2	65.4
1960-65	57.2	69.6
1965-70	59.2	70.5
1970-75	61.3	71.2
1975-80	63.2	72.0
1980-85	65.1	72.7

[Source: United Nations. *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980,* 1982.]

For purposes of comparison, the data for Europe are shown for the same periods. The definitions of the mortality measures used in the above tables are as follows:

* *Crude death rate*--Number of deaths in a given year per 1,000 population as of the midpoint of that year.

* *Life expectancy at birth*--Average number of years a newborn child will live if it is exposed throughout its life to the death rates that are measures for a particular year.

Table M-1. Mortality: Crude Death Rate and Life Expectancy at Birth (Both Sexes), Latin American Countries, 1950-85.

Region and country	Crude death rate						Life expectancy at birth (both sexes) ($\mathring{e}_0$)						
	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85	Change 1950-85
Latin America total...	15.4	12.2	11.0	9.8	8.9	9.2	51.2	56.6	58.7	60.7	62.5	64.1	12.9
Central America/other...	16.3	12.0	10.8	9.5	8.3	7.4	50.2	57.2	59.2	61.3	63.2	65.1	14.9
Belize.....	--	--	--	--	5.0	5.0	--	--	--	--	--	--	--
Costa Rica.....	12.3	9.1	7.2	5.8	5.3	5.0	57.3	63.0	65.6	68.1	69.7	70.9	13.6
Cuba.....	11.0	8.7	7.3	6.4	6.0	6.4	58.8	65.1	68.5	70.9	72.8	73.4	14.6
Dominican Republic....	20.6	14.7	12.6	10.6	9.0	7.9	45.1	52.6	55.4	57.9	60.3	62.6	17.5
El Salvador.....	20.4	15.3	12.8	11.1	9.4	8.1	45.3	52.3	56.0	59.1	62.2	64.8	19.5
Guatemala.....	22.0	17.3	15.0	12.8	10.9	9.3	42.7	48.2	51.2	54.6	57.8	60.7	18.0
Haiti.....	26.8	21.6	19.3	17.4	15.7	14.2	37.6	43.6	46.2	48.5	50.7	52.7	15.1
Honduras.....	21.8	17.7	15.7	13.7	11.8	10.1	42.2	47.9	50.9	54.1	57.1	59.9	17.7
Mexico.....	15.1	10.8	10.0	8.8	7.8	6.9	51.8	59.2	60.8	62.7	64.4	66.0	14.2
Nicaragua.....	22.5	17.7	15.6	13.9	12.2	10.8	43.0	47.9	50.4	52.9	55.2	57.6	14.6
Panama.....	12.7	9.4	8.2	6.9	6.0	5.6	58.8	63.2	64.9	67.4	69.6	70.7	11.9
Puerto Rico.....	9.0	6.9	6.6	6.8	5.8	5.5	64.4	69.5	71.0	72.1	73.0	73.4	9.0
Tropical South America..	16.4	13.1	11.6	10.3	9.2	8.5	49.9	55.0	57.2	59.3	61.3	63.0	13.1
Bolivia.....	24.1	21.5	20.2	19.0	17.5	15.9	40.4	43.4	45.1	46.7	48.6	50.7	10.3
Brazil.....	15.1	12.4	11.1	10.1	9.1	8.4	51.0	55.9	58.0	59.8	61.8	63.5	12.5
Colombia.....	16.5	12.2	10.4	9.0	8.2	7.7	50.6	56.2	58.4	60.4	62.2	63.6	13.3
Ecuador.....	19.4	15.8	13.8	12.1	10.4	8.9	46.9	51.9	54.6	57.1	60.0	62.6	15.7
Paraguay.....	15.5	11.9	10.1	8.1	7.6	7.2	51.9	56.6	59.5	63.1	64.1	65.1	13.2
Peru.....	23.4	18.8	16.4	13.2	11.6	10.3	43.7	48.7	51.3	55.0	57.1	59.1	15.4
Venezuela.....	14.9	10.1	8.3	6.8	6.1	5.6	52.3	58.9	61.8	64.5	66.2	67.8	15.5
Temperate South America.	10.2	9.5	9.0	8.7	8.7	8.8	60.3	63.3	65.3	67.2	68.1	69.0	8.7
Argentina.....	9.1	8.6	8.6	8.6	8.8	9.0	62.7	66.0	67.4	68.4	69.2	69.9	7.2
Chile.....	13.6	11.9	10.0	8.4	8.1	7.7	54.1	57.6	60.6	64.2	65.7	67.0	12.9
Uruguay.....	9.6	9.1	9.4	9.9	10.1	10.2	66.3	68.3	68.5	68.6	69.5	70.3	4.0

NOTE: The total for Central America does not include Cuba, the Dominican Republic, Haiti, and Puerto Rico (the four Caribbean countries).

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

During the 30 years between 1950-55 and 1980-85, the crude death rate of Central America was reduced by more than 50 percent, and the expectancy of life at birth increased by 15 years. The crude death rate for Europe has been *higher* than that of Central America since 1970, and this may create the mistaken belief that mortality conditions are better in Central America than in Europe. However, this is a mirage created by age distribution.*

A much more reliable measure of the force of mortality is "life expectancy at birth," derived from life tables. Data for life expectancy at birth (identified by the symbol $\mathring{e}_0$) are reported in the righthand panel of Table M-1. The average newborn child in Central America can look forward to enjoying his or her 65th birthday, whereas only three decades ago the expectation was 50 years. This life expectancy of 65 years was the level which Europe had in 1950-55, after more than a century of public health, economic development, and progress of medical science. Because of the rapid international diffusion of technical, medical, and health knowledge and practice, the developing countries have managed to accomplish in a few decades what it took Europe and North America a century or more to achieve. However, there is an upper limit to the extension of life, and as this is approached, progress becomes slower. For example, during the 30 years while Central America was adding 15 years to its life expectation, the nations of Europe were only adding 7 years, to achieve 72.7. At the present time, demographers estimate that 75-80 years in the maximum average expectancy that Europe or any other region can attain in this century, with current technology. Thus, Central America now has mortality conditions that are definitely "modern," and it stands on the threshold of reaching toward the biological upper limit—adding 10 to 15 more years to present life expectancy.

Figure M-1 orients the mortality situation of Latin America as a whole in relation to other world regions. It very clearly falls between the "developed" regions and the "underdeveloped" regions of South Asia and Africa. This figure also reports the expected future trend in mortality as projected by the United Nations. There are reasons to believe that the projections for Central America are too pessimistic. The U.N. estimates imply that a life expectancy of 70 years will not be attained until 2010. As argued below, this goal is likely to be attained as early as 1995 or shortly thereafter.

Table M-1 shows great diversity in mortality rates for nations of the region. Two places—Cuba and Puerto Rico—have already attained the same low level as Europe, and two more nations—Panama and Costa Rica—have very nearly achieved this. Three nations—Nicaragua, Honduras, and Haiti—stand out as having distressingly high mortality. In these countries, the expectation of life is still low, in the 50s, which is twenty years behind the rest of Central America. Mexico, Guatemala, El Salvador, and the Dominican Republic have intermediate levels of mortality—life expectancy of 60-66 years.

As Table M-1 shows, life expectancy has increased at a rapid pace in all of the nations of Central America (as throughout all Latin America). During the 1970-80 decade, life expectancy increased by 3.8 years or .38 years of life for each calendar year of time. If this annual increase were to continue into the future, Central America would

*Because of high fertility, Central America (and other developing countries) has a young age composition. At the younger ages (between infancy and age 45-50), mortality rates are low, which permits the developing countries to have unusually low crude death rates. Because of prolonged low fertility, Europe has a higher proportion of persons in the older ages, where mortality rates are higher. This causes the crude death rate of Europe to be higher than that of the developing countries, even though the rate of death at each age is lower than in the developing countries.

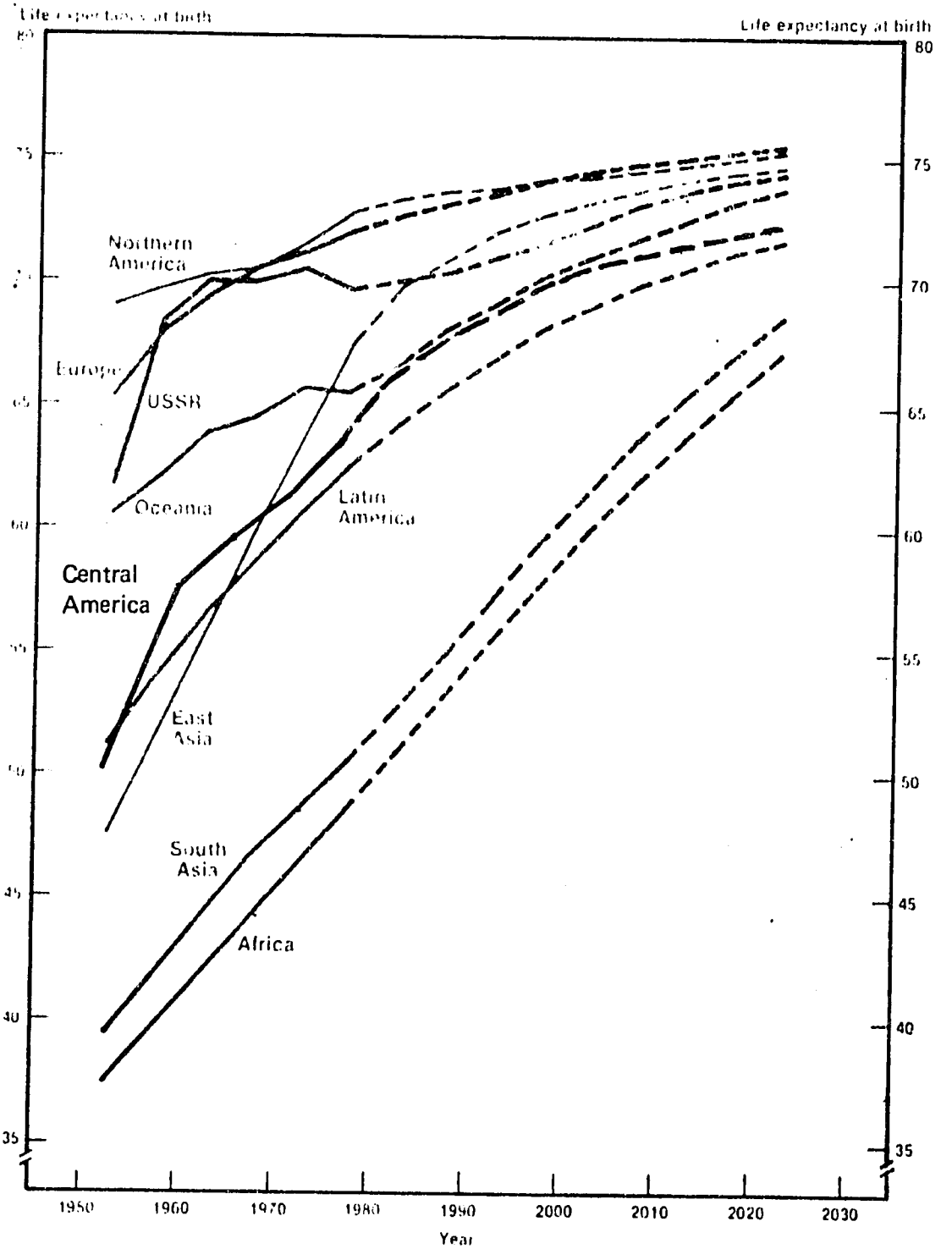


Figure M-1. Life Expectance at Birth (Both Sexes) by Region: Medium Variant, 1950-2025, as Assessed in 1980.

Source: United Nations, *Demographic Indicators of Countries; Estimates and Projections as Assessed in 1980,* 1982, p. 37.

attain a life expectancy of 70 years in only 12-13 years after 1982-83—about 1995. Because of the other social and economic changes (described later in this report), it is plausible that this pace can be maintained for the remainder of this century—particularly if projected international technical assistance for health and medicine at older ages is provided in the quantitites needed. The technology for accomplishing it has already been developed in Europe and North America, and only awaits export and investments in facilities.

Sex differentials in mortality

Trends in life expectancy at birth are reported separately for females and males in Table M-2 for each nation in Central America and of the other regions of Latin America. Without exception, women have a higher life expectancy than men; the advantage is 2 to 6 years. This differential was clearly manifest in 1950 and has tended to increase over time, rather than decline. Moreover, the differential between sexes tends to be higher under favorable socioeconomic conditions with low mortality (compare Honduras with Costa Rica). Thus, one of the side effects of mortality reduction is an increasing tendency for women to outlive their husbands, and spend a longer period of widowhood before their own death. This increased survival of women has been accomplished in part by reducing the dangers of childbearing, so that more women survive through the entire reproductive period, to bear more children.

Socioeconomic differentials in mortality

Wherever research has been undertaken, it has found that mortality tends to be much higher among the illiterate and the uneducated than among the literate and better educated. In fact, there is a uniform relationship—as socioeconomic well-being rises, so does life expectancy. This relationship is found if one measures socioeconomic status in terms of education, income, or occupation. A typical example is Honduras. A demographic survey taken in 1971-72 obtained data for mortality by socioeconomic category of the heads of households. The results for the various categories were:

Socioeconomic status	Expectation of life at birth	Infant mortality rate
High and medium . . .	66.90	95.20
Medium low . .	50.90	114.10
Low	48.30	126.30
Ratio of low to high . . .	0.72	1.33

Source: *Encuesta demográfica nacional de Honduras,* (EDENH), 1975, p.32.

Among the lower socioeconomic group expectation of life was only 72 percent as high as among the top group.

Urban-rural differentials in mortality

Although it is difficult to obtain mortality data separately for urban and rural areas, the research that has been done points overwhelmingly to the finding that mortality is much higher in rural than in urban areas. This can be due, in part, to greater education-income-occupation (socioeconomic status). But it also appears to be related to the quantity and quality of medical and health services and sanitation, and to the education in preventive health care the public has received. Rural areas tend to lag far behind urban areas in their integration into the modernizing health system. The demographic survey of Honduras, mentioned

above, found urban-rural differences in mortality:

Area	Expectation of life at birth	Infant mortality rate
Urban	61.50	85.60
Rural	50.10	127.20
Ratio of rural to urban	0.81	1.49

Source: *Encuesta demográfica nacional de Honduras* (EDENH), 1975, p. 34.

Infant mortality

In Central America, as in all places where mortality is comparatively high, a very large share of all deaths is to infants in their first year of life. The United Nations has estimated the rate of infant mortality for all nations for the period of 1950-1980. [The infant mortality rate is defined as the number of deaths to infants under one year of age during a specified year per 1,000 live births during the same year.] Rates for each of the nations of Latin America are reported in Table M-3. In almost all nations, the decline in infant deaths has been very dramatic; within thirty years the rate has been cut to one-half or less of its 1950-55 level. This reduction in infant deaths is a major component of the increasing life expectancy described above.

Figure M-2 graphs the decline in infant mortality throughout the world, and places Latin America in perspective. Central America conforms rather closely to the Latin America trend. The figure shows that Latin America and Central America are far ahead of Africa and South Asian countries, but behind East Asia, in prevention of infant deaths. This figure also reports the projected decline in infant mortality expected by United Nations demographers in future years. Further declines are expected to take place in the remainder of this century and into the next, with the result that the rates for all regions converge toward the low level now occupied by the more developed countries, which can hope only for minor further declines.

In the various countries, there is wide diversity in infant mortality rates. In descending order, the nations fall into the following ranking:

	Infant mortality rate, 1975-80	Total fertility rate, 1980
Haiti	120.9	5.92
Nicaragua	96.5	6.57
Honduras	95.4	7.14
El Salvador	84.5	6.01
Guatemala	79.0	5.68
Dominican Republic	73.1	5.00
Mexico	59.8	5.40
Panama	36.2	4.12
Costa Rica	29.3	3.57
Cuba	22.5	2.18
Puerto Rico	19.5	2.36

Source: Teble M-3.

The first six nations in this list clearly have infant mortality rates that are still excessively high. A great deal of effort, both by the nations themselves and by international technical assistance, is being made to bring them under control. On the expectation that these efforts will be successful, significant further declines may be predicted for future years.

Infant mortality is higher among low income than among high income classes, and higher in rural than in urban areas. The data for Honduras, provided above, illustrates this differential. Rising levels of education and income plus rapid urbanization (coupled with improved health and medical services) lead one to expect further rapid declines in infant mortality in

Table M-2. Mortality: Life Expectancy at Birth by Sex, Latin American Countries, 1950-85.

Region and country	Female ($\mathring{e}_0$)						Male ($\mathring{e}_0$)						Difference (female - male)	
	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85	1950-55	1960-65	1965-70	1970-75	1975-80	1980-85	1980-85	1950-55
Latin America total	52.7	58.4	60.5	62.7	64.5	66.3	49.7	54.9	56.9	58.8	60.5	62.1	4.2	3.0
Central America/other	51.6	58.9	60.9	63.2	65.2	67.1	48.9	55.7	57.5	59.5	61.3	63.1	4.0	2.7
Costa Rica	58.6	64.5	67.5	70.2	71.9	73.3	56.0	61.6	63.9	66.1	67.5	68.7	4.6	2.6
Cuba	61.0	67.1	70.3	72.6	74.4	75.2	56.7	63.3	66.8	69.3	71.1	71.8	3.4	4.3
Dominican Republic	46.7	54.4	57.2	59.8	62.2	64.6	43.6	50.9	53.6	56.1	58.4	60.7	3.9	3.1
El Salvador	46.5	54.0	58.0	61.2	64.5	67.1	44.1	50.8	54.1	57.1	60.0	62.6	4.5	2.4
Guatemala	43.3	49.0	52.0	55.5	58.8	61.8	42.1	47.5	50.4	53.7	56.9	59.7	2.1	1.2
Haiti	38.9	44.9	47.6	50.0	52.2	54.4	36.3	42.3	44.9	47.1	49.1	51.2	3.0	2.6
Honduras	43.5	49.7	52.7	55.9	58.9	61.7	40.9	46.3	49.2	52.4	55.4	58.2	3.5	2.6
Mexico	53.3	61.0	62.6	64.7	66.5	68.2	50.3	57.6	59.0	60.7	62.4	63.9	4.3	3.0
Nicaragua	42.6	49.6	52.1	54.6	57.1	59.5	41.5	46.4	48.9	51.2	53.5	55.8	3.4	3.1
Panama	60.1	64.4	66.3	69.3	71.9	73.0	57.6	62.0	63.5	65.7	67.5	68.5	4.5	2.5
Puerto Rico	66.7	72.4	73.5	74.7	76.5	76.7	63.0	66.7	68.0	69.7	69.6	70.2	6.5	3.7
Tropical South America	51.3	56.6	58.9	61.1	63.2	65.0	48.5	53.4	55.5	57.5	59.4	61.0	4.0	2.8
Bolivia	42.5	45.6	47.3	49.0	50.9	53.0	38.5	41.4	42.9	44.6	46.5	48.6	4.4	4.0
Brazil	52.2	57.3	59.5	61.5	63.6	65.4	49.8	54.6	56.5	58.2	60.1	61.6	3.8	2.4
Colombia	52.6	58.4	60.7	62.7	64.5	66.0	48.8	54.1	56.3	58.2	60.0	61.4	4.6	3.8
Ecuador	47.9	53.6	56.4	59.1	62.0	64.7	46.0	50.2	52.9	55.2	58.0	60.6	4.1	1.9
Paraguay	64.0	58.8	61.7	65.2	66.4	67.5	50.0	54.6	57.5	61.0	61.9	62.8	4.7	4.0
Peru	46.8	50.0	52.6	56.3	58.6	60.7	42.6	47.6	50.0	53.7	55.7	57.6	3.1	2.2
Venezuela	54.4	61.5	64.5	67.2	69.0	70.6	50.3	56.5	59.3	61.9	63.6	65.1	5.5	4.1
Temperate South America	62.6	66.3	68.5	70.5	71.4	72.4	58.1	60.5	62.1	64.0	65.0	65.8	6.6	4.5
Argentina	65.1	69.1	70.8	71.7	72.5	73.3	60.4	63.1	64.1	65.3	66.0	66.7	6.6	4.7
Chile	56.0	60.4	63.6	67.5	69.0	70.4	52.3	55.0	57.6	61.0	62.4	63.8	6.6	3.7
Uruguay	69.4	71.6	71.9	72.0	72.8	73.7	63.3	65.1	65.3	65.4	66.3	67.1	6.6	6.1

NOTE: The total for Central America does not include Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

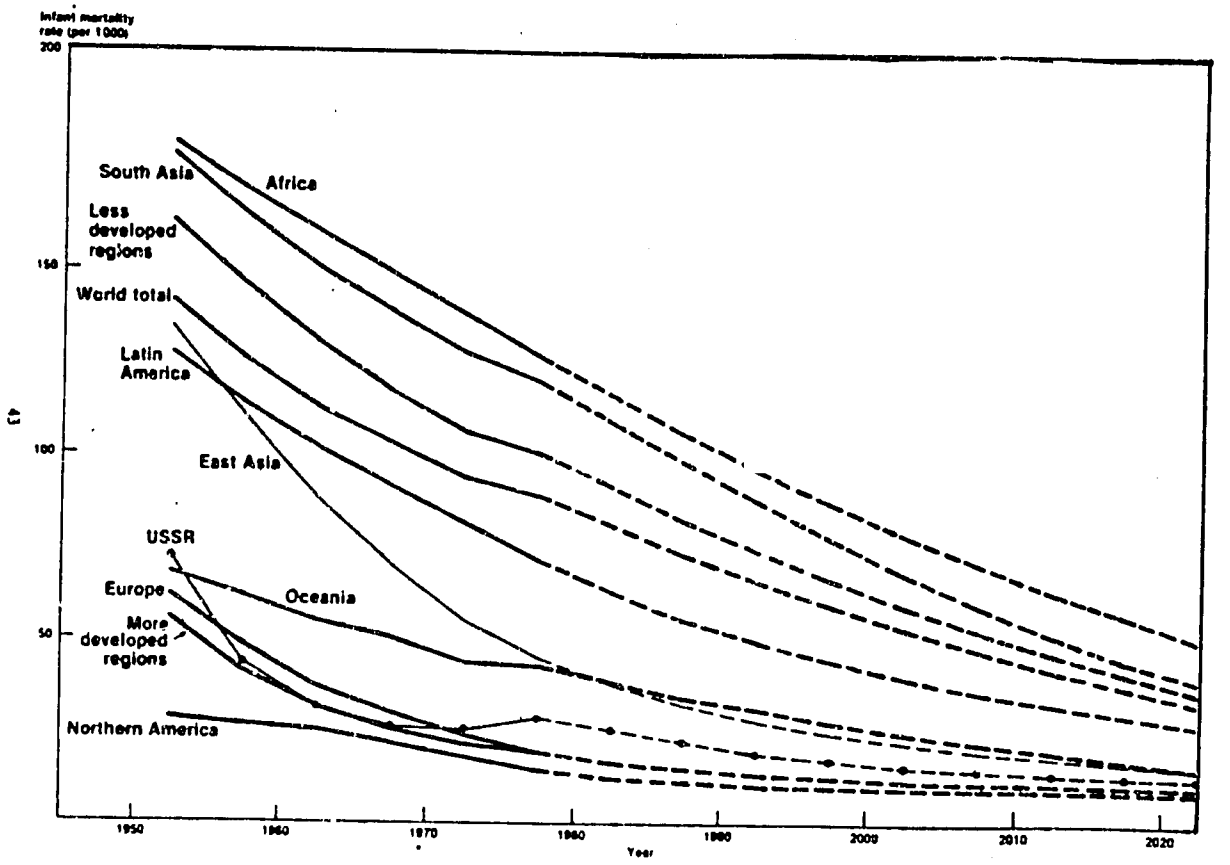


Figure M-2. Estimates and Projections of Infant Mortality Rate by Major Regions, 1950-2025.

[SOURCE: United Nations, *Demographic Indicators of Countries, Estimates and Projections as Assessed in 1980,* 1982, page 43.]

all nations where these rates are 30 or higher.

All over the world a close correlation between the level of infant mortality rates and fertility rates has been noted, and this region is no exception. In order to illustrate the close correlation, the total fertility rate for 1975-80 is repeated above, from Table F-1.

Demographers believe that the two sets of rates influence each other. As infant mortality rates decline, couples soon discover that their family size is exceeding their expectations, and there is pressure to reduce fertility. At the same time, research has repeatedly shown infant mortality rates become progressively higher for the fourth, fifth, sixth, or higher order children, so that reducing family size tends to reduce infant mortality.

Because of the anticipated continued decline in infant mortality one would predict additional pressures to be exerted on birth rates to decline in the future.

Causes of death

It is well known that high mortality rates among infants and adults of working age are due primarily to infectious and parasitic diseases, which yield readily to hygiene, sanitation, immunization, and medical treatment. War against these ailments has been waged by Ministries of Health, assisted by international technical assistance for more than three decades. The declines in

Table M-3. Infant Mortality Rate (per Thousand Births).

Region and country	Infant mortality rate (per thousand births)						
	1950-55	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85
Latin America total...	127.9	114.3	101.8	91.7	81.8	71.4	62.9
Central America/other...	117.5	105.0	94.2	84.9	74.6	64.9	56.3
Costa Rica.....	92.5	85.5	80.6	65.6	50.9	29.3	25.7
Cuba.....	85.1	72.2	59.6	47.8	33.8	22.5	20.4
Dominican Republic....	149.4	128.9	110.0	96.3	83.6	73.1	63.5
El Salvador.....	155.0	143.0	128.0	112.0	101.0	84.8	71.0
Guatemala.....	144.0	129.5	114.9	101.5	90.2	79.0	67.7
Haiti.....	219.6	193.5	170.5	150.2	134.9	120.9	108.2
Honduras.....	169.3	152.6	136.8	124.0	110.7	95.4	81.5
Mexico.....	108.1	95.9	86.2	78.6	68.6	59.8	52.1
Nicaragua.....	167.4	151.6	136.4	122.2	108.9	96.5	84.5
Panama.....	83.9	72.6	62.6	53.9	43.8	36.2	32.5
Puerto Rico.....	63.2	51.2	44.5	33.3	25.3	19.5	15.9
Tropical South America..	140.9	125.3	111.0	100.3	90.7	79.0	69.7
Bolivia.....	175.7	169.7	163.6	157.5	151.3	138.2	124.4
Brazil.....	137.7	124.5	111.8	102.3	94.9	82.4	72.4
Colombia.....	123.3	102.2	84.5	74.2	66.9	59.4	53.3
Ecuador.....	167.7	147.6	132.3	114.5	100.1	86.0	77.2
Paraguay.....	105.7	91.1	80.6	66.9	52.6	48.6	45.0
Peru.....	195.1	173.4	152.3	132.8	106.5	93.5	81.9
Venezuela.....	110.9	92.2	76.9	64.9	52.4	44.8	38.6
Temperate South America.	82.7	79.7	76.2	68.2	56.4	46.5	41.8
Argentina.....	64.2	61.6	59.5	56.4	51.3	47.2	43.2
Chile.....	126.1	117.3	110.5	95.1	69.5	46.3	40.0
Uruguay.....	57.4	53.0	47.9	47.1	46.3	41.7	37.6

SOURCE: United Nations. Population Bulletin of the United Nations, No. 14, 1982.

mortality described above have been achieved mainly by success in controlling infectious and parasitic diseases—malaria, smallpox, typhoid fever, whooping cough, measles, enteritis, pneumonia, and tuberculosis. Most of the nations of Latin America have long been active in these campaigns.

As a consequence, the infectious and parasitic diseases are becoming a progressively small part of mortality. This may be learned from Table M-4. Causes of death data for developing nations are notoriously defective, and must be treated with great caution. Data assembled by the Pan American Health Organization suggest, however, that in no country of Central America do these diseases account for more than 20 percent of all deaths, except for Guatemala, where the share is 30 percent. Increasingly, the causes of death are shifting from the acute to the degenerative disease—diseases of the heart, malignant neoplasms, and other related to the malfunctioning of basic organs. Table M-5, which reports the percentage of all deaths from the five leading causes of death shows that the chronic and degenerative diseases are important in all countries, but that the infectious and parasitic diseases are still more important in the high mortality countries. Accidents and "homicides, legal intervention, and operations of war" also are leading causes of death in Central America. Progress in

Table M-4. Percent of All Deaths Caused by Infective and Parasitic Diseases.

Region and country	Year	Infective diseases	Parasitic diseases	Total	Rate per 100,000 inhabitants		
					Infective	Parasitic	Total
Central America/other							
Costa Rica	1978	2.4	2.6	5.0	9.9	10.4	20.3
Cuba	1978	0.8	1.6	2.4	4.6	9.1	14.7
Dominican Republic	1977	8.2	7.2	15.4	41.4	36.1	77.5
El Salvador	1974	13.3	4.7	18.0	104.8	37.3	142.1
Guatemala	1978	17.7	12.1	29.8	171.3	116.8	288.1
Haiti	--	--	--	--	--	--	--
Honduras	1976	12.2	7.7	19.9	69.1	44.0	113.1
Mexico	1976	11.2	7.0	18.2	82.2	51.0	133.2
Nicaragua	1978	9.8	5.1	14.9	37.3	17.9	55.2
Panama	1974	5.5	8.5	14.0	30.9	47.3	78.2
Puerto Rico	--	--	--	--	--	--	--
Tropical South America							
Bolivia	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	--
Colombia	1975	7.7	6.7	14.4	49.6	43.7	93.7
Ecuador	1977	13.6	10.1	23.7	106.2	79.9	186.1
Paraguay	1978	12.2	6.5	18.7	98.4	37.2	135.6
Peru	1977	12.6	11.8	24.4	62.7	58.8	121.5
Venezuela	1978	5.1	5.1	10.2	28.3	28.4	56.7
Temperate South America							
Argentina	1978	1.4	3.4	4.8	12.7	29.7	42.4
Chile	1978	1.9	4.4	6.3	12.4	29.1	41.5
Uruguay	1978	1.4	18.4	19.8	14.0	17.8	31.8

NOTE: -- indicates current data not available.

SOURCE: Pan American Health Organization, Health Conditions in the Americas, 1977-1980, 1982, Table II-5.

treating the chronic and degenerative diseases must be made if the momentum of death control is to be maintained. This will require more than the "primary health care" and "barefoot doctor" approach so popular today in many developing countries. International donor agencies interested in promoting health in Central America should take note that, although infectious and parasitic diseases are still pandemic, the fight against them is already being won, and within a decade or so, they will approach the minor importance they enjoy in Europe and other developed areas.

Table M-5. Percent of All Deaths Resulting from Five Leading Causes: Latin American Countries.

Region and country	Year	Leading causes of death--Percent of death from cause specified									Other Causes
		Diseases of the heart	Malignant neoplasms	Cerebro-vascular diseases	Accidents	Influenza and pneumonia	Enteritis and other diarrheal diseases	Causes of perinatal mortality	Homicide and legal interventions	Bronchitis and emphysema	
Central America/other											
Belize	1975	15.4	7.6	--	--	5.3	12.0	6.1	--	--	53.6
Costa Rica	1979	16.7	16.3	6.0	10.6	--	--	6.5	--	--	43.9
Cuba	1978	29.9	17.5	9.5	11.3	7.9	--	--	--	--	23.9
Dominican Republic	1978	9.2	4.8	--	5.8	--	6.5	7.3	--	--	66.4
El Salvador	1974	--	--	--	6.0	4.1	13.3	4.5	4.2	--	67.9
Guatemala	1978	3.8	--	--	7.1	14.4	17.7	9.4	--	--	47.6
Haiti		--	--	--	--	--	--	--	--	--	--
Honduras	1978	8.9	--	--	--	3.8	9.4	3.3	7.2	--	--
Mexico	1976	10.6	5.0	--	9.3	13.4	11.2	--	--	--	50.5
Nicaragua	1977	11.2	--	--	7.5	4.1	13.6	--	5.5	--	58.1
Panama	°1974	12.3	7.8	6.8	8.8	7.3	--	--	--	--	57.0
Tropical South America											
Bolivia	--	--	--	--	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	--	--	--	--	--
Colombia	1977	16.4	9.0	5.9	7.8	7.1	7.8	--	--	--	46.1
Ecuador	1978	8.6	--	--	8.2	8.1	12.2	--	6.3	--	56.6
Paraguay	1974	12.5	7.1	7.8	--	6.9	12.2	--	--	--	53.5
Peru	1978	6.5	7.0	--	5.1	15.8	11.4	--	--	--	54.2
Venezuela	1978	14.9	9.7	5.8	11.8	--	--	7.3	--	--	50.5
Temperate South America											
Argentina	1978	28.0	17.0	9.6	6.0	--	--	4.4	--	--	41.0
Chile	1979	13.6	15.1	8.6	9.8	7.6	--	--	--	--	45.3
Uruguay	1978	24.3	21.4	12.2	4.5	--	--	3.8	--	--	33.8
United States	1978	38.1	20.6	9.1	5.7	3.0	...	...	...	...	23.5

-- Data not available
... Not applicable

Source: Pan American Health Organization, Health Conditions in the Americas: 1977-1980, 1982; Table II-6A.

Population Growth

3.

Population growth is a net balance among births, deaths, and emigration/immigration. The combination of high and only slightly declining fertility rates and greatly reduced mortality rates, described in the preceding sections, would lead one to expect rapid population growth, and this is the case in Central America. Figure PG-1 shows how declining mortality with high fertility has created rapid population growth in the past and will continue to do so in the future if fertility remains high. All of the nations in the region, except Cuba, are growing at rates between 2.2 and 3.4 percent per year–all very rapid rates by demographic standards. Table PG-1 reports these rates for 1980-85. (The historical trend of growth rates for each country is reported in Table P-1 in the introduction to this report.) An orientation to the meaning of these rates may be attained by comparing them with the following tabulation of 1980-85 rates for regions of the world:

	Annual rate of growth (%/year)	Years required to double
World total	*1.70*	*41.2*
More developed nations	0.61	117
Less developed nations	2.04	34
Latin America	2.38	29
Central America	2.88	24
South Asia	2.17	32
East Asia	1.24	56
Africa	3.00	23

Source: United Nations. *Demographic Indicators of Countries; Estimates and Projections as Assessed in 1980,* 1982.

Only in Africa is population growth higher than in Central America, and two of its nations (Honduras and Nicaragua) equal the highest rates in Africa.

These rates may appear deceptively low

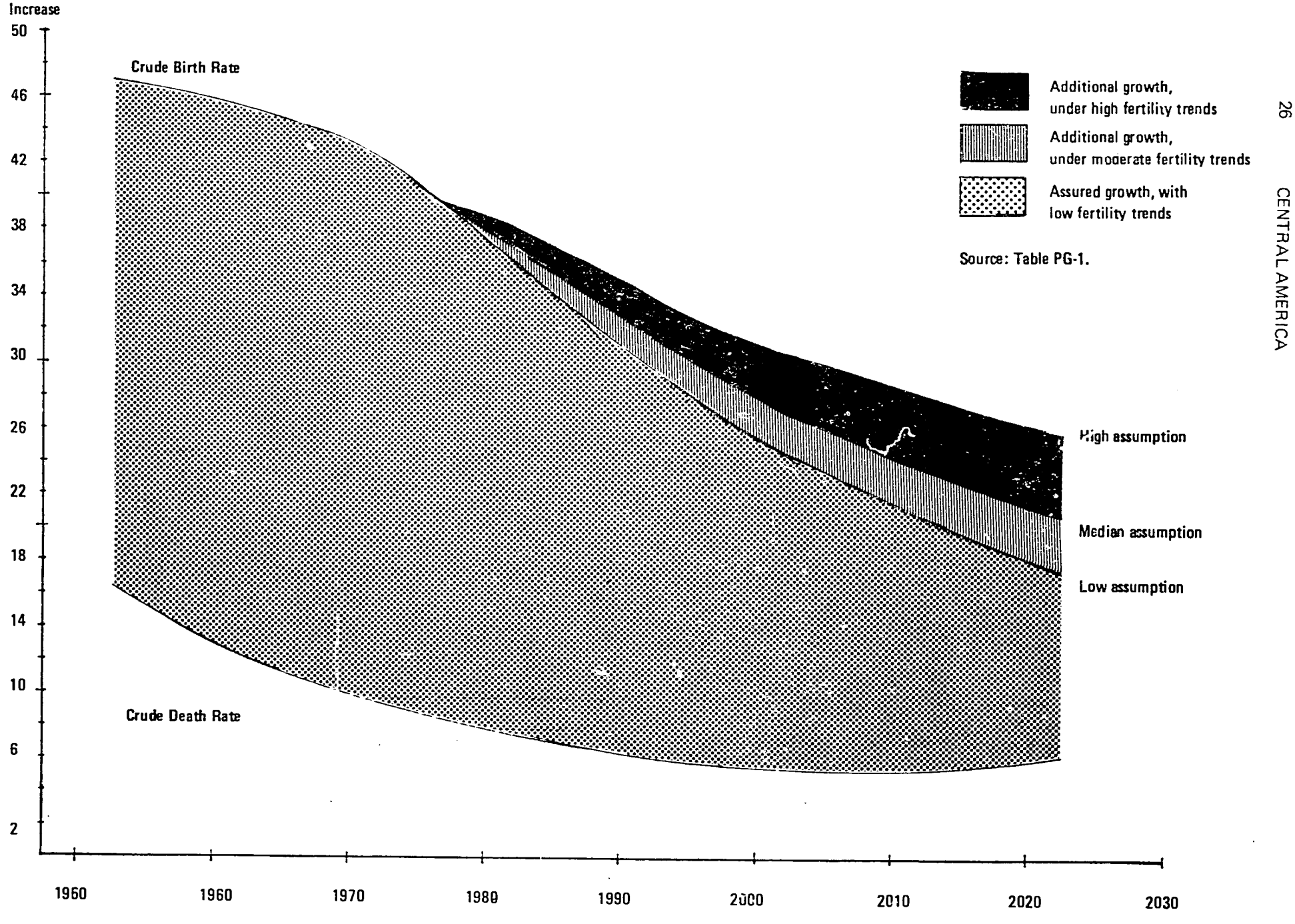


Figure PG-1. Population Increase Resulting from High Birth Rates and Low Death Rates, 1950-1980, and From Projected Birth Rates and Death Rates to 2025.

Table PG-1. Population Growth Rates Expected Under Medium and Low Variants of United Nations/CELADE Projections for Nations of Latin America, 1980-2025.

Region and country	Medium variant							Low variant					
	1980-85	1985-90	1990-95	1995-00	2000-05	2010-15	2020-25	1980-85	1985-90	1990-95	1995-00	2010-15	2020-25
Latin America total.....	2.38	2.28	2.15	2.02	1.92	1.70	1.48	2.29	2.11	1.92	1.75	1.33	1.13
Central America/other.....	2.88	2.72	2.51	2.31	2.13	1.78	1.43	2.80	2.57	2.30	2.05	1.46	1.35
Costa Rica.....	2.31	2.22	2.05	1.88	1.74	1.49	1.21	2.09	1.95	1.78	1.60	1.10	0.77
Cuba.....	0.62	0.98	1.13	0.99	0.76	0.60	0.40	0.62	0.83	0.82	0.80	0.46	0.26
Dominican Republic.....	2.43	2.30	2.21	2.06	2.04	1.81	1.36	2.13	1.80	1.46	1.39	1.08	0.79
El Salvador.....	2.93	3.10	2.99	2.90	2.62	2.18	1.78	2.66	2.68	2.46	2.27	1.51	1.14
Guatemala.....	2.92	2.82	2.76	2.74	2.44	2.13	1.83	2.60	2.33	2.18	2.12	1.59	1.28
Haiti.....	2.51	2.62	2.70	2.75	2.70	2.52	2.16	2.41	2.49	2.52	2.50	2.07	1.69
Honduras.....	3.39	3.10	3.07	3.18	3.08	2.59	2.09	3.34	2.85	2.65	2.72	1.88	1.38
Mexico.....	2.86	2.67	2.42	2.16	1.99	1.63	1.28	2.83	2.60	2.30	2.00	1.42	1.39
Nicaragua.....	3.27	3.21	3.15	3.06	2.93	2.59	2.12	2.99	2.84	2.68	2.47	1.91	1.58
Panama.....	2.20	2.06	1.93	1.78	1.61	1.32	1.07	2.16	1.94	1.70	1.51	1.04	0.73
Puerto Rico.....	3.35	1.77	1.21	1.04	1.07	0.79	0.49	3.29	1.77	1.21	1.04	0.78	0.49
Tropical South America.....	2.46	2.36	2.23	2.10	2.02	1.83	1.66	2.38	2.20	2.00	1.81	1.41	1.16
Bolivia.....	2.69	2.76	2.82	2.88	2.66	2.69	2.20	2.59	2.57	2.49	2.38	1.68	1.34
Brazil.....	2.30	2.20	2.07	1.97	1.88	1.76	1.65	2.25	2.04	1.84	1.66	1.28	1.05
Colombia.....	2.15	2.05	1.87	1.68	1.50	1.23	0.97	1.96	1.78	1.57	1.36	0.91	0.65
Ecuador.....	3.13	3.09	2.97	2.78	2.57	2.27	1.96	3.04	2.92	2.71	2.44	1.93	1.55
Paraguay.....	3.00	2.78	2.56	2.34	2.16	1.84	1.51	2.86	2.50	2.18	1.92	1.40	1.10
Peru.....	2.80	2.83	2.76	2.69	2.59	2.42	2.21	2.76	2.75	2.66	2.52	2.14	1.87
Venezuela.....	3.26	2.93	2.59	2.32	2.14	1.81	1.50	3.17	2.80	2.43	2.15	1.60	1.27
Temperate South America....	1.29	1.20	1.09	0.99	0.90	0.73	0.55	1.11	0.99	0.88	0.78	0.50	0.33
Argentina.....	1.19	1.08	0.97	0.88	0.80	0.65	0.50	1.03	0.88	0.76	0.67	0.44	0.29
Chile.....	1.68	1.57	1.41	1.27	1.15	0.92	0.67	1.43	1.32	1.19	1.05	0.67	0.41
Uruguay.....	0.75	0.84	0.86	0.85	0.81	0.71	0.57	0.61	0.67	0.68	0.64	0.43	0.35

NOTE: Central America total does not include Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

unless one realizes that population growth is compounded, just as interest on a bank account. The implication of these rates of growth may be appreciated better by translating them into the number of years required for a population to double in size when compounding at a specified rate. Thus, at the present rate of growth of the world population (1.70 percent per year), the 4.8 billion people of the earth (as of 1984-85) will double in 41 years, to be nearly 10 billion in 2025. The much faster growth rates of Central America will cause the population there to double in a much shorter time—within 24 years. (Honduras and Nicaragua will double in 20-21 years at their present rates of growth.) A great many economists, planners, demographers, environmentalists, and others who are concerned about long-term welfare of nations regard population growth rates in excess of 1.0 or 1.5 to impose severe obstacles to the accomplishment of other development goals. (Later sections of this report discuss the reasons why this is the case.) Although few of these experts would recommend bringing the rate of growth to zero, many—if not most--would advise a reduction in the growth rate to below 2.0 per year as quickly as possible, with further decline toward 1.0 over the longer term.

Emigration

Although there undoubtedly is much undocumented emigration from Central American nations to the U.S. and to other Latin American countries, the volume of documented (legal) movement is much smaller than many impressionistic estimates. Table PG-2 reports the counts of immigrants, from selected Central American nations, as reported in the censuses of potential receiving countries. These statistics represent net accumulation over many years. The net flow for any one year would be only 5 percent or so of these numbers. In comparison with the annual growth of the Central American republics, their net emigration is a negligible drain.*

There is only one practical way for the growth rates to be lowered: the fertility rate must decline. Migration cannot possibly be a solution. All of the nations of this region now send out more migrants to the other countries (particularly to the United States) than they receive, but the effect upon the growth rate is negligible—it reduces the rate by only 0.1 or 0.2 percentage points per year. (Mexico is partially an exception; even though it may lose as many as 150,000 emigrants each year—1.5 million per decade—this would reduce its rate of growth by only 0.2 percentage points per year.) Most of the developed nations (including the United States) are trying to make immigration to their countries more difficult, and opportunities for migration between the Latin American countries themselves are limited. The problem of rapid growth rates will not be willingly solved by having mortality rates rise, because this could occur only because of poverty, famine, and breakdown of the health/medical system. Since migration and death rates cannot be manipulated to reduce growth, lowering fertility is the only remaining option. And there is widespread hope and expectation that the fertility rates will decline in the future.

Future growth: population projections

The United Nations and the Latin American Demographic Center (CELADE) have projected what the population of each nation in Latin America would be in future years under different combinations of fertility rates. They assumed that death rates

*Although the years to which Table PG-2 refers are taken from censuses now several years old, it is believed that the results will not be changed greatly when newer data become available.

will continue to decline, and used a single set of death rates for all projections. Three sets of projections were prepared under the following assumptions:

	Fertility	Mortality
High variant	little decline	moderate decline
Medium variant	moderate decline	moderate decline
Low variant	rapid decline	moderate decline

Table PG-3 reports the expected fertility rates under the medium and the low variant. (For the high variant, little change from 1980-85 levels is expected, so the rates are not reported.) Expected declines in mortality are reported in Table PG-4.

The population that is estimated to be residing in each country in the year 2025 under conditions of high, medium, and low fertility is reported in Table PG-5. For Central America as a whole, the population makes a major leap in all three projections. It will almost double under the low projection, but under the high variant it will be 2.5 times its 1985 size. Under the medium variant, it will grow by 120 percent. The projected trends are very different for the individual places, however. For Cuba, Panama, and Puerto Rico, which already have slow growth, the high, medium, and low projections give population estimates not substantially different from each other. But for the rapidly growing population, the choice of whether to grow rapidly or more slowly makes a very great difference in growth rates. Honduras, for example, will quadruple in size under the high variant, and will grow by 143 percent under the low variant. Similar major differences are projected for the other areas. Even with moderately declining fertility, growth rates in Honduras, Nicaragua and Haiti will still be above 2.0 percent per year in 2025. (See Table PG-5.) Under these conditions, each of the nations will have roughly three times their present population by that date.

Public awareness and general social change (rising educational attainment, increased urbanization, greater public awareness of the implications of large families upon personal household finances) should prevent the high variant from materializing. Instead, the U.N. medium projection will materialize if modest additional efforts are made to encourage the public to reduce fertility. The low variant, however, can be attained only by special additional efforts to reduce childbearing before age 20, curtail childbearing after age 35, and to reduce family size from five or six to two or three children by the year 2025. If this is the case, there is a policy choice to be made: whether to pursue a course that will almost inevitably produce a population about the size indicated by the medium variant, or to make special additional efforts to reduce growth and arrive at the population size indicated by the low variant.

Table PG-6 reports the population that would be resident in each country in selected years between 1980 and 2025 under the medium and low variants. Figure PG-2 gives a visual presentation of what these options mean in terms of future population size for each country. It is a policy matter of basic importance, and particularly for Honduras, Nicaragua, Haiti, El Salvador, Guatemala, and Mexico. The remaining sections of this report will elaborate some of the reasons why this is so.

Table PG-2. Emigration from Central America: Population Born in North and Central America and Enumerated in Countries of the Americas Other than Country of Birth.

Country of residence	Census year	Country of birth								
		Canada	Costa Rica	El Salvador	Guatemala	Honduras	Mexico	Nicaragua	Panama	United States
Argentina[a]	1960	373	209	64	102	88	739	53	212	6,747
Bolivia[a]	1950	117	10	8	9	8	70	5	9	858
Brazil[a]	1950	402	47	16	88	31	299	25	65	7,987
Chile[a]	1970	350	101	109	66	122	319	56	216	3,661
Colombia[a]	1964	384	400	146	164	...	753	272	2,208	7,561
Ecuador[b]	1950	40	42	11	18	...	41	...	127	728
Guyana[a]	1960	215	...	...	...	...	...	...	...	317
Paraguay[a]	1972	1,529	...	...	...	...	646	...	...	927
Peru[a]	1972	...	...	...	...	...	...	...	...	5,991
Uruguay[a]	1975	...	...	...	...	...	...	...	...	...
Venezuela[a]	1971	647	1,314	342	181	165	1,717	866	1,079	10,832
Canada[a]	1971	—	...	...	...	...	5,380	...	...	309,640
Costa Rica[a]	1963	82	—	...	...	...	471	18,368	3,232	1,955
Costa Rica[a]	1973	86	—	766	404	452	425	11,871	1,598	2,151
El Salvador[a]	1971	46	422	—	3,413	14,290	636	784	5	1,461
Guatemala[a]	1973	179	805	14,052	—	6,231	3,196	1,098	217	3,527
Honduras[a]	1961	82	294	38,002	4,497	—	379	3,553	159	1,433
Mexico[a]	1970	3,352	998	1,213	6,969	942	—	3,674	1,183	97,246
Nicaragua[a]	1971	133	4,693	2,210	451	6,919	703	—	590	1,848
Panama[a]	1970	99	3,825	...	...	...	591	2,582	—	6,894
United States[c]	1970	...	16,691	15,717	17,356	27,978	759,711	16,125	20,046	—
Barbados[a]	1960	315	...	...	...	...	...	...	...	719
Cuba[a]	1970	87	...	...	...	...	1,201	...	...	2,178
Dominican Republic[a]	1970	131	40	113	4	32	161	15	19	2,663
Haiti[a]	1950	162	...	...	...	...	...	...	...	389
Jamaica[a]	1960	506	...	...	...	...	...	...	...	1,781
Trinidad and Tobago[a]	1960	525	...	...	...	...	...	...	...	1,420

[a] Population classified by country of birth

[b] Population classified by nationality

[c] Corresponds to natives of Latin American countries with both parents also born in Latin America

SOURCE: CELADE. Boletín Demográfico, Año X, No. 20; Santiago de Chile, July 1977.

Table PG-3. Total Fertility Rates Assumed Under Medium and Low Variants of United Nations/CELADE Projections for Nations of Latin America, 1980-2025.

Region and country	Medium variant							Low variant					
	1980-85	1985-90	1990-95	1995-00	2000-05	2010-15	2020-25	1980-85	1985-90	1990-95	1995-00	2000-05	2010-15
Latin America total....	4.20	3.86	3.57	3.36	3.18	2.94	2.77	4.05	3.58	3.21	2.92	2.45	2.28
Central America/other.....	4.95	4.39	3.90	3.51	3.22	2.79	2.52	4.80	4.13	3.55	3.08	2.38	2.12
Costa Rica.....	3.18	2.99	2.91	2.87	2.83	2.69	2.52	2.85	2.60	2.50	2.46	2.25	2.09
Cuba.....	1.97	1.97	2.02	2.10	2.08	2.10	2.09	1.97	1.81	1.65	1.83	2.04	2.09
Dominican Republic.....	4.25	3.70	3.40	3.20	3.08	2.93	2.50	3.77	2.95	2.35	2.21	2.10	2.08
El Salvador.....	5.56	5.10	4.74	4.45	3.97	3.32	2.80	5.04	4.30	3.75	3.32	2.40	2.12
Guatemala.....	5.17	4.76	4.42	4.31	3.85	3.36	2.97	4.59	3.90	3.44	3.22	2.71	2.46
Haiti.....	5.74	5.56	5.36	5.15	4.86	4.24	3.49	5.58	5.31	5.02	4.72	3.57	2.87
Honduras.....	6.50	5.59	5.14	5.00	4.73	3.95	3.20	6.47	5.09	4.35	4.10	2.86	2.26
Mexico.....	4.85	4.27	3.72	3.25	2.97	2.57	2.35	4.80	4.15	3.53	3.00	2.29	2.55
Nicaragua.....	6.21	5.86	5.47	5.04	4.67	4.00	3.28	5.62	5.04	4.47	3.90	2.97	2.67
Panama.....	3.57	3.24	3.01	2.85	2.73	2.54	2.44	3.51	3.07	2.71	2.48	2.19	2.11
Puerto Rico.....	2.15	2.01	1.95	1.91	2.09	2.09	2.09	2.09	2.01	1.95	1.91	2.09	2.09
Tropical South America.....	4.29	3.95	3.69	3.49	3.33	3.12	2.98	4.17	3.69	3.31	3.01	2.54	2.39
Bolivia.....	6.25	6.06	5.81	5.50	6.50	4.73	3.50	6.05	5.65	5.12	4.50	2.86	2.36
Brazil.....	4.02	3.67	3.42	3.28	3.18	3.10	3.05	3.94	3.42	3.05	2.79	2.42	2.34
Colombia.....	3.93	3.58	3.26	3.00	2.78	2.49	2.31	3.66	3.17	2.80	2.52	2.13	2.05
Ecuador.....	6.00	5.64	5.20	4.72	4.26	3.61	3.18	5.83	5.32	4.72	4.10	3.07	2.66
Paraguay.....	4.85	4.48	4.11	3.75	3.42	2.93	2.56	4.62	4.07	3.46	3.02	2.33	2.19
Peru.....	5.29	5.07	4.84	4.60	4.37	3.91	3.50	5.21	4.91	4.60	4.29	3.44	3.00
Venezuela.....	4.33	3.93	3.58	3.27	3.03	2.69	2.50	4.18	3.72	3.32	2.99	2.41	2.25
Temperate South America....	2.82	2.69	2.58	2.48	2.39	2.24	2.15	2.55	2.37	2.25	2.17	2.08	2.05
Argentina.....	2.78	2.67	2.57	2.46	2.37	2.22	2.14	2.54	2.37	2.24	2.15	2.06	2.05
Chile.....	2.90	2.74	2.61	2.50	2.42	2.28	2.19	2.56	2.37	2.26	2.20	2.09	2.05
Uruguay.....	2.78	2.69	2.61	2.55	2.50	2.36	2.15	2.56	2.42	2.32	2.25	2.09	2.05

NOTE: Central America total does not include Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

Table PG-4. Projected Life Expectancy at Birth and Crude Death Rates Assumed Under Medium and Low Variants of United Nations/CELADE Projections for Nations of Latin America, 1980-2025.

Region and country	Life expectancy at birth							Crude death rate						
	1980-85	1985-90	1990-95	1995-00	2000-05	2010-15	2020-25	1980-85	1985-90	1990-95	1995-00	2000-05	2010-15	2020-25
Latin America total...	64.1	65.6	66.9	68.1	69.0	70.6	71.8	8.2	7.6	7.1	6.8	6.6	6.5	6.7
Central America/other.....	65.1	66.7	68.3	69.7	70.7	71.9	72.6	7.4	6.6	5.9	5.4	5.2	5.3	5.9
Costa Rica.....	70.9	71.9	72.5	72.8	73.1	73.6	73.9	5.0	4.9	4.9	5.1	5.3	5.9	6.9
Cuba.....	73.4	74.0	74.4	74.7	74.9	75.0	75.1	6.4	6.7	6.9	7.2	7.4	8.4	9.9
Dominican Republic.....	62.6	64.6	66.4	68.1	69.2	71.1	72.4	7.9	7.1	6.5	6.0	5.8	5.8	6.0
El Salvador.....	64.8	67.1	69.2	71.3	72.1	72.8	73.1	8.1	7.0	6.0	5.2	4.9	4.9	5.2
Guatemala.....	60.7	63.4	65.8	68.0	69.1	71.0	72.2	9.3	8.0	7.0	6.3	5.9	5.6	5.7
Haiti.....	52.7	54.7	56.6	58.4	60.3	63.4	66.0	14.2	12.8	11.5	10.3	9.1	7.5	6.5
Honduras.....	59.9	62.6	65.3	67.8	69.4	71.5	72.2	10.1	8.4	7.2	6.3	5.7	4.9	4.9
Mexico.....	66.0	67.5	68.8	70.1	71.0	72.1	72.7	6.9	6.2	5.7	5.3	5.1	5.3	6.0
Nicaragua.....	57.6	60.0	62.4	64.7	66.1	68.4	70.1	10.6	9.1	7.8	6.6	6.1	5.4	5.2
Panama.....	70.7	71.7	72.4	72.8	72.8	73.1	73.5	5.6	5.4	5.4	5.5	5.6	6.2	7.2
Puerto Rico.....	73.4	73.8	74.1	74.4	74.8	75.3	75.7	5.5	5.4	5.6	5.8	6.1	7.1	8.9
Tropical South America....	63.0	64.4	65.8	67.1	68.1	70.0	71.7	8.5	7.9	7.4	7.0	6.8	6.5	6.6
Bolivia.....	50.7	53.1	55.9	59.4	61.6	64.8	67.2	15.9	14.1	12.2	10.0	9.2	6.9	6.0
Brazil.....	63.5	64.9	66.2	67.4	68.5	70.3	71.9	8.4	7.9	7.5	7.2	7.0	6.9	6.9
Colombia.....	63.6	64.8	65.9	66.9	67.9	69.7	71.3	7.7	7.4	7.1	6.9	6.8	6.9	7.5
Ecuador.....	62.6	64.9	67.1	69.0	69.6	70.7	71.5	8.9	7.5	6.4	5.6	5.4	5.3	5.4
Paraguay.....	55.1	66.1	67.0	67.8	68.7	70.2	71.7	7.2	6.8	6.4	6.1	5.9	5.7	6.0
Peru.....	59.1	61.0	62.7	64.4	65.9	68.6	71.2	10.3	9.3	8.3	7.5	6.9	6.0	5.5
Venezuela.....	67.8	69.0	70.0	70.9	71.7	73.0	73.9	5.6	5.2	4.9	4.8	4.8	5.1	5.7
Temperate South America...	69.0	69.7	70.4	71.1	71.5	71.8	72.1	8.8	8.8	8.8	8.9	9.0	9.5	10.1
Argentina.....	69.9	70.3	70.8	71.2	71.5	71.8	72.0	9.0	9.2	9.4	9.5	9.7	10.0	10.5
Chile.....	67.0	68.3	69.5	70.6	71.1	71.6	71.9	7.7	7.5	7.3	7.2	7.3	8.1	9.3
Uruguay.....	70.3	71.1	71.9	72.7	73.0	73.3	73.6	10.2	10.2	10.1	10.0	10.0	9.8	9.7

NOTE: Central America total excludes Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

Table PG-5. Projections of Population for the Year 2025 by Three Variants: Nations of Latin America, 1985-2025.

Region and country	Population in 1985 (000)	Population in 2025 (000)			Differences between: (000)			Percent change 1985-2025		
		High variant	Medium variant	Low variant	High and medium	Medium and low	High and low	High variant	Medium variant	Low variant
Latin America total....	409,743	984,284	865,198	760,670	119,086	104,528	223,614	140	111	85
Central America/other.....	134,314	346,049	295,445	265,157	50,604	30,288	80,892	158	120	97
Costa Rica.....	2,485	5,889	4,893	4,192	996	701	1,697	137	97	68
Cuba.....	10,038	13,994	13,575	12,735	419	840	1,259	39	35	27
Dominican Republic.....	6,715	18,208	14,495	10,904	3,713	3,591	7,304	171	116	62
El Salvador.....	5,552	18,895	15,048	11,590	3,847	3,458	7,305	240	171	109
Guatemala.....	8,403	27,269	21,717	17,075	5,552	4,642	10,194	225	158	103
Haiti.....	6,585	20,406	18,312	15,921	2,094	2,391	4,485	210	178	142
Honduras.....	4,372	17,038	13,293	10,642	3,745	2,651	6,396	290	204	143
Mexico.....	80,484	197,534	173,960	164,537	23,574	9,423	32,997	145	116	104
Nicaragua.....	3,218	15,906	9,752	7,586	6,154	2,166	8,320	394	203	136
Panama.....	2,117	4,230	3,937	3,537	239	400	693	100	93	84
Puerto Rico.....	4,345	6,680	6,463	6,438	217	25	242	78	75	75
Tropical South America.....	224,038	558,404	495,654	428,106	62,750	67,548	130,298	149	121	91
Bolivia.....	6,371	21,690	19,525	14,089	2,165	5,436	7,601	241	207	121
Brazil.....	137,233	332,808	291,252	248,366	41,556	42,886	84,442	143	112	81
Colombia.....	28,714	57,626	51,718	45,136	5,908	6,582	12,490	101	81	57
Ecuador.....	9,380	28,582	25,725	22,531	2,857	3,194	6,051	205	174	140
Paraguay.....	3,681	9,969	8,552	7,230	1,417	1,322	2,739	171	132	96
Peru.....	20,273	60,249	56,036	51,283	4,213	4,753	8,966	197	176	153
Venezuela.....	18,386	47,480	42,846	39,471	4,634	3,375	8,009	158	133	115
Temperate South America....	43,799	66,315	61,924	55,867	4,391	6,057	10,448	51	41	28
Argentina.....	28,689	41,781	39,058	35,494	2,723	3,564	6,287	46	36	24
Chile.....	12,074	20,118	18,758	16,673	1,360	2,085	3,445	67	55	38
Uruguay.....	3,036	4,416	4,108	3,700	308	408	716	46	35	22

NOTE: Central America total excludes Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

Table PG-6. Population Projections for Selected Years: Nations of Latin America, 1935-2025.

Region and country	Medium variant (000)							Low variant				
	1980	1985	1990	1995	2000	2010	2025	1980	1985	1990	1995	2000
Latin America total....	363,704	409,743	459,298	511,433	565,747	681,494	865,198	363,166	407,213	452,738	543,912	760,670
Central America/other.....	92,538	106,848	122,382	138747	155,709	191020	242,909	92,416	106,293	120,864	150,222	219,461
Costa Rica.....	2,213	2,485	2,776	3,075	3,377	3,994	4,893	2,199	2,440	2,690	3,185	4,192
Cuba.....	9,732	10.038	10,540	11,152	11,718	12,584	13,575	9,732	10,038	10,464	11,343	12,735
Dominican Republic.....	5,947	6,715	7,534	8,414	9,329	11,371	14,495	5,925	6,589	7,209	8,313	10,904
El Salvador.....	4,797	5,552	6,484	7,531	8,708	11,188	15,048	4,769	5,447	6,228	7,891	11,5[illegible]
Guatemala.....	7,262	8,403	9,676	11,109	12,739	16,125	21,717	7,213	8,213	9,230	11,444	17,075
Haiti.....	5,809	6,585	7,509	8,596	9,860	12,868	18,312	5,793	6,536	7,402	9,516	15,921
Honduras.....	3,691	4,372	5,105	5,953	6,978	9,394	13,293	3,688	4,357	5,024	6,571	10,642
Mexico.....	69,752	80,484	91,976	103,814	115,659	139,886	173,960	69,752	80,365	91,504	113,443	164,537
Nicaragua.....	2,733	3,218	3,778	4,422	5,154	6,854	9,752	2,709	3,145	3,626	4,692	7,586
Panama.....	1,896	2,117	2,346	2,583	2,823	3,291	3,937	1,895	2,111	2,325	2,731	3,537
Puerto Rico.....	3,675	4,345	4,747	5,043	5,312	5,876	6,463	3,675	4,333	4,735	5,300	6,438
Tropical South America.....	199,452	225,530	253,792	283,689	315,146	383,629	498,476	199,301	224,523	250,566	303,102	430,755
Bolivia.....	5,570	6,371	7,314	8,422	9,724	13,451	19,525	5,561	6,331	7,199	9,184	14,089
Brazil.....	122,320	137,233	153,171	169,899	187,494	225,957	291,252	122,320	136,892	151,588	180,536	248,366
Colombia.....	25,794	28,714	31,820	34,940	37,999	43,840	51,718	25,709	28,359	30,993	35,888	45,136
Ecuador.....	8,021	9,380	10,949	12,704	14,596	18,740	25,725	8,007	9,320	10,785	13,952	22,531
Paraguay.....	3,168	3,681	4,231	4,807	5,405	6,653	8,552	3,168	3,656	4,144	5,087	7,230
Peru.....	17,625	20,273	23,355	26,843	30,703	39,597	56,036	17,625	20,232	23,214	30,086	51,283
Venezuela.....	15,620	18,386	21,284	24,225	27,207	33,432	42,846	15,588	18,266	21,013	26,427	39,471
Temperate South America....	41,067	43,801	46,505	49,109	51,605	56,221	61,925	40,833	43,164	45,347	49,259	55,869
Argentina.....	27,036	28,689	30,277	31,786	33,222	35,843	39,058	26,909	28,332	29,605	31,806	35,494
Chile.....	11,104	12,074	13,061	14,017	14,934	16,647	18,758	11,011	11,828	12,636	14,136	16,673
Uruguay.....	2,924	3,036	3,166	3,505	3,448	3,730	4,108	2,911	3,001	3,104	3,315	3,706

NOTE: Central America total excludes Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

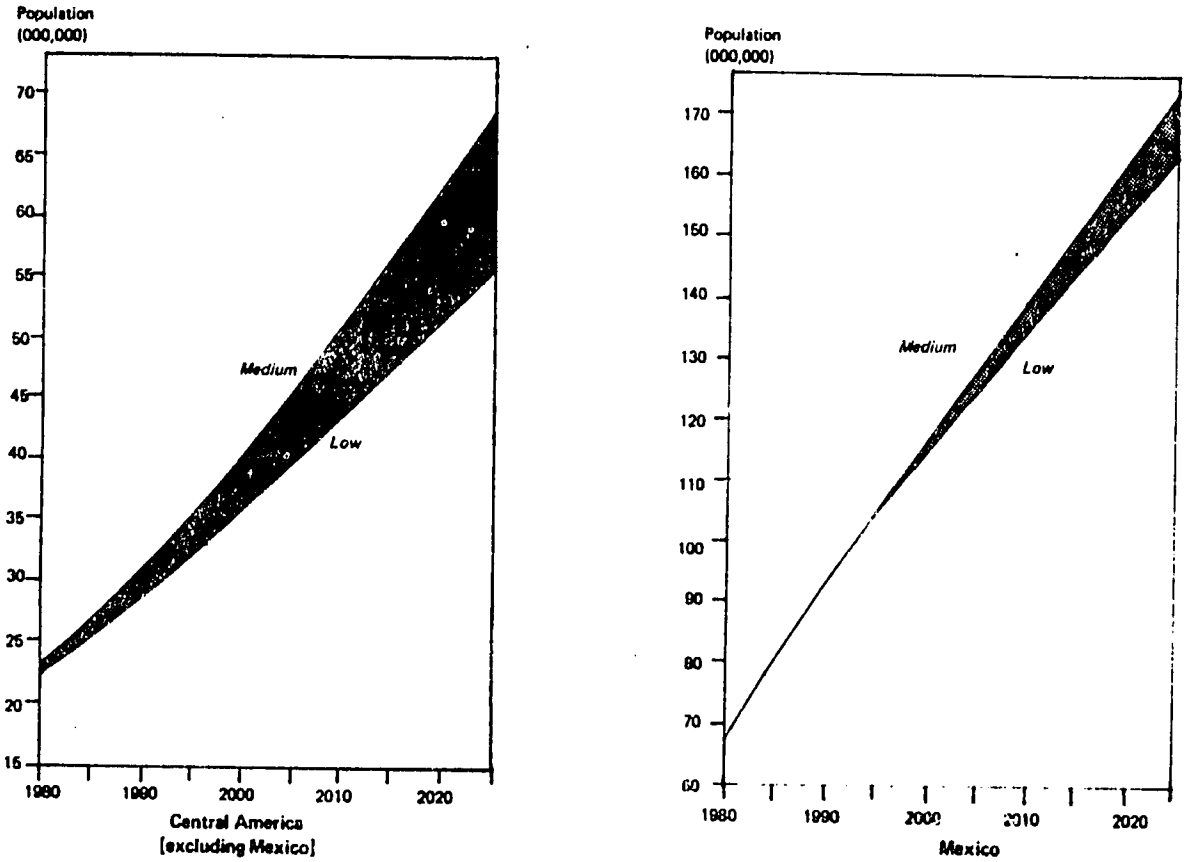


Figure PG-2. Projections of Population Growth Rates: Regions of Latin America and Mexico and Brazil, 1980-2025.

Source: Table PG-6.

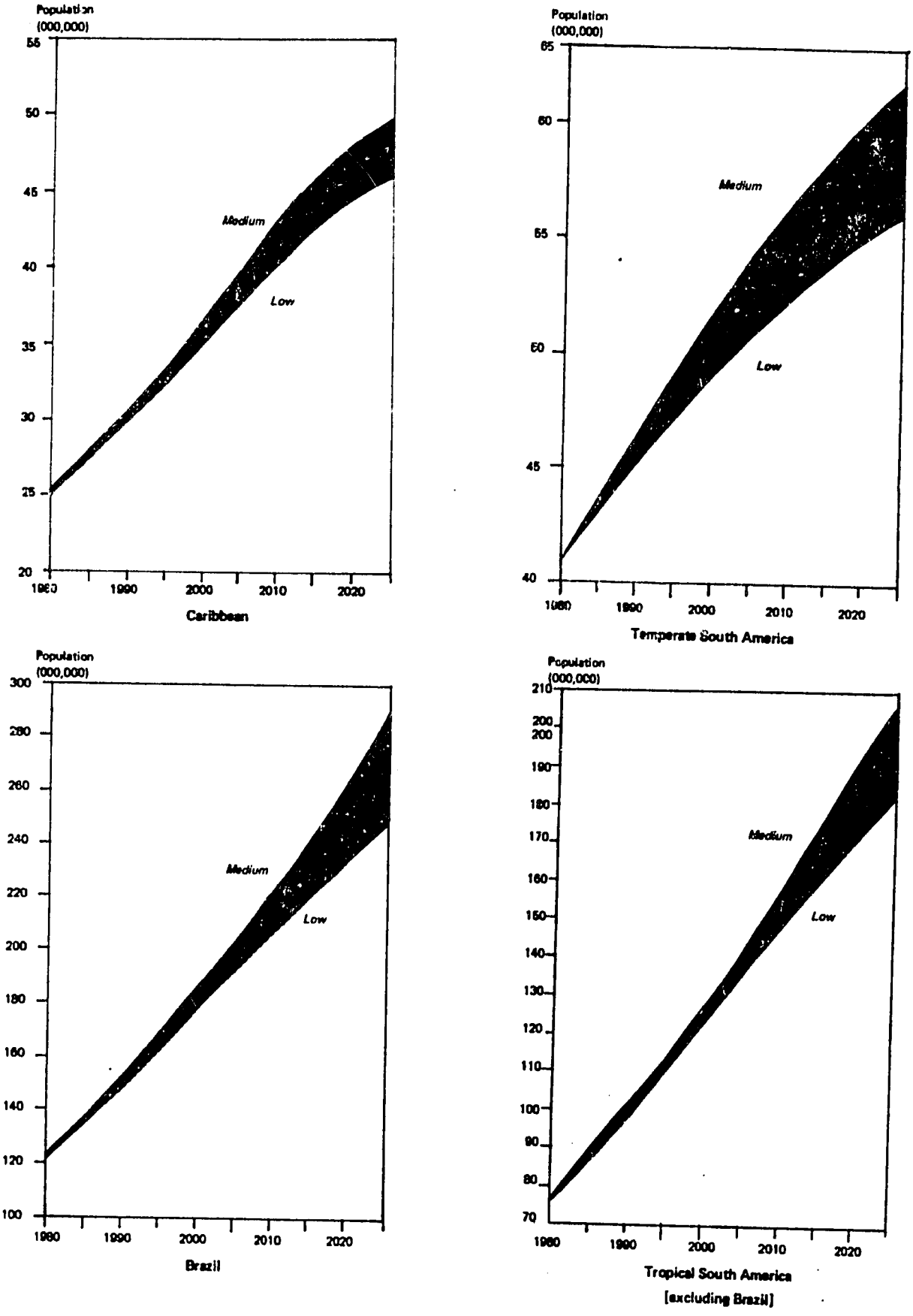


Figure PG-2. Projections of Population Growth Rates: Regions of Latin America and Mexico and Brazil, 1980-2025-continued.

Age and Sex Composition and Dependency

4.

Wherever fertility rates are high, a high percentage of the population is comprised of children. Where fertility rates are low, the ratio of children to adults is smaller. If each woman bears 5 or 6 children, as in most of the countries in Central America, it is self-evident that the offspring will far outnumber the parents, and the population will have a young age composition.

Dependency ratio and median age

One way of measuring the age composition is "median age." The median age of the population is the age at which one-half of the population is younger and one-half of the population is older.

Demographers also use a measure called the "dependency ratio" to study a population's age composition. It is simply the population under age 15 plus the population aged 65 or over divided by the population of working age (15-64 years). This ratio is multiplied by 100 to express it as the number of dependents per 100 adults of working age.

$$\text{Dependency Ratio} = \frac{(0\text{-}15) + (65\text{-over})}{(15\text{-}64)} \times 100$$

Where the dependency ratio is nearly 100, as in Honduras and Nicaragua, there is one dependent person for every adult. Where the dependency ratio is only 52, as in Cuba, the dependency load of adults is reduced by one-half. The dependency ratio thus is a measure of the demands that children make upon family income and upon the national economy. The United Nations has provided measures of age composition, dependency ratios, and median age for all nations of the world.

Table A-1 provides measures both of median age and dependency ratios for each of the nations of Latin America, taken from the U.N. source. It is clear there is great diversity of age composition. In Cuba, Costa Rica, Panama, and Puerto Rico, where fertility is low, the dependency ratios are also low and the median ages are higher, while in the high fertility countries of Honduras, Nicaragua, El Salvador, and Guatemala, the reverse is true. Also, it can be seen that in the countries which now have low birth rates, the decline of fertility over the past 30 years has been paralleled by declines in the dependency load of the children that adults must support. Where fertility has changed little, dependency ratios have stayed at the same high levels. Figure A-1 shows the correlation between fertility and age composition for all of Latin America to emphasize the importance of this variable.

The age pyramid

The above measures of age composition do not show the full detail of a population's age distribution. An "age pyramid"—a diagram which shows the size of each age group in comparison with other ages—helps to explain the effect of high fertility on age composition. Figure A-2 shows the age pyramid for a typical less developed population and for a typical more developed population. The very large number of children in relation to adults is apparent in the less developed population, whereas in the more developed regions children are less numerous in relation to adults. Panel D of this figure shows what the age composition of the population of the less developed regions would be like if a decline in fertility were to remain in effect for a prolonged time: the dependency ratio declines, and children become a smaller proportion of the total, just as the more developed countries presently exhibit.

A comparison of the age pyramids for the more developed nations with the less developed nations shows that one side effect of declining fertility is an increase in the proportion of elderly persons age 65 or over. Some alarmists mistakenly believe that reducing the dependency load of children merely shifts the dependency from child dependency to old-age dependency. This is not true. Although the proportion of adults age 65 or above rises from about 3 or 4 percent to about 7 or 8 percent as birth rates decline toward the three or four child family, *at no time does it even begin to approach the 40 to 50 percent children comprise of the total population under conditions of high fertility.* Table A-2 shows the two components of the dependency ratio, children and aged, for each country. By comparing the data for the low fertility countries with that of the high fertility countries, and by comparing the trends over the decades of youth dependency and old-age dependency as birth rates have declined, the validity of the above demographic principle can be observed: reducing fertility always reduces total dependency—the immediate decline in childhood dependency always far outweighs the smaller increase in old-age dependency which occurs much later.

Women of childbearing age

The dependency ratios fail to measure the childbearing potential of the population under conditions of high and low fertility. Table A-3 reports data on the percentage of all women ages 15-49 for each nation for dates between 1950 and 1985. An interesting demographic fact emerges: the proportion of women in the childbearing ages remains almost constant at 22-26 percent, irrespective of fertility levels or trends. This means that the *potential* for childbearing is almost identical irrespective of how quickly or how slowly the population has grown in the past. The birth rate in a particular year is influenced only to a minor degree by the age composition of the childbearing women; the *rate* at which they bear children at each age is a much more important factor. This is determined, in large part, by the degree to

Table A-1. Age Composition: Median Age and Dependency Ratio, Latin American Countries, 1950-85.

Region and country	Median age					Dependency ratio (total)				
	1950	1960	1970	1980	1985	1950	1960	1970	1980	1985
Latin America total.....	19.7	18.9	18.6	19.7	20.5	78.2	85.4	86.8	78.8	74.7
Central America/other.....	18.4	17.0	16.6	17.5	18.1	65.6	96.8	99.1	92.3	86.6
Costa Rica.....	18.2	16.4	16.8	19.9	21.7	88.3	101.9	97.2	71.0	64.0
Cuba.....	22.9	23.3	22.4	24.4	25.8	68.5	64.4	75.7	62.9	52.1
Dominican Republic.....	17.5	16.1	15.5	17.2	18.5	92.6	102.9	107.0	101.5	90.9
El Salvador.....	18.7	17.6	16.9	17.2	17.5	82.1	92.2	97.2	94.6	92.2
Guatemala.....	17.7	16.9	17.0	17.7	18.3	88.6	95.7	94.0	88.5	85.4
Haiti.....	20.2	19.6	18.5	18.1	18.0	77.2	81.3	87.5	89.1	88.7
Honduras.....	17.5	17.2	16.2	16.0	16.4	87.4	91.4	99.8	102.3	99.2
Mexico.....	18.6	17.0	16.6	17.4	18.2	85.1	97.3	100.0	92.8	86.4
Nicaragua.....	17.9	16.1	15.6	15.9	16.1	89.0	101.4	104.0	101.8	100.0
Panama.....	19.3	18.1	18.1	19.7	21.0	89.6	93.0	89.0	78.5	71.6
Puerto Rico.....	18.4	18.5	21.4	24.0	25.5	89.2	92.0	77.0	59.4	55.7
Tropical South America,.....	18.8	18.1	18.0	19.4	20.3	82.6	89.1	88.6	78.2	74.2
Bolivia.....	18.9	18.6	18.4	18.2	18.0	82.3	85.3	86.2	87.7	88.5
Brazil.....	18.7	18.4	18.5	19.9	20.9	81.2	86.4	85.7	76.1	71.8
Colombia.....	18.3	16.9	17.1	19.4	20.7	87.9	97.5	93.6	75.2	69.3
Ecuador.....	19.0	17.9	17.2	17.6	17.7	82.6	92.3	96.7	92.2	90.7
Paraguay.....	18.9	17.1	16.9	18.3	18.8	85.6	97.3	96.0	85.7	82.6
Peru.....	20.1	18.7	17.9	18.5	18.9	83.0	89.5	92.0	84.0	80.9
Venezuela.....	19.0	17.1	16.9	18.5	19.2	84.1	94.8	94.5	81.6	78.5
Temperate South America.....	24.7	25.5	25.8	27.0	27.6	57.6	61.5	61.4	58.9	58.6
Argentina.....	25.7	27.0	27.6	28.5	29.0	53.2	57.0	57.0	57.8	58.4
Chile.....	21.3	20.5	21.2	23.2	24.5	72.9	76.9	75.0	61.3	58.5
Uruguay.....	27.4	28.6	29.2	29.6	29.7	54.2	56.5	58.2	60.0	60.8

NOTE: Central America total excludes Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980, 1982.

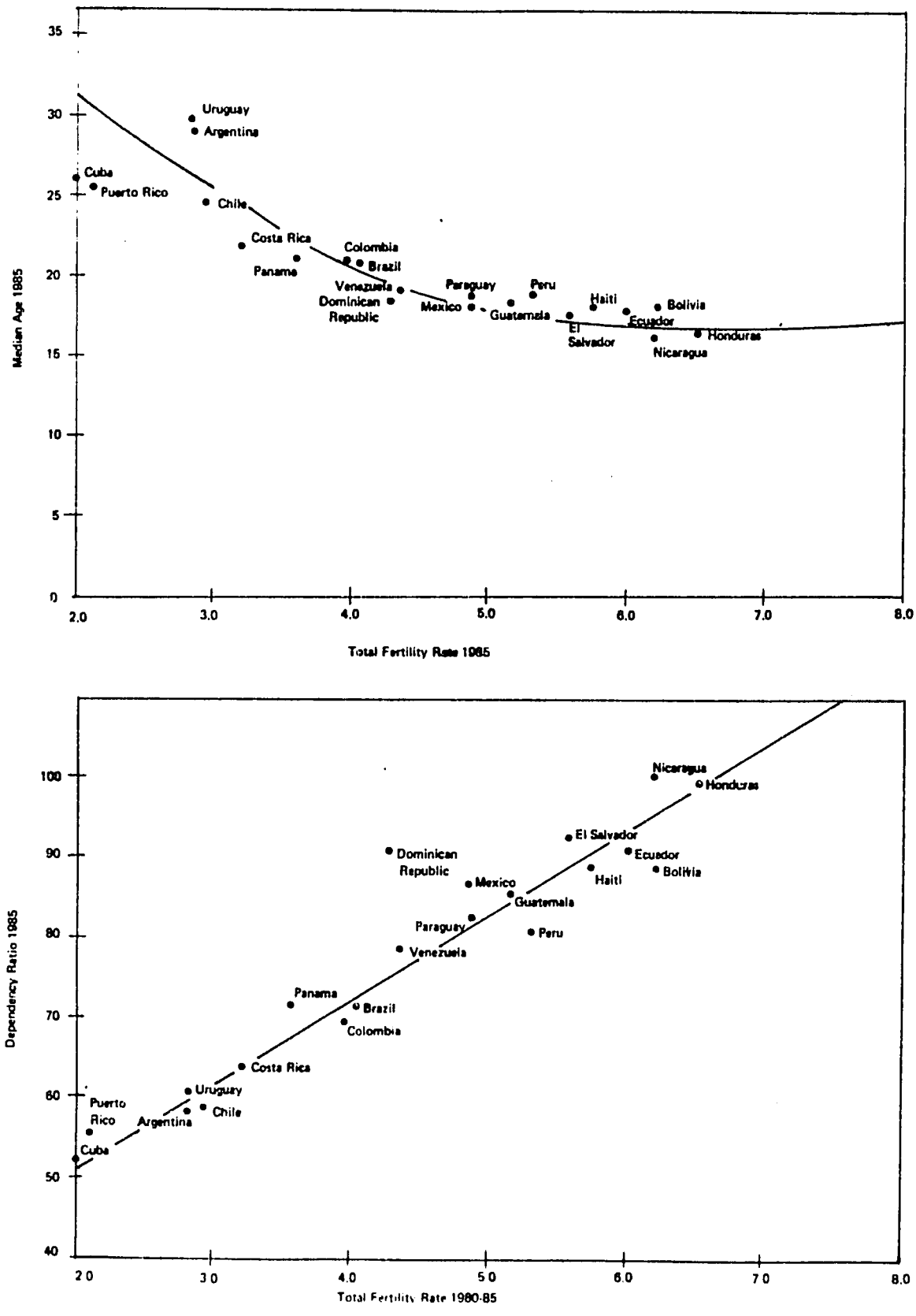
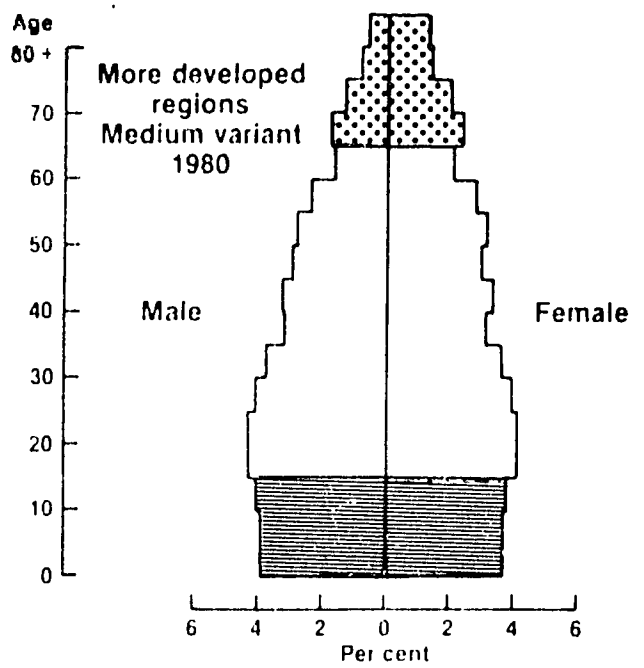
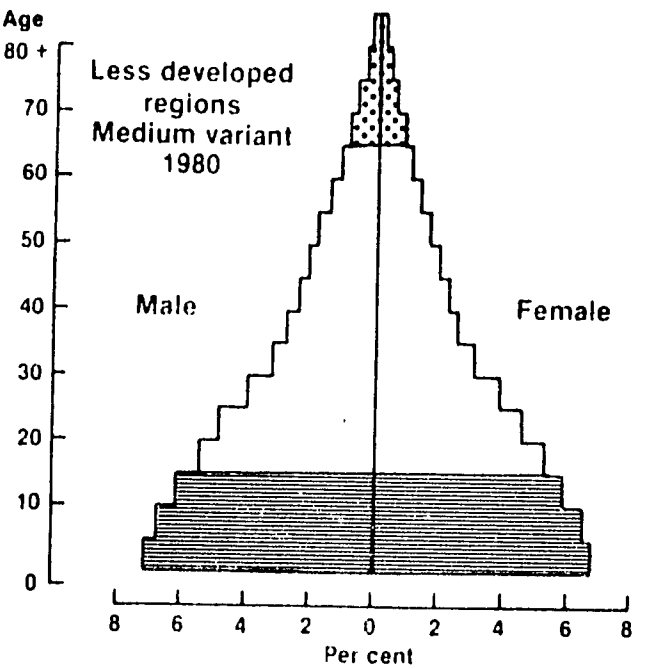


Figure A-1. Scattergrams of Median Age and Dependency Ratios Plotted Against Total Fertility Rate: Latin America, 1980-85.

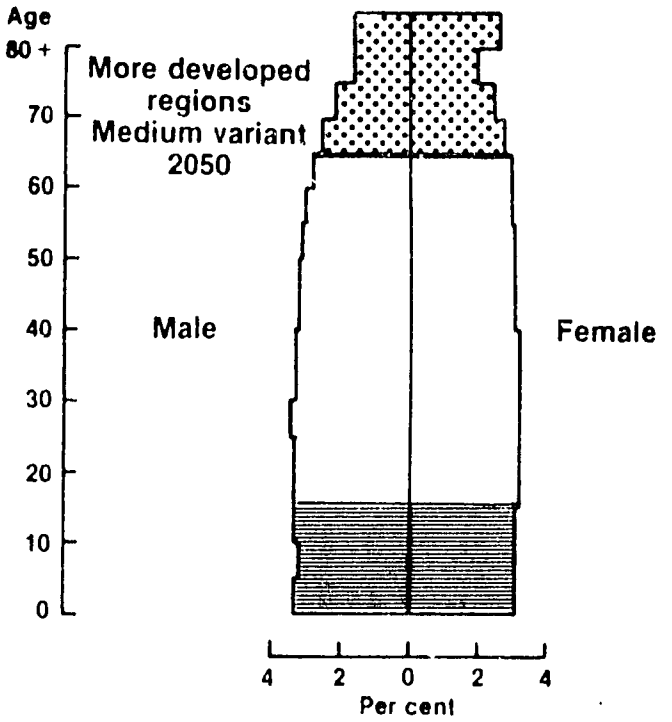
Source: Data of this report.



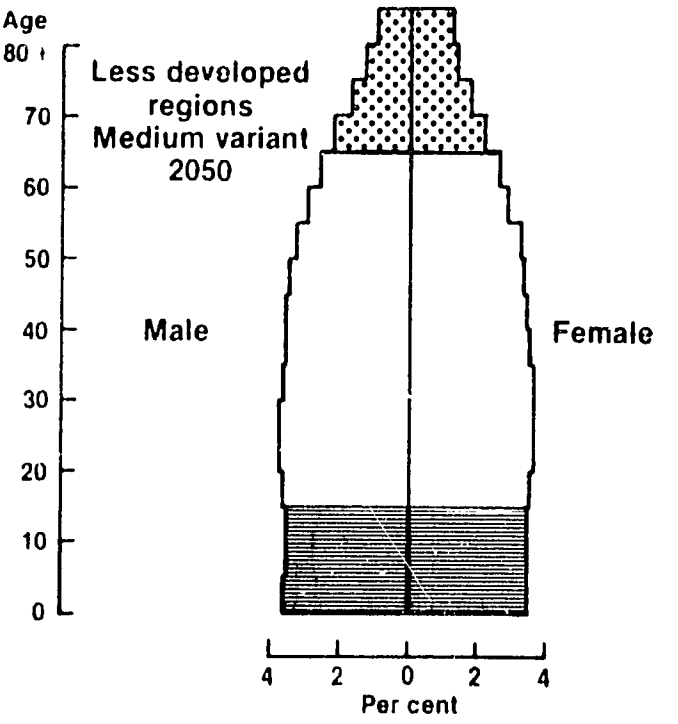
Panel A. Dependent children



Panel B. Dependent elderly



Panel C.



Panel D.

Figure A-2. Percentage Distribution of Population by Age and Sex, More Developed and Less Developed Regions, Medium Variant: 1980 and 2050.

Source: Population Division, Department of International Economic and Social Affairs, United Nations Secretariat, 1982.

Table A-2. Age Composition: Percent of Population Age 15 and Under and 65 and Over, Latin American Countries, 1950-85.

Region and country	Percent 0-14 years of age					Percent 65 years and older				
	1950	1960	1970	1980	1985	1950	1960	1970	1980	1985
Latin America total.....	40.5	42.5	42.6	39.8	38.4	3.4	3.6	3.9	4.3	4.4
Central America/other.....	43.0	46.1	46.5	44.6	43.0	3.1	3.1	3.3	3.4	3.4
Costa Rica.....	43.5	47.5	46.1	37.9	35.1	3.4	3.0	3.2	3.7	3.9
Cuba.....	36.2	34.4	37.2	31.3	26.4	4.5	4.8	5.9	7.3	7.9
Dominican Republic.....	44.8	47.8	49.0	44.8	41.5	3.3	2.9	2.7	2.8	3.0
El Salvador.....	42.2	45.1	46.1	45.2	44.6	2.9	2.9	3.2	3.4	3.4
Guatemala.....	44.2	46.2	45.7	44.1	43.1	2.7	2.7	2.7	2.9	3.0
Haiti.....	39.5	40.9	42.9	43.6	43.6	4.1	3.9	3.7	3.6	3.4
Honduras.....	44.7	45.6	47.5	47.8	46.9	1.9	2.1	2.4	2.7	2.9
Mexico.....	42.8	46.1	46.5	44.6	42.9	3.2	3.2	3.5	3.5	3.4
Nicaragua.....	44.1	47.8	48.5	48.0	47.6	3.0	2.5	2.4	2.4	2.4
Panama.....	41.6	44.0	43.4	39.8	37.2	5.7	4.2	3.7	4.2	4.5
Puerto Rico.....	43.3	42.7	37.0	31.2	29.9	3.8	5.2	6.5	6.1	5.8
Tropical South America.....	42.2	44.0	43.6	40.0	38.7	3.0	3.1	3.4	3.8	3.9
Bolivia.....	42.0	42.9	43.0	43.5	43.8	3.1	3.2	3.3	3.3	3.2
Brazil.....	42.4	43.4	42.7	39.2	37.5	2.4	2.9	3.5	4.0	4.3
Colombia.....	43.2	46.3	45.4	39.4	37.2	3.5	3.1	3.0	3.5	3.8
Ecuador.....	41.7	44.4	45.3	44.4	44.2	3.5	3.6	3.8	3.5	3.4
Paraguay.....	42.3	46.0	45.7	42.7	41.7	3.8	3.3	3.3	3.4	3.6
Peru.....	40.1	42.7	44.1	42.3	41.4	5.2	4.5	3.8	3.4	3.3
Venezuela.....	42.2	46.2	46.0	42.2	41.0	3.5	2.5	2.5	2.8	2.9
Temperate South America.....	32.2	32.7	31.4	29.1	28.6	4.4	5.4	6.6	8.0	8.4
Argentina.....	30.5	30.8	29.1	27.9	27.6	4.2	5.5	7.2	8.7	9.3
Chile.....	38.2	39.1	38.1	32.5	31.2	4.0	4.3	4.8	5.5	5.7
Uruguay.....	28.2	28.5	28.2	27.2	27.0	6.9	7.6	8.6	10.3	10.8

NOTE: Central America total excludes Cuba, the Dominican Republic, Haiti, and Puerto Rico.

SOURCE: United Nations. Demographic Indicators of Countries; Estimates and Projections as Assessed in 1980, 1982.

Table A-3. Sex Ratio and Percent of Women in Childbearing Ages (15-49): Latin American Countries, 1950-85.

Region and country	Percent of women in childbearing age					Sex ratio				
	1950	1960	1970	1980	1985	1950	1960	1970	1980	1985
Latin America total....	23.8	22.8	22.6	23.8	24.4	101.1	101.0	100.9	100.6	100.5
Central America/other.....	23.2	21.8	21.7	22.6	23.3	100.1	100.6	100.9	101.0	101.1
Costa Rica.....	23.0	21.2	21.8	25.3	26.3	101.0	101.5	101.7	101.6	101.4
Cuba.....	23.9	24.3	22.8	24.9	26.8	109.2	106.1	105.2	104.0	103.8
Dominican Republic.....	21.7	21.2	21.0	22.9	24.2	105.3	103.1	102.5	102.3	102.2
El Salvador.....	24.0	22.3	21.6	22.1	22.4	100.6	101.1	101.5	101.0	100.9
Guatemala.....	22.8	22.0	22.3	22.7	23.0	102.3	102.6	102.8	102.8	102.8
Haiti.....	24.5	24.1	23.3	23.2	23.3	94.5	95.0	96.0	96.9	97.3
Honduras.....	23.4	22.7	21.6	21.4	21.8	102.0	101.4	100.7	100.6	100.5
Mexico.....	23.3	21.7	21.6	22.6	23.4	99.6	100.2	100.7	100.9	100.9
Nicaragua.....	23.3	21.8	21.9	22.1	22.4	100.1	99.4	97.6	98.6	99.1
Panama.....	21.9	21.7	21.9	23.4	24.4	104.4	104.4	104.5	104.0	103.7
Puerto Rico.....	22.8	22.7	24.2	29.1	29.6	101.2	98.2	96.4	85.0	86.7
Tropical South America.....	23.5	22.6	22.7	24.0	24.6	100.6	101.1	101.1	100.9	100.8
Bolivia.....	23.4	23.2	23.4	23.2	23.2	99.3	98.1	97.4	97.1	97.1
Brazil.....	23.8	22.9	22.9	24.2	24.8	101.8	102.0	101.8	101.5	101.3
Colombia.....	23.2	22.1	22.3	24.5	25.4	98.6	98.6	99.6	100.4	100.7
Ecuador.....	23.2	22.0	21.9	22.5	22.7	97.1	99.2	99.9	100.2	100.3
Paraguay.....	23.4	22.0	22.0	23.4	24.0	97.4	97.3	98.7	99.5	99.7
Peru.....	22.5	22.2	22.4	23.4	23.8	96.9	98.9	100.0	100.5	100.7
Venezuela.....	22.7	21.4	22.1	24.1	24.6	103.4	104.1	102.1	100.4	100.0
Temperate South America....	25.7	24.8	24.5	24.7	24.7	103.9	102.0	100.3	99.1	98.8
Argentina.....	26.2	25.2	24.8	24.2	24.1	106.1	103.4	101.2	99.8	99.3
Chile.....	24.2	23.7	23.9	26.1	26.5	98.7	98.6	98.3	98.1	98.1
Uruguay.....	25.5	25.2	24.5	23.6	23.4	102.2	100.5	98.9	96.6	96.2

SOURCE: The sex ratios are from the United Nations, Demographic Indicators of Countries; Estimates and Projections as Assessed in 1980, 1982. The percent of women of childbearing age was compiled from this same source.

which they are married or in a consensual union and the extent to which those who are exposed to pregnancy use contraception for spacing or limiting family size.

Sex ratios

The sex ratio is defined as the number of males per 100 female population. At birth, there are about 104 males per 100 females. Because female death rates are lower than male rates (as was discussed in the section on mortality), this predominance of males slowly diminishes with advancing age, until at the older ages females outnumber males by a substantial amount. In countries with high birth rates and younger populations, males tend to outnumber females because of the young age composition. In countries with low birth rates, the reverse tends to be true because of the older age composition of the population. Central America has the sex composition of a typical high fertility population: in most of the nations males slightly outnumber females. Areas which have had extensive international migration with relation to the U.S. and other nations may have unusual sex ratios; Cuba, Panama, and Puerto Rico are examples.

For the long-term future, one could predict that as birth rates decline, the sex ratios of all of the Central American countries will gradually decline below 100 by the end of the present century or early in the next.

Marital Status

5.

In order to understand fertility in Central America, familiarity with its pattern of marriage and family formation is important. Fertility tends to be high where marriage occurs at young age and where a high proportion of people get married. Where marriage occurs at a later age and there is a great deal of spinsterhood and bachelorhood, fertility tends to be lower. Furthermore, when marriages last throughout the entire reproductive period, fertility tends to be high; when they are broken by separation, divorce, or widowhood, fertility may be reduced. Table N-1 shows indicators of the marital status composition of the population as estimated for 1985.

The following measures will be used in the analysis that follows:

(a) *Percent adolescent marriage*--percent of persons 15-19 who are married.*

(b) *Percent early adult marriage*--percent of persons aged 20-24 who are married.*

(c) *Percent of persons of childbearing age currently married*--percent of population aged 30-34 who are married.*

(d) *Percent of never married*--percent of population aged 45-49 single (never married).

(e) *Percent of widowhood*--percent of population aged 45-49 widowed.

(f) *Percent of disrupted marriage*--per-

*As defined here, "married" includes consensual (common law) unions.

Table N-1. Indicators of Marital Status: Latin American Countries, 1985.

Region and country	Female						Male					
	Percent married			Population aged 45-49			Percent married			Population aged 45-49		
	15-19	20-24	30-34	Percent single	Percent widowed	Percent separated/ divorced	15-19	20-24	30-34	Percent single	Percent widowed	Percent separated/ divorced
Central America/other												
Costa Rica	14	51	79	13	6	6	2	29	79	11	2	2
Cuba	27	68	83	10	5	6	4	36	80	9	1	3
Dominican Republic	20	59	81	16	6	3	6	24	67	22	1	1
El Salvador	19	56	78	20	7	2	3	32	78	14	2	1
Guatemala	18	55	78	20	7	2	3	32	78	14	2	1
Haiti	6	40	78	18	7	2	1	14	59	13	1	1
Honduras	27	47	78	13	7	4	15	24	74	12	1	3
Mexico	19	60	84	7	9	5	5	37	84	6	2	2
Nicaragua	27	47	78	12	6	4	15	24	74	13	2	2
Panama	24	65	79	7	5	15	5	34	74	12	2	7
Puerto Rico	—	—	—	—	—	—	—	—	—	—	—	—
Tropical South America												
Bolivia	27	47	79	13	7	5	15	24	74	11	2	2
Brazil	12	49	80	9	10	6	2	25	80	7	2	3
Colombia	13	49	76	14	11	5	3	25	76	12	2	2
Ecuador	18	58	81	11	8	6	4	33	80	9	2	2
Paraguay	11	46	77	18	5	4	1	21	77	11	2	2
Peru	15	54	83	10	10	1	5	30	81	8	3	1
Venezuela	15	50	78	19	7	3	2	25	75	14	1	1
Temperate South America												
Argentina	10	45	81	10	7	4	2	22	76	12	1	2
Chile	9	45	77	12	10	5	2	27	78	11	3	2
Uruguay	28	47	78	13	7	5	15	24	74	12	1	2

NOTE: — indicates data not available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000. Chicago: Community and Family Study Center, 1979.

cent of population aged 45-49 divorced and separated.

Because the marital status of women affects fertility and population growth directly, women are here given primary attention, with secondary attention to the marital status of men. Table N-1 reports the six summary indicators listed above for both males and females as projected to 1985. From this table one learns the following about marriage and family formation in the region:

(a) Average age at marriage in most of the countries is not particularly early. Women marry between age 20 and 22, and men at about age 25—similar to the pattern of Europe and North America.

(b) Adolescent marriage—before age 20—is moderately high only in four countries: Honduras, Nicaragua, Cuba, and Panama. In the other countries, it is lower.

(c) The proportion of marriages that are disrupted by separation or divorce is small, except in Panama.

(d) Because of past moderately high mortality, widowhood at an early age is relatively common among women—6 to 7 percent of all women aged 45-49 are widows. It is uncommon among men.

(e) Except in Panama, Mexico, and Cuba, a substantial share of women (13-20 percent) remain single throughout their childbearing years.

(f) The percent of the population aged 30-34 that is currently married is high—about 80 percent.

Consensual (common law) marriage

One of the unique traits of family life in these countries is the high proportion of marriages that are formed consensually, without a formal ceremony or legal or religious registration. Table N-2 reports the percentages of currently married persons who are in a consensual union, for each country. In Honduras, Guatemala, El Salvador, Haiti, Dominican Republic, and Panama, one-half or more of all marriages are of this type, and more than one-third of marriages in Nicaragua and Cuba are consensual. In the remainder of Latin America, Venezuela, Ecuador, Paraguay, Peru, Colombia, and Bolivia also have this form of marriage to a substantial, but less prevalent degree.

Because consensual unions often are less stable than formal marriages, and the children may receive less financial support and have fewer legal rights to inheritance of property from the father, this form of marriage may represent family "instability." Research on the effect of consensual unions on fertility is ambiguous. On the one hand, many of these unions form because a pregnancy has already occurred, and this tends to boost fertility. However, if the union dissolves, there may be an extended period in which the woman is not exposed to the likelihood of pregnancy. On the other hand, if she takes another partner, they may want additional children. Also, it is hypothesized that consensual unions need to have numerous dependent children to keep them cemented.

In summary, the marital status patterns of 1980-85 are not inherently conducive to high fertility. High fertility is caused by rapid childbearing within marriages of conventional ages, rather than by high levels of teenage childbearing. The substantial share of never married women, moderately frequent widowhood, and separation and divorce should tend to retard fertility, except where there are significant numbers of children born outside an established marital union.

Table N.2. Percentage of Currently Married Persons Who Are in a Consensual (Common Law) Marriage, by Sex.

Region and country	Female	Male	Year
Central America/other			
Belize	—	—	—
Costa Rica	16	15	1973
Cuba	35	34	1970
Dominican Republic	49	45	1970
El Salvador	50	49	1971
Guatemala	53	52	1973
Haiti	64	61	1971
Honduras	54	53	1974
Mexico	16	15	1970
Nicaragua	38	37	1971
Panama	53	51	1970
Puerto Rico	7	7	1970
Tropical South America			
Bolivia	18	16	1950
Brazil	7	7	1970
Colombia	19	17	1973
Ecuador	26	24	1974
Paraguay	22	21	1972
Peru	27	26	1972
Venezuela	32	31	1971
Temperate South America			
Argentina	10	9	1970
Chile	5	4	1970
Uruguay	8	8	1975

Source: United Nations. Demographic Yearbook, Historical Supplement, 1979.

Urban–Rural Residence and Migration

6.

The most visible and one of the most dramatic aspects of population change in Central America (as in all of Latin America) has been the almost magical mushroom growth of cities. In 1950, all of the nations of Central America were predominantly rural, with the urban component comprising one-third or even much less of the total. By 1980, urban population outnumbered rural in the region as a whole, with less than 50 percent urban only in Costa Rica, El Salvador, Guatemala, Haiti, and Honduras—with the transition to predominantly urban only a decade or so away in most of them. Movies, television programs, newspaper accounts, and scientific monographs have brought international as well as national attention to the invasions of squatters on underoccupied land surrounding the major cities, and to the ring of substandard housing made of scrap materials hastily improvised by the thousands of migrants pouring in monthly from the rural areas to seek a more tolerable life in the cities. These rings of slums usually have inadequate facilities for potable water, sanitation, electricity, waste disposal, fire and police protection, public health clinics, schools and other public services. (See Chapter 10 for details.) They are truly marginal urban populations.

Table UR-1 summarizes, in cold statistics, the magnitude and persistence of this hot urbanization movement in each Latin American country. Without exception, the proportion of the population that is urban has risen steadily since 1950. In some of them, the proportion urban doubled between 1950 and 1980. (Honduras went from 18 to 36 percent; Haiti from 12 to 24 percent, Dominican Republic from 24 to 51 percent.) The United Nations has projected the expected trend of urbanization into the future, as reported in the right-hand panel of Table UR-1. By the year

Table UR-1. Percent of Population Living in Urban Places: Latin America, 1950-1985, and Projected 1985-2025.

Region and country	Percent urban					Percent urban—projected					
	1950	1960	1970	1980	1985	1990	1995	2000	2010	2020	2025
Central America/other											
Costa Rica	33.5	36.6	39.7	43.4	45.9	48.9	52.3	55.9	62.7	68.5	71.1
Cuba	49.4	54.9	60.2	65.4	68.0	70.5	73.0	75.2	79.2	82.5	84.0
Dominican Republic	23.7	30.2	40.3	51.0	55.8	60.0	63.6	66.6	71.9	76.4	78.4
El Salvador	36.5	38.3	39.4	41.1	43.0	45.6	48.8	52.6	59.6	65.9	68.7
Guatemala	30.5	33.0	35.7	38.9	41.4	44.3	47.8	51.6	58.8	65.1	68.0
Haiti	12.2	15.6	19.8	24.9	28.0	31.5	35.3	39.3	47.2	54.8	58.3
Honduras	17.6	22.7	28.9	36.0	39.9	43.9	47.8	51.6	58.8	65.2	68.0
Mexico	42.7	50.8	59.0	66.7	70.0	72.8	75.3	77.4	81.0	84.0	85.3
Nicaragua	35.8	41.4	47.2	53.3	56.5	59.7	62.9	65.9	71.3	75.9	77.9
Panama	35.8	41.2	47.7	54.3	57.7	61.0	64.1	67.1	72.3	76.7	78.7
Puerto Rico	40.6	44.5	58.4	70.5	74.8	78.0	80.4	82.0	84.9	87.3	88.3
Tropical South America											
Bolivia	20.3	24.0	28.1	33.0	36.0	39.4	43.1	47.0	54.6	61.5	64.0
Brazil	34.5	44.9	55.8	67.0	71.3	74.7	77.3	79.2	82.5	85.3	86.5
Colombia	37.1	48.2	59.8	70.2	74.1	77.1	79.5	81.2	84.2	86.7	87.8
Ecuador	28.3	34.4	39.5	44.6	47.7	51.0	54.4	58.0	64.4	70.1	72.6
Paraguay	34.6	35.6	37.1	39.4	41.5	44.2	47.5	51.4	58.6	65.0	67.8
Peru	35.5	46.3	57.4	67.4	71.3	74.5	77.0	79.0	82.3	85.1	86.4
Venezuela	53.2	66.6	76.2	83.3	85.7	87.5	88.8	89.7	91.3	92.6	93.2
Temperate South America											
Argentina	65.3	73.6	78.4	82.4	84.1	85.5	86.8	87.9	89.8	91.4	92.1
Chile	58.4	67.8	75.2	81.1	83.4	85.1	86.6	87.7	89.6	91.2	91.9
Uruguay	78.0	80.1	82.1	84.0	85.0	86.1	87.2	88.2	90.1	91.6	92.3

SOURCE: United Nations. Demographic Yearbook, 1971, 1973, 1974 and 1976.

2000, every nation of the region (except Haiti) will be predominantly urban. If the projections of the United Nations materialize, two-thirds or more of the population of every nation except Haiti will be urban by the year 2025, with most nations approaching or having already achieved 70 percent urban by that date. Thus, urbanization appears to be an inexorable and irreversible transformation in which the Central America region is now only in midstream. This transition is, of course, only a regional example of similar urban explosions taking place in Africa, Asia, and the Middle East.

It is apparent that the general trends mask a great deal of variation; one of the greater diversities of this region is the country-to-country differences in the mix of urban and rural populations. In actuality, there are three groups of areas (percent urban in 1985 is indicated for each):

Highly urbanized	
Cuba	68%
Mexico	70%
Puerto Rico	75%
Moderately urbanized	
Dominican Republic	56%
Nicaragua	57%
Panama	58%
Predominantly rural	
Costa Rica	46%
El Salvador	43%
Haiti	28%
Honduras	40%

The statistics on trends show that the presently highly urbanized areas have literally raced toward urbanity, making great shifts each decade.

The four least urbanized nations have also urbanized steadily over the same period of time, but began the process in a more rural context.

Table UR-2 provides additional information about the urbanization process. The average annual rate of growth of the urban population for two periods, 1960-70 and 1970-81, may be compared with the average annual rate of growth of the nation as a whole, for the same periods. For every nation, the growth rate for urban areas is much higher than for the nation. In most of the countries, it is between 3.5 and 5.5 percent per year. At these rates, the urban population would double every 13-20 years. Because urban areas are growing so much faster than average, it can only imply that rural areas are growing much more slowly than average.

Primate cities. Students of urbanism often talk about the tendency for a single major city to dominate a nation, rather than permitting a number of smaller cities to grow. Table UR-2 provides a measure of this tendency toward a single "primate city" by reporting the percentage of urban population contained in the largest city. There is a wide diversity, but with a strong tendency toward concentration in a single urban place—especially in Panama, Costa Rica, Dominican Republic, and Haiti. In general, the tendency toward this primate concentration appears to have increased between 1960 and 1980.

Large cities. When cities attain a population of half-a-million, they must be considered a major international and national economic force. Table UR-2 reports the number of cities of this size in each country, and the percentage of the urban population they contain. In Central America, every country except Honduras and El Salvador now has at least one such city, and one-half or more of the population tends to be contained in them.

This major change in residential settlement pattern has a great many economic and social implications. It appears also to carry a major demographic effect, in the form of fertility decline. Figure UR-1 plots the total fertility rate of Latin American na-

Table UR-2. Urbanization in Latin American Countries: Rates of Growth and Degree of Concentration: 1960 and 1980.

Region and country	Average annual growth (percent)				Percent of urban population				Number	
	Total		Urban population		In largest city		Cities over 500,000		Cities over 500,000	
	1960	1980	1960	1980	1960	1980	1960	1980	1960	1980
Central America/other										
Belize	—	—	—	—	—	—	—	—	—	—
Costa Rica	3.4	2.8	4.2	3.6	67	64	0	0	64	1
Cuba	2.0	1.1	2.9	1.9	32	38	38	32	1	1
Dominican Republic	2.9	3.0	5.6	5.3	50	0	54	0	0	1
El Salvador	2.9	2.9	3.2	3.4	26	22	0	0	0	0
Guatemala	3.0	3.1	3.8	3.9	41	36	41	36	1	1
Haiti	1.6	1.7	4.0	4.7	42	56	0	56	0	1
Honduras	3.1	3.4	5.4	5.5	31	33	0	0	0	0
Mexico	3.3	3.1	4.7	4.2	28	32	36	48	3	7
Nicaragua	2.6	3.9	4.0	5.0	41	47	0	47	0	1
Panama	2.9	2.3	4.4	3.6	61	66	0	66	0	1
Puerto Rico	—	—	—	—	—	—	—	—	—	—
Tropical South America										
Bolivia	2.4	2.6	3.9	6.9	47	44	0	44	0	1
Brazil	2.8	2.1	4.7	3.9	14	15	35	52	6	14
Colombia	3.0	1.9	5.2	2.6	17	26	28	51	3	4
Ecuador	3.0	3.4	4.4	4.6	31	29	0	51	0	2
Paraguay	2.6	2.6	2.9	3.3	44	44	0	44	0	1
Peru	2.9	2.6	5.3	3.5	38	39	38	44	1	2
Venezuela	3.4	3.4	4.7	4.2	26	26	26	44	1	4
Temperate South America										
Argentina	1.4	1.6	2.0	2.0	46	45	54	60	3	5
Chile	2.1	1.7	3.1	2.4	38	44	38	44	1	1
Uruguay	1.0	0.4	1.3	0.6	56	52	56	52	1	1

SOURCE: World Bank. World Development Report, 1983; Table 22.

tions against the proportion urban. The correlation is moderate, but is believed by many demographers to be causal. It is said that in a rural setting, the children in large families can help to support themselves through child labor in the fields and pastures. But in the city, having numerous children usually means a negative economic impact upon the household economy. In the cities, children also cost more to rear—they are expected to have more education, better clothes, more recreation, and less crowded living conditions than is acceptable in rural areas. Thus, urbanization may be viewed as a pressure to reduce fertility from present extraordinarily high levels to more intermediate levels. However, the pressure is not equally effective everywhere. For example, Nicaragua and Panama are almost equally urbanized, but one has very high fertility and the other has very low fertility.

Within each of the nations of this region, birth rates tend to be lower in urban areas. Therefore, the high rates of urbanization are not due to the natural increase of the urban population through reproduction, but to in-migration to the cities from rural areas. Urbanward migration has been a highly visible demographic event throughout Central America (as in all of Latin America) for the past three decades. Campesinos have abandoned their marginal agricultural operations, with a subsistence level of living, and have migrated to the cities. A part of this movement is stepwise-migration: first to nearby district centers, and then to the major metropolises. Much of it, however, is direct migration to the largest metropolises. The migration is primarily one of youth, and particularly literate youth. Often the migrants are forced to work at low paying occupations and trades.

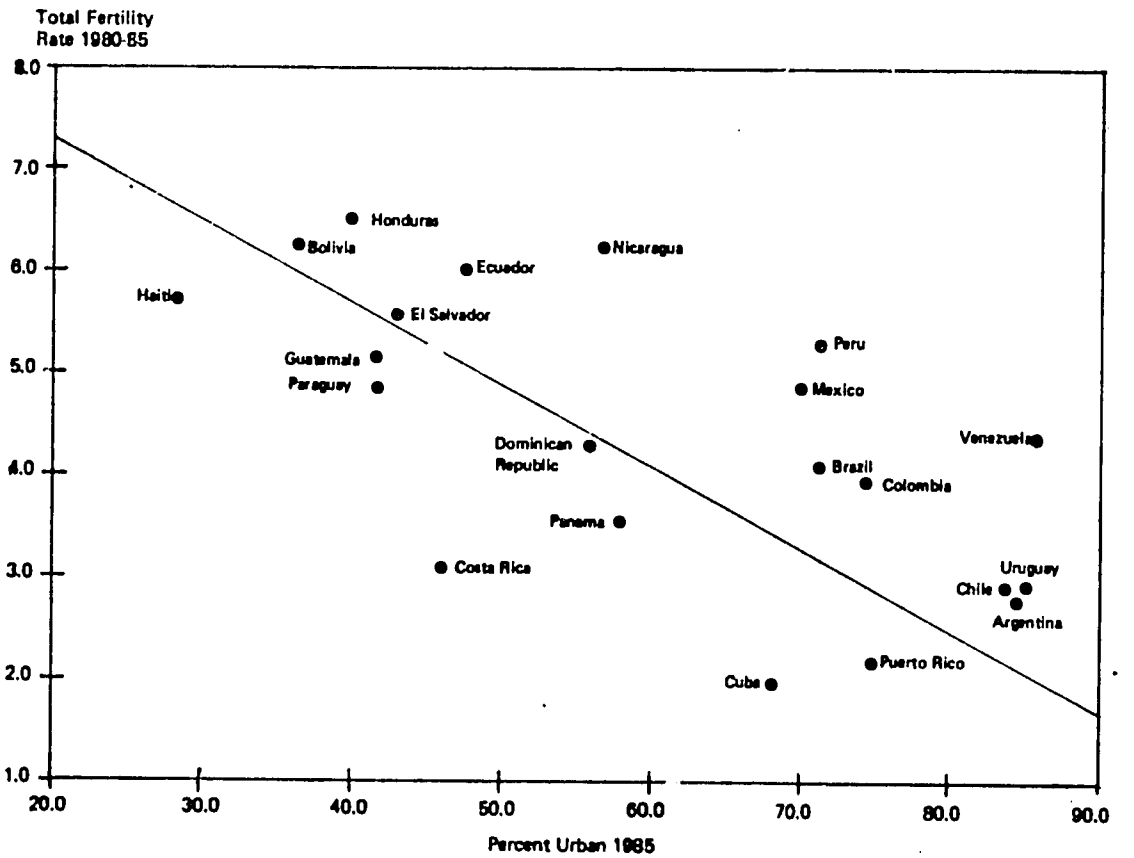


Figure UR-1. Scattergram of Fertility Rates Plotted Against Percent Urban, 1980-85.

SOURCE: Compiled from data of this report.

There is a great deal of disagreement over the economic, political, and social significance of the giant *favelas,* or slums, that have been created by inflooding migrants from rural areas. Some regard them as human waste-heaps of surplus population which the economy cannot absorb, which survive by engaging in scavenging, begging, street vending, and other activities outside the mainstream of the economy—and which become a source of political and social turmoil and upheaval. Others claim there is steady upward mobility among the residents of these settlements, and that a majority of the migrants from rural areas slowly work their way into regular occupations while educating their children to be a part of the national mainstream. (Those who fail may return to their rural place of origin.) As their economic lot in life improves, they upgrade their housing and other living conditions. Whichever view is taken, it is highly likely that the trend will continue, if not accelerate in the four least urbanized nations and the three moderately urbanized nations, until about 75 percent or more of the total population lives in urban areas. This appears to be the pattern toward which the whole world, developed and developing, is tending.

Population density

Latin America was long described as an "empty continent" because of the unusually low density of population found there. This certainly is not the case for Central America. Table UR-3 provides data on the number of residents per square kilometer in each country.

In order to assist in interpreting these density statistics, the following data on the population density of other regions may be helpful:

	Population per square km (1978)
World	*31*
Africa	16
Asia	89
Europe	97
United States	23
U.S.S.R.	12

Every nation of Central America is more densely inhabited than the United States, and some of them have astoundingly high densities, such as El Salvador, with densities twice or more than the average for Europe. Much of the area is not conducive to economically productive agriculture. Large areas are mountainous with slopes too steep to cultivate, or semi-arid with insufficient rainfall to produce crops. *Despite this fact, Guatemala, Mexico, Costa Rica, and Honduras already have nearly twice or more the density of the U.S.—and still are growing at four times the U.S. rate!* If population density is computed in terms of arable land, this region becomes one of the most densely inhabited in the world. Density as such does not appear to have any correlation with fertility (see Figure UR-2). For example, two of the most densely settled nations, El Salvador and Haiti, have high fertility rates. Each year rapid population growth causes the density to deviate even more from world patterns.

While it is true that there are lands remaining which can be reclaimed for agricultural production, there are also large amounts of badly eroded or submarginal mountainous and semidesert croplands which should be abandoned and permitted to return to forest or other uses. The surge of population toward the city, instead of toward an agricultural "frontier," is a

Table UR-3. Population Density: Latin America, 1950-85.

Region and country	Population density (per sq. km.)				
	1950	1960	1970	1980	1985
Central America/other					
Costa Rica	17	24	34	44	49
Cuba	51	61	75	85	88
Dominican Republic	48	67	93	122	138
El Salvador	91	120	167	224	260
Guatemala	27	36	49	67	77
Haiti	112	134	166	209	237
Honduras	13	17	24	33	39
Mexico	14	19	26	35	41
Nicaragua	9	11	15	21	25
Panama	11	14	19	25	28
Puerto Rico	249	265	305	413	488
Tropical South America					
Bolivia	3	3	4	5	6
Brazil	6	8	11	14	16
Colombia	10	14	18	23	25
Ecuador	12	16	21	28	33
Paraguay	3	4	6	8	9
Peru	6	8	10	14	16
Venezuela	6	8	12	17	20
Temperate South America					
Argentina	6	7	9	10	13
Chile	8	10	12	15	16
Uruguay	12	14	16	17	17

SOURCE: United Nations. Demographic Yearbook, 1971, 1973, 1974, and 1976.

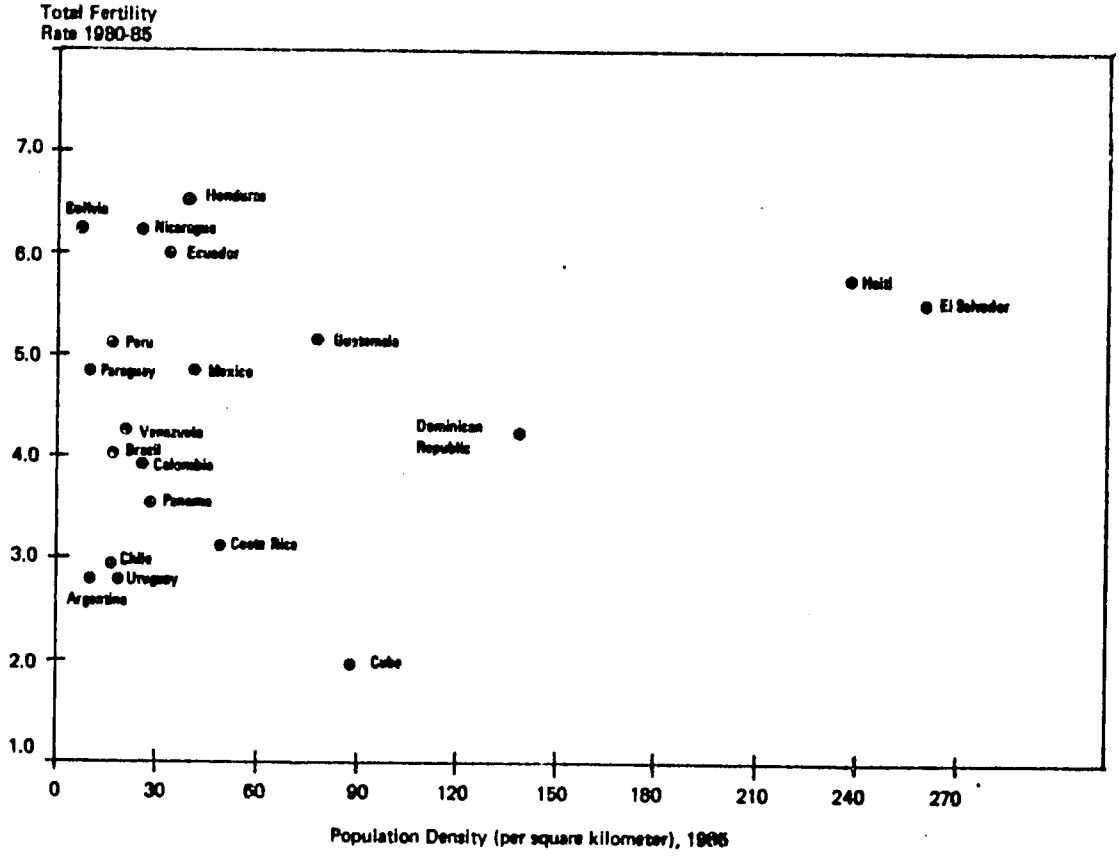


Figure UR-2. Scattergram of Fertility Rates Plotted Against Population Density (Population per Square Kilometer).

Source: Tables UR-3 and F-1.

response to the diminished opportunities for developing new lands. While the developable lands may not be easily available to individual pioneering farm families, the environment in which the lands are located is such that development can proceed only with large organized investments and large-scale planning.

The prospect for the future, therefore, is for densities in Central America to continue to mount rapidly, but primarily in urban places. The size of the rural agricultural population will remain about the same or slightly increase or decrease—using its slowly improving productivity to feed the ever-growing urban masses, supplemented by importation of food from abroad.

Number and size of cities

Table UR-4 lists the larger cities for the nations examined in this report, with an estimate of population, as provided by the United Nations *Demographic Yearbook* and by other sources. The data are for varying years, much of which are several years old. Since most of these places are growing at an annual average in excess of 5 percent, their size in 1984-85 is considerably larger than indicated.

Table UR-4. Population of Principal Cities of Central America.

City	Population	
A. Costa Rica (1973)		
San José, San José (1977)	395,401	
Limon, Limon	35,000	
Puntarenas, Puntarenas	30,000	
Alajuela, Alajuela	28,000	
Heredia, Heredia	22,000	
Cartago, Cartago	21,000	
B. Cuba (1981)		
Gran Habana, Habana	1,924,886	
La Habana, Habana	1,008,500	
Santiago de Cuba, Oriente	345,289	
Camaguey, Camaguey	345,235	
Santa Clara, Las Villas	171,914	
Guantanamo, Oriente	167,405	
Cienfuegos	102,425	
Bayamo	100,543	
Matanzas, Matanzas (1970)	81,000	
Holguin	186,013	
C. Dominican Republic (1967/1976)		
Santo Domingo, Distrito Nacional (1970)	817,645	(1,164,711)
Santiago de los Caballeros, Santiago (1970)	245,165	(306,302)
San Francisco de Macoris, Duarte (1960)	27,000	(144,246)
La Romana, La Romana (1960)	22,000	(54,870)
San Pedro de Macoris, San Pedro de Macoris (1960)	22,000	(99,055)
San Juan de la Maguana, San Juan	22,000	(133,824)
La Vega	--	(179,860)
San Cristóbal	--	(122,305)
D. El Salvador (1969/1978)		
San Salvador, San Salvador (1971)	335,930	(408,811)
Santa Ana, Santa Ana	168,047	(194,690)
San Miguel, San Miguel	107,658	(149,630)
Nueva San Salvador, La Libertad (1961)	36,000	(65,497)
Villa Delgado, San Salvador (1961)	30,000	(79,730)
E. Guatemala (1970)		
Ciudad de Guatemala, Guatemala (1979)	793,336	
Quetzaltenango, Quetzaltenango	54,000	
Escuintla, Escuintla	32,000	
Puerto Barrios, Izabel	29,000	
Mazantenango, Suchitepequez	24,000	
F. Haiti (1971)		
Port-au-Prince, Quest (1980)	862,900*	
Cap-Haiten, Nord	46,000	
Gonaives, Artibonite	29,000	
Les Cayes, Sud	22,000	

City	Population
G. Honduras (1974)	
Tegucigalpa, D.C., Francisco Morazan (1974)	273,894*
San Pedro Sula, Cortes (1973)	150,991*
La Ceiba, Atlántida (1961)	25,000
Puerto Cortes, Cortes (1961)	17,000
El Progreso, Yoro (1961)	14,000
H. Mexico (1979)	
Ciudad de Mexico, Distrito Federal	14,750,182
Guadalajara, Jalisco	2,467,657
Monterrey, Nuevo Leon	2,018,625
Leon, Guanajuato	624,816*
Puebla, Puebla	710,833*
Ciudad Juarez, Chihuahua	625,040*
Mexicali, Baja California	348,528*
Chihuahua, Chihuahua	385,953*
Culiacan, Sinoloa	324,292*
Tijuana, Baja California	566,344*
Acapulco	462,144*
Cuernavaca	241,337
San Luis Potosi, San Luis Potosi	327,333*
Torreon, Coahuila	407,271
Merida, Yucatan	269,582*
Veracruz, Veracruz	306,843*
Aguascalientes, Aguascalientes	257,179*
Morelia, Michoacan	251,011*
Hermosillo, Sonora	251,011*
Tampico, Tamaulipas	389,940
Durango, Durango	228,686*
Saltillo, Coahuila	258,492*
Matamoros, Tamaulipas	193,305*
Villa de Guadalupe, Hidalgo (1974)	124,573
Nuevo Laredo, Tamaulipas	223,606*
Jalapa	201,473
Reynosa	231,082
Toluca	241,920
I. Nicaragua (1967)	
Managua, D.N., Managua (1979)	608,020*
Leon, Leon	58,000
Granada, Granada	36,000
Masaya, Masaya	30,000
Chinandega, Chinandega	30,000
J. Panama (1970)	
Panama, Panama (1980)	389,227
Colón, Colón	68,000
David, Chiriqui	36,000
La Chorreria, Panama	26,000
Puerto Armuelles, Chiriqui	12,000
San Miguelito (1980)	158,897*

NOTE: All population figures are for urban agglomerations except for those marked (*), which indicates city only. -- indicates data not available. For Dominican Republic and El Salvador, two sets of numbers are provided. The first column represents the census figures published in the United Nations Demographic Yearbooks, and are accurate for the year in parentheses. The second column (in parentheses) represents an up-dated national census; see source note for details.

SOURCE: United Nations. Demographic Yearbook. New York: United Nations, 1971, 1973, 1974, 1976, and 1983. Second column for Dominican Republic is from Secretariado Técnico de la Presidencia, Oficina Nacional de Estadística, Republica Dominicana. Estadística Demográfica de la República Dominicana, 1976. Santo Domingo: Oficina Nacional de Estadística, 1976, volume 33, pp. 1-3. Second column for El Salvador is from Direccion General de Estadística y Censos, El Salvador. Anuario Estadístico, 1978. San Salvador: Dirección General de Estadística y Censos, 1980.

Literacy and Educational Attainment

7.

One of the most serious errors that could be made in judging the capacity of Central America to modernize and participate in a modern world economy is in literacy and educational attainment. Although it is true that at the close of World War II most of the population of these nations could neither read nor write, those days are long past. Today, illiteracy is definitely a minority trait everywhere except Haiti. Table E-1 presents data showing the percent of adult population illiterate as of the 1970-75 period, by sex and by urban-rural residence. Data on percent literate in 1980 and 1960 are reported on Table E-2. Aside from Haiti, the nations with the lowest proportion literate are Nicaragua, Honduras, Guatemala and El Salvador—where the proportion is about 60 percent as of 1980. Moreover, the remaining illiterate population tends to be concentrated in the older ages. The younger generations have had greater opportunities for schooling, and as they replace the older generations, illiteracy may be expected to decline even further. If estimates for 1985 were available, they would very likely show one-third or less illiteracy for every nation except Guatemala and Haiti.

The rapid decline in illiteracy has been a result of intensive efforts, both by national governments and international technical assistance agencies. Table E-2 prepared by CEPAL, provides some insights into the educational revolution that has taken place, and continues to take place. This table shows the proportion of population of each age enrolled in school as of 1960 and of 1980, and the change in the two-decade period. Table E-3 shows similar information by educational level prepared by the World Bank. Throughout Central America (as in the remainder of Latin America) the transformation has been truly phenomenal. In most developed nations of

Table E-1. Percent of Population Aged 15 and Over Illiterate: Latin America, Urban and Rural Areas, by Sex.

Region and country	Total	Total			Urban			Rural		
		Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Central America/other										
Costa Rica	1973	11.6	11.4	11.8	4.9	4.0	5.7	17.0	16.6	17.5
Cuba	1953	22.1	24.2	20.0	11.1	11.0	11.2	40.0	42.6	36.7
Dominican Republic	1970	32.8	31.2	34.3	19.0	--	--	43.4	--	--
El Salvador	1975	37.9	--	--	--	--	--	--	--	--
Guatemala	1973	53.9	46.1	61.5	28.2	20.0	35.5	68.6	59.9	77.6
Haiti	1971	76.7	71.3	81.6	--	--	--	--	--	--
Honduras	1974	43.1	41.1	44.9	21.1	17.6	24.0	54.4	52.1	56.8
Mexico	1970	25.8	21.8	29.6	16.7	13.1	20.0	39.7	34.3	45.3
Nicaragua	1971	42.5	42.0	42.9	19.5	16.1	22.1	65.4	63.8	67.0
Panama	1970	21.7	21.0	22.2	6.3	5.6	7.0	38.1	35.5	41.1
Puerto Rico	--	--	--	--	--	--	--	--	--	--
Tropical South America										
Bolivia	1976	37.3	24.8	49.0	16.0	6.6	24.3	51.0	37.7	67.8
Brazil	1976	24.3	22.0	26.5	14.4	12.0	16.6	40.6	39.4	41.9
Colombia	1973	19.2	18.0	20.2	11.2	9.0	13.0	34.7	32.8	36.8
Ecuador	1974	25.8	21.8	29.6	9.7	6.9	12.2	38.2	32.3	44.4
Paraguay	1972	19.9	14.9	24.5	11.4	7.4	14.7	25.9	19.7	32.3
Peru	1972	27.5	16.7	38.2	12.6	5.9	19.1	50.9	32.9	69.2
Venezuela	1971	23.5	20.3	26.6	--	--	--	--	--	--
Temperate South America										
Argentina	1970	7.4	6.5	8.3	--	--	--	--	--	--
Chile	1970	11.9	11.1	12.8	7.6	6.4	8.6	27.2	25.1	29.7
Uruguay	1975	6.1	6.6	5.7	5.2	5.1	5.2	11.0	12.6	8.6

NOTE: -- indicates data not available.

SOURCE: UNESCO, Statistical Yearbook, 1980.

Table E-2. Students enrolled in School as Share of Eligible Ages: Latin America, 1960 and 1980.

Region and country	6 to 11 years			12 to 17 years			18 to 23 years		
	1960	1980	Change	1960	1980	Change	1960	1980	Change
Central America/other									
Costa Rica	74.4	97.5	23.1	35.7	54.7	19.0	8.0	21.4	13.4
Cuba	77.7	100.0	22.3	43.0	83.4	40.4	6.6	29.9	23.3
Dominican Republic	66.8	82.2	15.4	39.4	64.4	25.0	3.7	20.6	16.9
El Salvador	48.7	69.2	20.5	40.3	58.1	17.8	8.5	18.9	10.4
Guatemala	32.0	53.3	21.3	17.7	33.8	16.1	3.6	10.1	6.5
Haiti	33.6	41.4	7.8	16.4	21.9	5.5	1.9	4.3	2.4
Honduras	49.5	71.3	21.8	24.6	44.7	20.1	3.2	14.8	11.6
Mexico	58.4	94.2	35.8	37.4	67.3	29.9	4.7	18.2	13.5
Nicaragua	42.9	60.8	17.9	29.7	53.7	24.0	3.6	18.6	15.0
Panama	68.3	95.7	27.4	50.3	83.2	32.9	12.7	43.3	30.6
Puerto Rico	--	--	--	--	--	--	--	--	--
Tropical South America									
Bolivia	45.1	76.6	31.5	29.0	54.2	25.2	5.0	17.1	12.1
Brazil	47.7	76.2	28.5	29.6	58.6	29.0	4.7	32.0	27.3
Colombia	47.9	70.0	22.1	28.8	63.8	35.0	4.4	32.9	28.5
Ecuador	66.3	80.0	13.7	30.3	60.8	30.5	5.1	28.5	23.4
Paraguay	69.7	80.0	10.3	44.8	51.9	7.1	5.8	13.3	7.5
Peru	56.7	83.9	27.2	43.2	84.0	40.8	13.0	32.6	19.6
Venezuela	68.8	83.2	14.4	49.0	60.9	11.9	8.6	24.0	15.4
Temperate South America									
Argentina	91.2	99.9	8.7	48.1	72.7	24.6	13.2	36.7	23.5
Chile	76.4	100.0	23.6	54.7	86.5	31.8	7.2	22.2	15.0
Uruguay	89.9	--	--	53.2	67.2	14.0	14.1	24.3	10.2

SOURCE: CEPAL, 1982.

Table E-3. Education Indicators for Latin American Countries: 1960 and 1980.

Region and country	Number enrolled in primary school as percentage of age group						Number enrolled in secondary school as percentage of age group 12-17		Number enrolled in higher education as percentage of population aged 20-24		Adult literacy rate (percent)	
	Total		Male		Female							
	1960	1980	1960	1980	1960	1980	1960	1980	1960	1980	1960	1980
Central America/other												
Belize	--	--	--	--	--	--	--	--	--	--	--	--
Costa Rica	96	108	97	109	95	106	21	48	5	26	--	90
Cuba	109	112	109	116	109	109	14	71	3	20	--	95
Dominican Republic	98	106	99	105	98	107	7	32	1	10	65	67
El Salvador	80	74	82	74	77	74	13	23	1	8	49	62
Guatemala	45	69	50	74	39	63	7	16	2	8	32	52
Haiti	46	64	50	69	42	59	4	12	--	1	15	23
Honduras	67	89	68	92	67	85	8	21	1	8	45	60
Mexico	80	120	82	123	77	116	11	37	3	15	65	83
Nicaragua	66	100	65	97	66	103	7	43	1	9	--	90
Panama	96	113	98	115	94	111	29	65	5	23	73	85
Puerto Rico	--	--	--	--	--	--	--	--	--	--	--	--
Tropical South America												
Bolivia	64	84	78	90	50	78	12	36	4	--	39	63
Brazil	95	93	97	93	93	93	11	32	2	12	61	76
Colombia	77	128	77	127	77	130	12	46	2	11	63	81
Ecuador	83	107	87	109	79	105	12	40	3	35	68	81
Paraguay	98	102	105	106	90	98	11	26	2	7	75	84
Peru	83	112	95	116	71	108	15	56	4	16	61	80
Venezuela	100	104	100	104	100	104	21	39	4	21	63	82
Temperate South America												
Argentina	98	116	98	116	99	116	23	56	11	23	91	93
Chile	109	117	111	118	107	116	24	55	4	12	84	--
Uruguay	111	105	111	107	111	104	37	60	8	16	--	94

SOURCE: World Bank. World Development Report, 1983.

Europe and the rest of the world, more than 90 percent of children 6 to 11 years of age are attending school. That level of achievement has already been attained by one-half of the nations in this region (including Mexico, the largest) and will rapidly be achieved by almost all of the rest within another decade if present trends continue. Only in Haiti has progress toward improving literacy been slow. Guatemala, with its large indigenous population, is also making slower progress against illiteracy than the other nations of the region.

Table E-3 shows that females have almost achieved equality with males in the phenomenal increase in the rates of attendance at elementary schools. Only in Haiti, Guatemala, and Honduras do girls have substantially lower rates of attendance than boys.

The above optimistic picture should not be overemphasized, however. Tables E-2 and E-3 show that large numbers of youngsters (10-20 percent) still are not attending school, especially in Guatemala, Haiti, and Nicaragua. Moreover, the tables show these countries are lagging behind the rest of Latin America.

This means that a substantial, though greatly diminished, adult illiteracy will persist well into the next century.

Educational attainment

It is not sufficient that a population be merely literate. Modern economies demand large numbers of persons with secondary and college education. It is in this sphere, more than in elementary education, that the Central American nations are deficient. Table E-4 reports the educational attainment of the population. Although the statistics are incomplete and a bit difficult to interpret, they make it abundantly clear that as of the early and mid 1970s (the dates for which information is available), only about 10 percent or less of the population of most of these nations had received any secondary education, and that only 1-4 percent had attended college.

That this situation is being greatly improved is detailed in Table E-2 and Table E-3 which show the proportion of persons of secondary and college age who are enrolled in school. In all of these countries (except Haiti) the situation improved greatly between 1960 and 1980, with the result that as of about 1980:

(a) The percent of students of secondary school age atteding school nearly doubled between 1960 and 1980.

(b) The percent of young adults of college age attending school nearly quadrupled in most of Central American nations. (A certain percentage of these would still be completing secondary school.)

The rates of school attendance at the secondary and college levels are still far below the rates typical of Europe and other industrialized countries. One of the great needs, it would appear, is for more training (and perhaps better training) at the secondary and college levels. The present trends are certainly in the direction of promoting this goal.

Demographers are fond of showing how rapid population growth impedes the fight against illiteracy and the effort to provide basic elementary education. Although rapid population growth does undoubtedly make this difficult, the national governments of most of these countries have been willing to expend an extraordinary portion of their budget for elementary education, and have been surprisingly successful in overcoming absolute illiteracy. Perhaps the sacrifice has been more in low quality of education offered than in inability to offer basic literacy education to the growing number of school children. What may be

Table E-4. Educational Attainment of Adult Population: Latin American Countries.

Region and country	Year	Age group	First level			Entered second level		Post secondary
			No school	Incompleted	Completed	First cycle	Second cycle	
Central America/other								
Costa Rica	1973	25+	16.1	49.1	17.8	6.3	4.9	5.8
Cuba	--	--	--	--	--	--	--	--
Dominican Republic	1970	25+	40.1	41.6	4.3	9.6	2.5	1.9
El Salvador	1971	25+	54.7	38.3		6.1		0.9
Guatemala	1973	25+	93.9			4.9		1.7
Haiti	1971	25+	83.5	8.5	4.0	2.0	1.8	0.3
Honduras	1974	25+	53.1	34.5	6.0	1.5	3.8	1.0
Mexico	1970	20+	89.8			4.1	3.6	2.6
Nicaragua	1971	25+	53.9	19.3		25.5	4.4	
Panama	1970	25+	24.9	53.5		9.0	8.4	4.2
Puerto Rico	--	--	--	--	--	--	--	--
Tropical South America								
Bolivia	1976	20+	43.0	41.7		9.3		5.9
Brazil	1976	25+	32.7	53.0	4.3	5.7		4.3
Colombia	1973	20+	22.4	55.9		18.4		3.3
Ecuador	1974	25+	31.9	53.7		5.9	5.3	3.2
Paraguay	1972	25+	19.6	57.7	10.3	5.9	4.6	2.0
Peru	1972	25+	35.0	47.1		13.4		4.5
Venezuela	1961	25+	49.1	28.4	15.7	3.1	2.2	1.5
Temperate South America								
Argentina	1970	25+	8.3	41.8	30.6	7.8	7.5	4.0
Chile	1970	25+	12.4	57.2		26.6		3.8
Uruguay	1975	25+	9.9	36.7	29.6	17.4		6.3

NOTE: Percentages in some countries include two or more groups.

SOURCE: UNESCO, Statistical Yearbook, 1980.

under-appreciated is the very great difficulty of providing secondary and advanced education to the growing population. At these levels, the outlays for laboratories and other essential facilities are far greater than for elementary education. It is clear, however, that Central America is rapidly attaining not only literacy, but an educational level which qualifies its population for full participation in a modern urban-industrial-commercial-high technology economy. This is being accomplished in spite of rapid population growth, although it admittedly could be accomplished faster, better, and at less cost under conditions of lower growth.

Differentials in education

Table E-1 shows that illiteracy is much higher in rural than in urban areas, and that it is significantly higher among females than among males. This situation is a consequence of several factors:

* Inferior facilities for providing education to rural populations, in comparison with urban facilities
* Propensity of rural families to require their children to work instead of attending school
* Propensity of both rural and urban families to educate a son in preference to daughters.

However, all three of these factors have changed and are still changing over time, with a tendency for convergence in school attendance in urban and rural areas, and between males and females. The school attendance rates of Tables E-2 and E-3 are not shown separately for urban and rural areas. From other studies of individual countries, it is known that in rural areas elementary school attendance rates are climbing rapidly toward those of urban areas, although still lagging behind. Secondary school education is also increasing in rural areas, though with even more of a lag behind urban areas. As a consequence of these trends, the urban-rural differential will diminish at the elementary school level, moderately at the secondary school level, and remain large at the college level.

Education and fertility

One side-effect of rising literacy and educational attainment is to stimulate fertility decline. Where illiteracy is high, fertility almost invariably is high; where illiteracy is low, fertility tends to be much lower. This relationship may be observed in Figure E-1, which plots total fertility rates against the proportion of population literate, for all nations of Latin America. (The statistics of percent literate indicate not only literacy as such, but the tendency of a population to have primary, secondary, and advanced education.) The nations of Central America fall into position rather neatly, as a part of a regionwide tendency. There are a number of causal factors lying behind this inverse correlation between education and fertility:

(a) Education tends to postpone marriage, both for men and women, and hence causes reproduction to begin later.
(b) Education changes expectations and goals, so that having a large family ceases to be a priority, and may actually have a negative significance.
(c) Education provides women with the alternative of remunerative employment versus childbearing at something above the subsistence level.
(d) Education provides information on how to change desires and expectations into reality, and makes family planning more effective when it is used.

This inverse relationship has a very important implication for the future of fertility trends and growth rates in Central Amer-

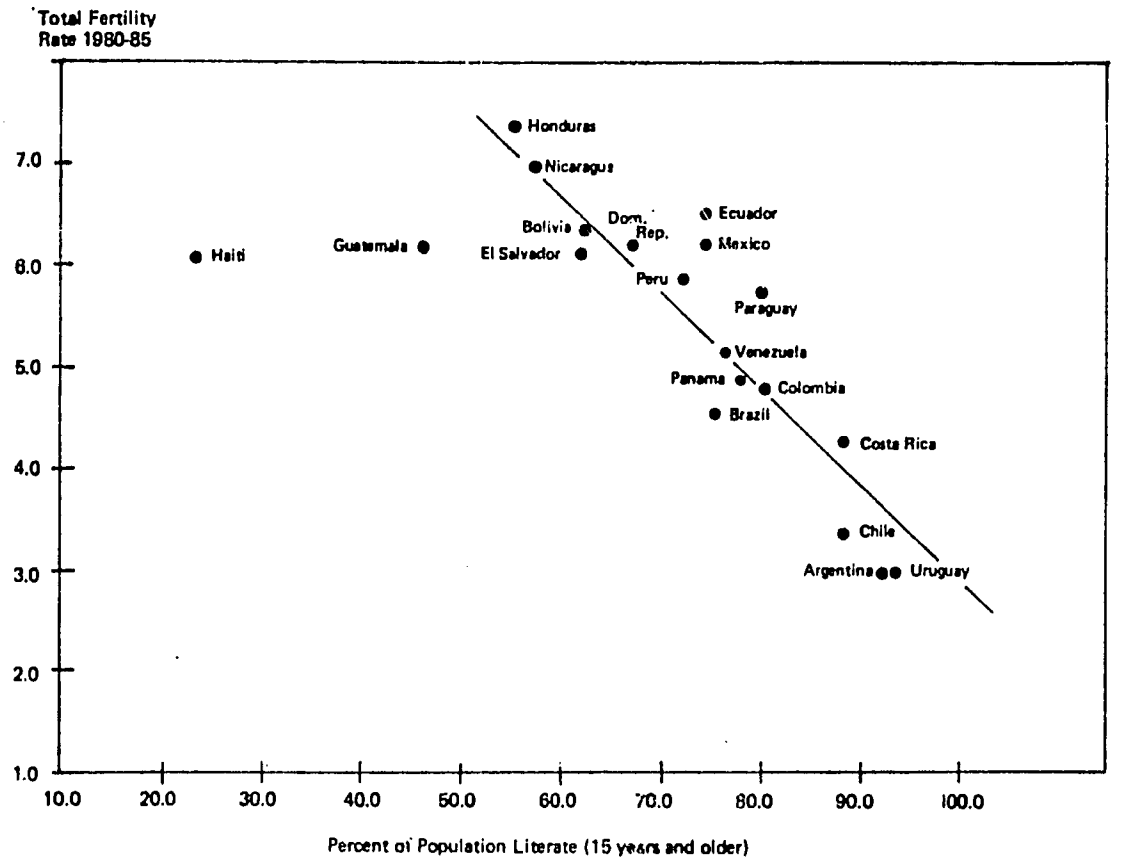


Figure E-1. Percent of Population Literate (15 Years and Over)

[Source: Derived from data of this report.]

ica. Rising literacy and levels of educational attainment will generate even greater public approval of and efforts to reduce fertility, in order to have smaller families. This demand will be strong in rural as well as urban areas.

Projected school enrollment

There is a mistaken tendency to view future educational requirements as a simple function of population growth. In addition to meeting the needs of population growth, the educational system must simultaneously raise the educational attainment of its students by keeping them longer in school—especially secondary and college levels.

Demographic change combined with modernization is placing pressure—and will place even stronger pressure—on the secondary and college education systems of Central America. Table E-5 provides the expected proportion of persons of each age that would be in school (attendance rates) in order to raise the educational attainment of the population toward the modern level. These changes in attendance ratios indicate the increased attendance needed simply to modernize the educational level of the population independent of population growth. The ages correspond roughly to these three educational levels. The increases in ages 12-17 and 18-23 involve large relative increases over the attendance ratios of 1970.

Assuming that there would be a moderately steady fertility decline combined with a strong program to raise educational

Table E-5. Trends in Enrollment Ratios of Latin American Nations by Age: 1960-1985.

Region and country	Age 6-11				Age 12-17				Age 18-23				Amount of increase 1960-85		
	1960	1970	1980	1985	1960	1970	1980	1985	1960	1970	1980	1985	Age 6-11	Age 12-17	Age 18-23
Central America/other															
Costa Rica	74.4	89.0	97.0	98.4	35.7	46.8	56.3	61.5	8.0	10.4	23.1	26.5	24.0	25.8	18.5
Cuba	77.7	93.7	100.0	100.0	43.0	54.0	76.8	81.5	6.6	7.4	24.2	26.2	22.3	38.5	19.6
Dominican Republic	66.8	65.7	82.2	86.1	39.4	51.8	64.4	69.6	3.7	13.4	20.6	24.7	19.3	30.2	21.0
El Salvador	52.3	55.1	66.1	69.6	35.0	45.4	55.5	61.3	9.3	15.5	19.7	25.3	17.3	26.3	16.0
Guatemala	32.0	41.7	53.3	58.2	17.3	25.1	33.9	38.0	3.4	6.6	9.8	12.6	26.2	20.7	9.2
Haiti	33.6	36.2	41.4	43.7	16.4	18.0	21.9	24.8	1.9	3.0	4.3	5.4	10.1	8.4	3.5
Honduras	49.5	67.8	72.4	76.4	24.6	35.8	43.7	46.3	3.2	6.0	12.6	15.3	26.9	21.7	12.1
Mexico	58.4	81.4	94.4	96.9	37.4	47.3	61.3	66.2	4.7	9.2	16.4	19.6	38.5	28.8	14.9
Nicaragua	42.9	54.6	60.8	65.3	29.7	43.6	53.7	58.2	3.6	11.1	15.9	18.8	22.4	28.5	15.2
Panama	68.3	77.3	96.6	98.0	50.3	61.9	81.2	85.0	12.7	18.6	45.6	51.6	29.7	34.7	38.9
Puerto Rico	100.3	100.0	100.0	100.0	61.7	87.6	93.0	95.4	16.7	26.7	34.5	35.9	- 0.3	33.7	19.2
Tropical South America															
Bolivia	46.2	60.9	72.7	77.4	28.1	41.0	54.5	59.7	5.2	12.4	17.8	22.1	31.2	31.6	16.9
Brazil	47.7	63.1	76.2	81.4	29.6	46.5	58.6	62.5	4.7	13.6	32.0	36.8	33.7	32.9	32.1
Colombia	47.9	51.1	70.4	75.4	28.8	45.6	65.5	72.4	4.4	10.4	23.5	28.2	27.5	43.6	23.8
Ecuador	66.3	78.0	82.9	86.3	30.3	41.9	58.4	63.1	5.1	14.4	34.9	40.7	20.0	32.8	35.6
Paraguay	69.7	77.1	78.4	80.7	44.8	47.1	50.8	54.4	5.8	8.1	11.0	13.7	11.0	9.6	7.9
Peru	56.7	78.6	84.3	86.9	43.2	63.4	82.9	85.5	12.9	26.7	32.9	39.9	30.2	42.3	27.0
Venezuela	68.8	70.3	78.2	81.4	49.0	52.3	60.7	66.2	8.6	15.1	24.2	26.3	12.6	17.2	17.7
Temperate South America															
Argentina	91.2	98.5	100.0	100.0	47.6	56.4	68.9	72.0	13.1	18.2	35.5	40.5	8.8	24.4	27.4
Chile	78.9	93.0	100.0	100.0	50.6	74.5	88.9	96.0	8.1	14.3	25.4	25.9	21.1	45.4	17.8
Uruguay*	89.9	78.8	--	--	53.2	75.1	--	--	14.1	20.5	--	--	--	--	--

NOTE: (*) Projections have not been made for Uruguay, since its enrollment ratio for the age-group 6-11 was declining for several consecutive recent years.

SOURCE: UNESCO. Trends and Projections of Enrollment by Level of Education and by Age, 1977, Table VII.

Table E-6. Projected School Enrollment for Both Sexes: Latin America, 1980-2000 (Medium Assumption).

Region and country	First level				Second level				Third level				Percent change 1980-2000		
	1980	1985	1990	2000	1980	1985	1990	2000	1980	1985	1990	2000	First level	Second level	Third level
Latin America total	63,042	71,129	78,569	90,582	14,246	17,784	19,906	29,117	4,648	6,112	7,862	11,755	43.7	104.4	152.9
Central America/other	20,422	23,183	26,019	31,053	5,299	6,846	6,969	12,446	1,180	1,669	2,240	3,648	52.1	134.9	209.2
Costa Rica	366	371	376	358	127	136	146	162	42	48	51	55	-2.2	27.6	31.0
Cuba	1,795	1,665	1,539	1,522	645	716	710	699	106	146	176	189	-15.2	8.4	78.3
Dominican Republic	1,360	1,115	1,114	1,127	251	349	432	535	62	83	108	143	6.3	113.1	130.6
El Salvador	846	960	1,091	1,343	117	198	289	524	46	69	96	158	58.7	347.0	243.4
Guatemala	886	1,170	1,474	2,000	214	329	477	807	54	88	128	246	125.7	277.1	355.6
Haiti	503	694	928	1,310	123	205	313	605	21	42	65	138	160.4	391.9	557.1
Honduras	574	708	856	1,259	111	176	253	450	24	40	65	138	119.3	305.4	475.0
Mexico	13,595	15,607	17,660	20,971	3,463	4,432	5,568	8,196	765	1,073	1,449	2,434	54.3	136.7	218.2
Nicaragua	424	502	577	773	106	150	196	298	24	38	54	91	82.3	181.1	279.2
Panama	373	391	404	390	142	155	162	170	36	42	48	56	4.6	19.7	55.6
Puerto Rico	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tropical South America	36,320	41,562	46,116	53,193	6,867	8,664	10,477	13,893	2,588	3,417	4,462	6,698	46.5	102.3	158.8
Bolivia	873	1,115	1,417	2,055	156	209	282	482	58	81	111	206	135.4	209.0	255.2
Brazil	23,211	26,917	29,978	32,714	2,863	4,190	5,763	8,819	1,514	2,030	2,677	4,242	40.9	208.0	180.2
Colombia	4,403	4,539	4,374	4,987	1,422	1,591	1,563	1,294	269	423	590	746	13.3	-9.0	177.3
Ecuador	1,460	1,675	1,908	2,516	430	492	534	616	138	176	217	283	72.3	43.3	105.1
Paraguay	550	627	699	859	100	133	161	218	28	44	65	104	56.2	118.0	271.4
Peru	3,529	4,062	4,656	6,111	1,134	1,241	1,321	1,453	266	346	439	653	73.2	28.1	145.5
Venezuela	2,294	2,627	3,084	3,951	762	808	853	1,011	257	317	363	464	72.2	32.7	80.5
Temperate South America	6,300	6,384	6,434	6,336	2,080	2,274	2,460	2,778	880	1,026	1,160	1,409	0.6	33.6	60.1
Argentina	3,806	4,023	4,161	4,176	1,351	1,486	1,633	1,833	618	683	761	931	9.7	35.7	50.6
Chile	2,167	2,009	1,890	1,714	540	595	637	754	224	290	331	386	-20.9	39.6	72.3
Uruguay	327	352	383	446	189	192	190	191	38	53	58	95	36.4	1.1	150.0

NOTE: -- indicates information not available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000 (Chicago: Community and Family Study Center, 1979), Table 4.

attainment toward the levels common in Europe and America, the demands on enrollment at each level were projected for each country.* Table E-6 summarizes the results:

(a) Declining fertility greatly eases demands for expansion at the elementary level where school attendance in the elementary grades is already high. Expected fertility declines will cause oncoming generations to be only moderately larger than previous generations, so less expansion is needed. However, in Honduras, Haiti, Guatemala, and Nicaragua, where only a small fraction completes elementary school, there is still need for a doubling or more within the two decades 1980-2000. Nicaragua will need to increase elementary enrollment by more than 80 percent.

(b) Far greater expansion is being required at the secondary level. In countries with rapid population growth and a prior history of providing secondary education only to a small fraction of youth, modernization of the educational system calls for a 200 or 300 percent increase in secondary enrollment (in El Salvador, Guatemala, Haiti, and Honduras) and increases of more than 100 percent in Mexico, Panama, and Dominican Republic. Costa Rica, Cuba, and Panama will require only modest increases because of their lower fertility and prior expansion of secondary educational systems.

(c) The greatest expansion, however, is being demanded at the third, or college/university level. Increases of 400 or 500 percent are required in Honduras and Haiti, and in almost all countries the expansion is considerably greater for college than for secondary school.

The overall educational need in Central America is for the educational system to expand as follows between 1980 and 2000:

Level	Percent
Elementary	52
Secondary	135
College	209

*Amy Ong Tsui. *Illustrative Functional Projections 1975-2000.* Chicago: Community and Family Study Center, University of Chicago, 1979.

Labor Force and Occupational Status

8.

Babies born in one year become applicants for jobs only 15 to 20 years later. Rapid population growth in Central America therefore means a rapidly expanding labor force. If the proportion of people who are working remains unchanged over time, the labor force tends to grow at about the same rate the population grew 15-20 years earlier. Under these assumptions, there should be an annual growth in the work force of Central America of 2.8 to 3.5 percent for the remainder of this century in the various countries, except in those that have brought fertility rates to lower rates. However, a new and important factor has developed in recent years that causes the labor force in most of these nations to grow even faster than population. This is the increasing participation of women. As women receive more education, as they become more urbanized, and as they achieve greater legal and cultural privileges, they tend to enter the work force in greater numbers. They tend to work before marriage, and a higher proportion continue to work after marriage, even though they bear children meanwhile. (This increase is partially offset by lowered participation rates of persons under 25 and over 65 years of age, due to increased school attendance and retirement.) Table PEA-1 (economically active population) reports the work force participation rates, as compiled by the International Labor Organization, for each sex for each nation. These rates are not very satisfactory, because they are based on total population instead of population of working ages. In interpreting them it should be kept in mind that about 40 percent of the population is comprised of children, most of whom are ineligible to be in the work force and about 5 percent of population aged 65 or older of retirement age. However, they reveal the major outlines of what is known from studies of individual countries:

Table PEA-1. Work Force Participation of Latin American Countries: Percent of Total Population Economically Active.

Region and country	Year	Both sexes	Male	Female
Central America/other				
Costa Rica	1979	34.3	51.1	17.7
Cuba	1970	30.8	49.2	11.5
Dominican Republic	1979	30.2	44.7	15.7
El Salvador	1978	33.4	47.0	20.5
Guatemala	1979	30.5	51.9	8.5
Haiti	1971	56.0	57.6	54.5
Honduras	1979	29.3	49.2	9.3
Mexico	1979	28.3	42.4	14.0
Nicaragua	1977	30.7	43.9	18.0
Panama	1970	34.2	50.2	17.8
Puerto Rico	--	--	--	--
Tropical South America				
Bolivia	1976	32.5	51.2	14.4
Brazil	1976	37.5	53.9	21.4
Colombia	1973	30.3	46.0	15.4
Ecuador	1974	31.5	49.8	13.2
Paraguay	1980	36.3	51.9	20.7
Peru	1980	31.6	45.1	18.0
Venezuela	1977	31.6	45.9	17.3
Temperate South America				
Argentina	1979	38.7	55.5	21.9
Chile	1980	33.4	--	--
Uruguay	1975	39.2	57.1	22.0

NOTE: -- indicates data not available.

SOURCE: International Labor Organization. Yearbook of Labor Statistics, 1982.

- ★ Almost all males between the ages of 15 and 65 are in the work force except for the comparatively few who are attending school, disabled, or retired.
- ★ Because of childbearing responsibilities, lack of opportunity, and tradition, the participation rates for women are far below those of men—only one-third to one-fifth those of men for most countries.

Because of differences between countries in the work habits of the people and in the definition of gainful employment, the statistics for female employment are confusing and difficult to interpret. In some countries, such as Haiti, women work extensively in agriculture, and hence work force participation rates are high. In other nations, women work too little in active agricultural production to be counted in the labor force or are not all counted as gainfully employed even if they are. Although data are not shown here, the trend for increased female work force participation in the nonagriculture sectors is present in almost all countries.

Industry of employment

Table PEA-2 reports the sector of the economy in which work participants gain their livelihood. In all countries of Central America except Mexico and Costa Rica, agriculture is still the dominant activity, occupying from 40 to 60 percent of the total employment. The second largest industry is a category called "services," which includes domestic and personal services as well as some of the more technical services. In this category fall a great deal of female employment and most of the submarginal occupations that the immigrants from rural areas and poverty-stricken slum dwellers follow. Hence, the service in-

Table PEA-2. Industrial Composition of the Economically Active Population of Latin American Countries.

Region and country	Year	Agriculture, forestry, fishing	Mining and quarry	Manufacturing	Construction	Electricity, water, gas	Commerce	Transport	Services	Other/ not classified
Central America/other										
Costa Rica	1973	36.4	0.3	11.9	6.7	0.9	11.6	4.3	22.6	5.3
Cuba	1970	30.0	—*	20.3	6.0	—*	11.6	6.1	24.6	1.4
Dominican Republic	1970	44.3	0.1	8.1	2.3	0.1	6.2	3.5	14.0	21.4
El Salvador	1978	41.0	0.3	14.2	5.4	0.5	15.5	3.8	18.6	0.7
Guatemala	1979	57.2	0.1	13.7	4.1	0.3	7.4	2.6	12.5	2.1
Haiti	1971	61.5	0.0	5.1	0.8	0.1	8.4	0.5	6.9	16.8
Honduras	1977	60.9	0.3	12.0	3.3	0.3	8.1	2.8	12.3	—**
Mexico	1979	40.1	1.5	18.2	4.6	0.4	10.1	3.0	22.1	—
Nicaragua	1977	42.0	0.1	16.1	4.8	0.6	13.2	2.9	19.7	0.6
Panama	1970	38.4	0.1	8.0	5.7	0.9	11.8	3.5	22.9	8.7
Puerto Rico	—	—	—	—	—	—	—	—	—	—
Tropical South America										
Bolivia	1976	44.7	3.7	3.0	5.8	0.1	7.4	4.1	19.2	5.0
Brazil	1976	36.2	—	16.5	6.7	—	9.3	3.9	24.6	2.8
Colombia	1973	25.9	0.6	11.4	3.4	0.4	9.6	2.8	15.5	30.4
Ecuador	1974	46.5	0.4	11.5	4.4	0.5	9.4	2.9	17.8	6.6
Paraguay	1980	—— 43.5——		17.7	5.6	3.7	—	—***	29.5	0.0
Peru	1980	40.0	1.2	12.7	4.3	0.2	—	4.7	36.9	—
Venezuela	1977	17.0	1.4	16.2	8.8	1.1	17.4	6.7	30.3	2.1
Temperate South America										
Argentina	1970	14.8	0.5	19.7	7.9	1.1	14.7	6.6	26.0	8.7
Chile	1980	15.9	2.1	16.2	5.2	6.3	14.0	—****	28.1	12.2
Uruguay	1975	15.6	0.2	18.8	5.3	1.4	12.1	5.0	28.6	10.3

NOTE: -- indicates data not available, except for: (*) Electricity, gas. water, and sanitary services, and mining and quarrying industries included in manufacturing industries. (**) Activities not adequately described included in services. (***) Included in electricity, gas, water, and sanitary services. (****) Included in unemployed.

SOURCE: International Labor Organization. Yearbook of Labor Statistics, 1974, 1976, 1977, 1979, and 1980.

dustries are a heterogeneous mixture of modern technical activities and marginal or submarginal subsistence activities. Aside from agriculture and services, there are two other major categories: the technical or "modern" category (comprised of the industries of manufacturing, energy, transport, and construction), and the "commerce" category. If the data of Table PEA-2 are gouped in this fashion and ranked according to their share of "modern" employment, the results are as follows:

Country	"Modern" industrial	Agricultural	Commerce	Services	Other
Cuba.	32.4	30.0	11.6	24.6	1.4
Mexico.	27.7	40.1	10.1	22.1	. . .
Nicaragua.	24.5	42.0	13.2	19.7	0.6
El Salvador	24.2	41.0	15.5	18.6	0.7
Costa Rica	24.1	36.4	11.6	22.6	5.3
Guatemala	20.8	57.2	7.4	12.5	2.1
Honduras.	18.7	60.9	8.1	12.3	. . .
Panama.	18.2	38.4	11.8	22.9	8.7
Dominican Rep. .	14.1	44.3	6.2	14.0	21.4
Haiti.	6.5	61.5	8.4	6.9	16.8

[NOTE: The data for the last three countries in the list are defective, with a large percentage in the "other" category.]

The major demonstration of these statistics is the comparatively small "modern" component and the very large "service" component in the nonagricultural sector of these nations.

Occupation of employment

In its *World Development Report* for 1983, the World Bank summarized labor force data for all nations of the world. The data for Latin America are reported in Table PEA-3. This table reports for 1960 and again for 1981 estimates of the proportion of population of working age the industry of employment, and the average annual rate of labor force growth for two periods, 1960-70 and 1970-1981. Although less detailed than Table PEA-2, this table provides information about trends:

- ★ In nations where birth rates are low, the proportion of the population of working age is high, and as birth rates fall this proportion rises. This verifies the findings of Chapter 4 concerning dependency.
- ★ In every nation, the proportion of the work force employed in agriculture has declined between 1960 and 1981. In some countries, such as Honduras and Haiti, the decline was moderately small. In others, such as Costa Rica, Mexico, Nicaragua and Panama the decline was precipitous. (The data for the other nations of Latin America show equal country-to-country diversity, with major declines in Brazil, Colombia, and Venezuela, and only minor declines in Bolivia and Ecuador.)
- ★ In all Central American nations the growth of industry has been disappointingly small. In most nations, the percentage of the work force employed in this "modern" sector is increased by only 4 or 5 percentage points. At the end of the 20-year period less than one-fourth of the work force was in this sector in almost every nation, and even in the remaining countries the proportion was just slightly higher.
- ★ Meanwhile, the category of "urban services" has increased rapidly. Thus, this sector has absorbed the lion's share not only of the transfer for

Table PEA-3. Labor Force Data for Latin American Countries: 1960 and 1981.

Region and country	Percentage of population in working ages (15–64 years)		Percentage of labor force in:						Average annual growth of labor force (percent)		
			Agriculture		Industry		Services				
	1960	1980	1960	1980	1960	1980	1960	1980	1960–1970	1970–1980	1980–2000
Central America/other											
Belize	--	--	--	--	--	--	--	--	--	--	--
Costa Rica	50	59	51	29	19	23	30	48	3.5	3.9	2.8
Cuba	61	61	39	23	22	31	39	46	0.8	1.7	1.9
Dominican Republic	49	53	67	49	12	18	21	33	2.2	3.6	3.3
El Salvador	52	52	62	50	17	22	21	27	2.6	2.8	3.5
Guatemala	51	54	67	55	14	21	19	25	2.8	3.2	2.9
Haiti	55	53	80	74	6	7	14	19	0.6	1.3	2.1
Honduras	52	50	70	63	11	15	19	23	2.5	3.1	3.5
Mexico	51	52	55	36	20	26	25	39	2.8	3.2	3.5
Nicaragua	50	50	62	43	18	20	22	37	2.3	3.8	3.9
Panama	52	56	51	27	24	18	35	55	3.4	2.4	2.6
Puerto Rico	--	--	--	--	--	--	--	--	--	--	--
Tropical South America											
Bolivia	55	53	61	50	18	24	21	26	1.7	2.3	2.9
Brazil	54	55	52	30	15	24	33	46	2.7	1.0	3.0
Colombia	50	60	51	26	19	21	29	53	3.0	3.3	2.5
Ecuador	52	52	57	52	19	17	23	31	2.9	3.3	3.5
Paraguay	51	53	56	44	19	20	25	36	2.3	2.9	3.0
Peru	52	54	52	39	20	18	28	43	2.1	2.9	3.0
Venezuela	51	55	35	18	22	27	43	55	2.8	4.0	3.1
Temperate South America											
Argentina	64	63	20	13	36	28	44	59	1.3	1.4	1.1
Chile	57	62	31	19	20	19	50	61	1.4	2.0	2.2
Uruguay	64	63	21	11	30	32	50	57	0.8	0.2	1.1

-- indicates no data available

SOURCE: World Bank. World Development Report, 1983.

population from agricultural to non-agricultural (rural to urban) employment, but also of the growth of the labor force resulting from high fertility.

- ★ In most of the nations, the average annual growth rate of the labor force has increased over these two decades. This is due almost entirely to the increased participation of women.
- ★ The World Bank has projected the expected future growth of the labor force in each of these countries to the year 2000. (Almost all of the persons who will join the work force between 1980 and 2000 were already born in 1980.) These projections anticipate some previous and future decline in fertility, but this decline will affect labor force participation primarily in the next century. On the other hand, these projections anticipate continued increased participation of women. As a result, the projected rate for most Central American nations, except for the low birth rate countries, is just as high or even higher than in the past. A similar prediction is made for the remainder of Latin America.

The occupational classification of the work force in each country is reported in Table PEA-4, as compiled by the International Labor Organization. In the interests of obtaining international comparability, some of the categories are heterogeneous. This table is valuable for showing the comparative *scarcity* of occupations in the non-agricultural sector that could be called "modern." It is unfortunate that data showing occupational trends are not available.

The above data have led many demographers to infer that urbanization in Central America is proceeding despite lack of a strong technical and industrial base, fueled by large masses of persons who have chosen urban poverty with hope instead of rural poverty without hope. One of the most significant aspects of this situation is that it adds impetus to the other forces stimulating fertility decline (and hence slower growth) through urbanization.

Underemployment and unemployment

In Central America, as well as in many other Latin American countries, the phenomenon of underemployment or under-utilization of persons in the labor force is very widespread. Although difficult to measure, the principle is clear: when truly productive work is unavailable, persons occupy themselves at activities which yield a small submarginal income as a strategy for survival. They may work only a few hours per day, or a few days per week; or the work may be so unproductive that it could be done by a worker in the regular work force in only a fraction of the time consumed by the underemployed. Street vending, submarginal farming on infertile and small parcels of land, and the performance of services in excess of public need (examples are shoe-shining, porters, taxi-driving, and sewing) are occupations where this is common. Economists have tried to estimate this, and to measure its trend over time. A widely accepted study, sponsored by the United Nations Economic Commission for Latin America (CEPAL), researched by one of its branches, Regional Program for Employment in Latin America and the Caribbean (PRELAC) has estimated the amount of this underemployment and converted it into the equivalent of full-time unemployed persons. By adding this "underemployment equivalent" to "open unemployment" (persons seeking work) it is possible to obtain a measure of the true level of inactive or underutilized labor force. PRELAC's estimates for 14 nations of Latin America are reported in Table PEA-5. Data are shown separately for equivalent underemployment and open unemployment, and the sum total under-utilization. Such estimates are shown for two dates, 1950 and 1980—thereby per-

Table PEA-4. Occupational Composition of the Economically Active Population.

Region and country	Year	Professional, related[a]	Administration, managers[b]	Clerical[c]	Sales workers[d]	Service workers[e]	Farmers[f]	Production, laborers[g]
Central America/other								
Costa Rica	1973	8.0	1.7	5.7	7.8	11.6	35.4	29.8*
Cuba	1970	8.4	4.3	5.2	21.4	--**	26.9	33.8
Dominican Republic	1970	2.7	0.3	6.5	5.0	5.1	44.4	36.0
El Salvador	1978	4.6	0.5	5.3	14.2	9.2	40.5	25.7*
Guatemala	1979	3.6	1.1	2.7	6.2	9.1	56.7	20.6
Haiti	1971	1.0	--	0.5	8.6	5.2	63.2	7.3
Honduras	1974	4.1	0.9	4.2	5.8	6.5	59.4	19.1*
Mexico	1977	6.2	2.6	8.1	8.1	13.2	39.3	22.5
Nicaragua	1971	5.2	0.9	4.2	7.1	10.9	46.7	25.0
Panama	1970	6.8	2.1	7.0	6.7	14.5	37.2	25.5*
Puerto Rico	--	--	--	--	--	--	--	--
Tropical South America								
Bolivia	1976	5.9	1.9	4.0	5.2	8.5***	45.1	29.4***
Brazil	1970	4.8	1.7	5.3	7.4	10.4	44.0	25.2
Colombia	1973	4.5	0.7	5.9	7.4	10.0	26.8	30.4
Ecuador	1974	5.0	0.8	3.6	7.5	6.8	46.4	28.3
Paraguay	1972	4.2	0.6	3.6	6.6	9.6	48.7	26.7****
Peru	1972	7.6	0.4	5.9	8.5	8.3	40.2	29.1*
Venezuela	1977	9.5	6.1	9.0	10.2	13.7	12.0	40.8*
Temperate South America								
Argentina	1970	7.5	1.5	11.4	11.9	12.6****	14.4	40.7**
Chile	1970	7.1	1.9	9.6	8.2	11.6	21.1	40.6***
Uruguay	1975	7.2	1.5	10.4	9.1	13.5	15.6	42.7*

NOTE: -- indicates no data available. (*) Figure includes workers not classified by occupation and persons seeking work for the first time. (**) Includes work not classified by occupation. (***) Includes miners, quarrymen, and related workers, as well as workers not clasifiable by occupation. (****) Include members of the armged forces.

Actual titles of categories are as follows: [a]Professional, technical, and related workers. [b]Administrative and managerial workers. [c]Clerical workers. [d]Sales workers. [e]Service workers. [f]Farmers, fishermen, hunters, loggers, and related workers. [g]Production, crafts, transport, and communication workers, plus laborers not classified elsewhere.

SOURCE: International Labor Organization. Yearbook of Labor Statistics, 1974, 1976, 1977, 1979, and 1980.

Table PEA-5. Trend of Underemployment and of Open Unemployment in 14 Latin American Nations: 1950 to 1980 and Projections to the Year 2000.

Country	Underemployment (equivalent)		Open unemployment		Total rate of underutilization			
					Estimated Percent		Projected Percent	
	1950	1980	1950	1980	1950	1980	1990	2000
Latin America total. . .	19.5	16.0	3.4	3.9	22.9	19.9	20.5	20.8
Central America/other								
Costa Rica.	16.9	9.3	4.1	3.9	21.0	13.2	12.0	7.7
Cuba.	—	—	—	—	—	—	—	—
Dominican Republic. . .	—	—	—	—	—	—	—	—
El Salvador	24.5	22.4	5.1	11.2	29.6	33.6	33.5	41.6
Guatemala	26.2	22.2	0.4	1.4	26.6	23.6	26.1	26.1
Haiti	—	—	—	—	—	—	—	—
Honduras.	—	—	—	—	—	—	—	—
Mexico.	22.4	12.7	1.3	4.3	23.7	17.0	21.7	27.5
Nicaragua	—	—	—	—	—	—	—	—
Panama.	27.8	13.0	9.3	7.3	37.1	35.8	15.3	5.0
Tropical South America								
Bolivia	37.2	38.5	0.8	3.0	38.0	41.5	48.0	53.6
Brazil.	20.2	17.0	3.4	2.9	23.6	19.9	16.6	12.8
Colombia.	27.3	22.8	6.2	5.2	33.5	28.0	27.6	25.3
Ecuador	28.0	31.1	4.0	3.0	32.0	34.1	40.8	45.6
Paraguay.	—	—	—	—	—	—	—	—
Peru.	34.3	29.6	3.8	6.7	38.1	36.3	40.6	44.9
Venezuela	11.0	8.0	6.3	4.2	17.3	12.2	18.7	19.6
Temperate South America								
Argentina	2.2	2.2	2.8	1.8	5.0	4.0	3.0	2.8
Chile	12.6	9.7	5.2	9.0	17.8	18.7	20.0	20.0
Uruguay	5.3	6.6	6.0	6.0	11.3	12.6	6.6	4.0

— indicates data not available

SOURCE: United Nations, CEPAL/PRELAC. Dinámica del Subempleo en America Latina, Estudios e informes de la CEPAL, número 10, Santiago Chile, 1981; Tables 4 and 6, pp. 26 and 41.

mitting a study of change. On the basis of these trends, projections of underemployment into the future (to the year 2000) were made. The estimates reveal that underemployment is extremely high (one worker in five is underutilized) and has declined only slightly in the past 30 years. It is highest in countries with high birth rates and lowest in countries with low birth rates. Throughout this 30-year period the economies of most of these nations grew comparatively rapidly—5 percent per year or more—yet made only slight progress toward putting the underemployed to work at more remunerative jobs. The fault seems to lie in the comparative lack of modern industrial growth and the rapid expansion of marginal urban economic activities. When it looks to the future, CEPAL/PRELAC is pessimistic. They find that prospects for reducing underemployment in this century are not bright; for most of the nations little improvement can be expected, and for several a further deterioration is expected. Only for Costa Rica, Panama, Argentina, and Uruguay (all low birth rate countries) is a significant decline expected or already attained. In explaining this result, the PRELAC authors state,

> The eight countries which show a tendency toward worsening of under-employment are characterized by two principal problems: (a) all of them expect an acceleration in the supply of workers, particularly in urban areas, in comparison with the rates for 1950-1980, and (b) the economic growth trend is insufficient to achieve a decline in under-employment, even if the precipitous increase in growth of the labor force were not present. That is to say, there are factors both of supply and of demand of manpower which explain the worsening.*

It is more than coincidental that all of the nations now having, and at the end of this century still having, high underemployment rates are the nations pouring in large amounts of new workers each year because of past and continuing high fertility.

Future growth of the work force

On the assumption that recent trends in work force would continue in the future (including greater participation by women) and that there will be a moderate fertility decline in each nation, a series of projections of the future size of the work force in each country in the year 2000 has been prepared by Dr. Amy O. Tsui.† Table PEA-6 reports the number of persons of each sex estimated to be either at work or seeking work at selected dates. Because of high fertility in the past (the children who will be entering the labor force between 1980 and 2000 are already born), these projections are quite accurate. The labor force will increase by about 75 percent between 1980 and 2000. In almost every country, the rate for females will be higher than for males—in most cases, there will be more than a doubling of the female work force within 20 years.

Providing this many new jobs to the large, on-coming generations is going to be a major challenge to the economies of Central America. Table PEA-7 shows the projected industrial composition of this work force. These projections anticipate a resurgence of industrialization and modernization and more vigorous growth of the economies, and that trends continue toward urbanization. They are more "optimistic" than the CEPAL/PRELAC projections of underemployment, and call for an absorption of large numbers of submarginal

*United Nations, CEPAL/PRELAC, *Dinámica del Subempleo en América Latina, Estudios e Informes de la CEPAL*, número 10, Santiago, Chile, 1981, p. 37.

†Amy Ong Tsui. *Illustrative Functional Projections 1975-2000.* Chicago: Community and Family Study Center, 1979.

Table FEA-6. Projected Size of the Work Force, by Sex: Latin America, 1980-2000. (In thousands)

Region and country	Both sexes				Male				Female				Percent change 1980-2000		
	1980	1985	1990	2000	1980	1985	1990	2000	1980	1985	1990	2000	Both sexes	Male	Female
Latin America total.....	114,200	131,861	152,488	198,260	87,114	100,172	114,343	145,215	26,474	31,689	38,145	53,045	73.6	66.7	100.4
Central America/other.....	35,263	41,904	49,323	66,373	27,785	32,676	38,042	50,139	7,478	9,228	11,281	16,234	88.2	80.5	117.1
Costa Rica.....	775	921	1,065	1,319	614	719	820	995	161	202	244	324	70.2	62.1	101.2
Cuba.....	3,196	3,694	4,198	5,057	2,525	2,873	3,216	3,793	671	821	982	1,254	58.2	50.2	88.4
Dominican Republic.....	1,546	1,882	2,246	2,963	1,345	1,625	1,926	2,505	201	257	320	458	91.7	86.2	127.9
El Salvador.....	1,524	1,845	2,191	2,962	1,217	1,455	1,704	2,243	307	390	487	719	94.4	76.5	134.2
Guatemala.....	2,288	2,687	3,096	4,063	1,961	2,284	2,601	3,336	327	403	495	727	77.6	70.1	122.3
Haiti.....	2,695	3,062	3,435	4,259	1,462	1,684	1,910	2,434	1,233	1,378	1,525	1,825	58.0	66.5	48.0
Honduras.....	1,041	1,255	1,502	2,089	896	1,073	1,273	1,745	145	182	229	344	100.7	94.8	137.2
Mexico.....	20,696	24,747	29,433	40,774	16,628	19,606	22,991	30,886	4,068	5,141	6,442	9,788	97.0	86.3	140.6
Nicaragua.....	834	1,028	1,250	1,737	646	783	938	1,265	188	245	312	472	108.3	95.8	151.1
Panama.....	668	783	908	1,150	491	574	663	837	177	209	245	313	72.2	70.5	76.8
Puerto Rico.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tropical South America.....	63,536	73,251	85,199	111,620	47,930	55,235	63,233	80,576	14,994	18,016	21,966	31,044	75.7	68.1	107.0
Bolivia.....	1,793	2,109	2,449	3,301	1,412	1,639	1,876	2,442	381	470	573	859	84.1	72.9	125.5
Brazil.....	39,224	45,481	52,619	68,893	30,179	34,369	39,044	49,420	9,045	11,112	13,575	19,473	75.6	63.8	115.3
Colombia.....	8,346	9,901	11,507	14,297	6,242	7,359	8,508	10,574	2,104	2,542	2,999	3,723	71.3	69.4	76.9
Ecuador.....	2,604	3,133	3,709	4,954	2,048	2,425	2,826	3,660	556	708	883	1,294	90.2	78.7	132.7
Paraguay.....	993	1,203	1,433	1,915	756	901	1,057	1,375	237	302	376	540	92.8	81.9	127.8
Peru.....	5,310	6,262	7,372	10,086	4,050	4,680	5,408	7,189	1,260	1,582	1,964	2,897	89.9	77.5	129.9
Venezuela.....	4,273	5,162	6,110	8,174	3,243	3,862	4,514	5,916	1,030	1,300	1,596	2,258	91.3	73.2	119.2
Temperate South America.....	15,401	16,706	17,966	20,267	11,399	12,261	13,068	14,500	4,002	4,445	4,898	5,767	31.6	27.2	44.1
Argentina.....	10,464	11,145	11,822	13,195	7,722	8,161	8,585	9,421	2,742	2,984	3,241	3,774	26.1	22.0	37.6
Chile.....	3,789	4,332	4,831	5,618	2,862	3,233	3,570	4,082	927	1,099	1,261	1,536	48.3	42.6	65.7
Uruguay.....	1,148	1,229	1,313	1,454	815	867	917	997	333	362	396	457	26.7	22.3	37.2

NOTE: -- indicates data not available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000. Chicago: Community and Family Study Center, 1979, Table 6.

Table PEA-7. Projected Industrial Composition: 1980-2000 (in Thousands).

Region and country	Agriculture			Industry			Services			Percent change 1980-2000		
	1980	1990	2000	1980	1990	2000	1980	1990	2000	Agriculture	Industry	Services
Latin America total	42,393	45,622	44,781	27,703	46,635	72,860	43,299	60,915	73,814	6	163	71
Central America/other	15,232	16,215	15,320	8,359	14,897	24,292	11,677	18,234	26,481	0.6	191	127
Costa Rica	300	355	376	172	280	397	303	431	545	25	131	80
Cuba	915	1,082	1,178	889	1,279	1,674	1,392	1,838	2,207	29	88	59
Dominican Republic	864	1,052	1,130	260	502	824	422	692	1,009	31	217	139
El Salvador	782	942	1,043	333	571	892	413	699	1,079	33	168	161
Guatemala	1,181	1,058	715	509	988	1,675	598	1,050	1,343	-40	229	125
Haiti	1,857	1,989	1,992	272	550	940	566	896	1,327	7	246	135
Honduras	634	760	851	162	321	566	246	421	671	34	249	173
Mexico	8,063	8,237	7,261	5,473	9,846	16,390	7,160	11,349	17,123	-10	200	139
Nicaragua	391	493	568	150	286	479	293	471	689	45	219	135
Panama	245	247	206	139	274	456	284	397	488	-16	228	72
Puerto Rico	--	--	--	--	--	--	--	--	--	--	--	--
Tropical South America	24,389	26,126	25,697	14,368	25,448	40,916	23,953	34,274	46,448	5	186	94
Bolivia	916	1,054	1,166	413	657	1,006	475	737	1,129	27	144	143
Brazil	15,449	14,889	12,363	8,839	16,345	27,199	14,936	21,384	29,329	-20	208	96
Colombia	2,972	3,616	3,940	1,915	3,072	4,355	3,461	4,820	6,003	33	127	73
Ecuador	1,218	1,469	1,631	632	1,036	1,553	755	1,205	1,771	34	146	135
Paraguay	478	582	646	214	370	570	301	481	700	35	166	133
Peru	2,357	3,269	4,486	1,173	1,912	2,997	1,943	2,839	4,043	9	155	108
Venezuela	999	1,247	1,465	1,182	2,056	3,236	2,092	2,808	3,473	47	174	66
Temperate South America	2,772	3,281	3,764	4,976	6,290	7,652	7,669	8,407	8,851	36	54	15
Argentina	1,723	2,024	2,369	3,502	4,309	5,202	5,239	5,489	5,624	38	49	7
Chile	871	1,037	1,132	1,098	1,510	1,884	1,836	2,295	2,602	30	72	42
Uruguay	178	220	263	376	471	566	594	623	625	48	51	5

NOTE: -- indicates no data available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000. Chicago: Community and Family Study Center, 1979, table 7.

workers into more productive work. *These projections show only small growth in the agricultural sector* (declines in several countries), with very rapid expansion in industry and moderately rapid expansion in services. This industrialization can occur only if there is sufficient investment in new plants and equipment to provide the jobs. Otherwise, the rural masses will continue to crowd into the cities, earning a subsistence living in the so-called service sector.

Unless birth rates decline more quickly than at present, the future growth of the labor force will place such demands on the urban economy that in the years immediately following 2000 it can neutralize economic gains made in the last years of this century. It can cause an accumulation of economically disenfranchised unemployed and underemployed that can become politically destabilizing.

Nutrition and Health

9.

Two of the goals of social and economic development are to eliminate hunger and to improve health and medical care. This section of the report deals with these aspirations as they are related to population dynamics. Part I considers nutrition and food production, and Part II deals with health and medical care.

I. Nutrition and food production

Economists seem never to tire of pointing out that if one sums the total food production of the world and divides by the total world's population, the number of calories per person is adequate to feed everyone, and that there is sufficient scope for improving agricultural productivity to maintain this situation for the remainder of this century and well into the next. From these valid statistics, two invalid generalizations are often implied: (a) the problem of malnutrition in developing countries is not serious and can be easily solved, and (b) rapid population growth is not a threat to economic development because there is plenty of food for all. Perhaps these implications would be valid if the world had a single collective, centrally directed economy, in which every child, woman and man would be guaranteed at least the minimum nutritional requirements from these international resources necessary to maintain growth, preserve health, provide energy for daily activities, and never suffer the pangs of starvation. The cruel fact is that food supplies are very unequally distributed over the face of the globe, and that within each country, individual citizens have very unequal access to the food available there. Central America is one of the world's "nutritional trouble spots." In at least one-half of the countries, and for at least one-half of the residents, both the national supply of food in inadequate and unequal access to food is more acute than average. Table NH-1

reports the average food supply in terms of calories and proteins per capita for countries in Latin America around 1975-77. These data were published by the Food and Agriculture Organization (FAO) of the United Nations; although they represent the average daily supply available for the total population, they should not be interpreted as the amounts actually consumed by individuals. Nevertheless, they do reveal nation-to-nation disparity in food supplies.

In general, a daily average of 2,500 calories per person is regarded as the desirable level. Column 3 of Table NH-1 shows that 8 of the 11 nations in the region fall below this standard.

The World Bank has converted data similar to these into a measure of the supply as a percentage of daily requirements (column 4 of Table NH-1). It is less stringent than the criterion of 2,500 calories. Simultaneously using both sets of criteria, the countries with the greatest food supply deficit are Guatemala, Honduras, Haiti, and El Salvador. Only Belize, Costa Rica, Cuba, and Mexico have adequate indices of national food supply on both indicators.

The four right-hand columns of Table NH-1 measure the results of inequality of access to food within Central American countries, in terms of its effect on young children. These data summarize the findings of surveys of nutritional status of children under 5 years of age, taken between 1976 and 1980, reported by the Pan American Health Organization. Malnutrition is gauged by relating amount of major deficiency in height and weight in comparison with samples of infants known to be free of malnutrition. Grade I is "mild," Grade II is "moderate," and Grade III is "advanced" malnutrition. From this evidence, one can conclude that less than one-half of the children of Central America (perhaps 45 percent) could be declared wholly free of malnutrition. Overall distribution would appear to be about as follows:

Level of malnutrition	Percent
Normal (no malnutrition)	45
Grade I (mild)	38
Grade II (moderate)	15
Grade III (advanced)	2
Total	100

Because of the combination of inadequate total national food supply and unequal food distribution, the situation in Honduras, Guatemala, and Haiti is much worse than this average, with about 30 percent of all children suffering from moderate to advanced malnutrition, with only slightly more than one-quarter being normal.

Food production

It is important to make a clear distinction between "crop production," "agricultural production," and "food production." The first includes field crops grown for industrial or nonfood use: cotton, hemp, wool, and noncaloric products such as tobacco, coffee, tea, and spices, or forage for animals. The second includes crop production minus a deduction of food for animals, plus animals produced for food or nonfood use. Food production refers only to that portion of agricultural production devoted to the production of edible food products with caloric value, including animal products. In Central America, much food is produced for export, especially bananas and sugarcane products, and much agricultural production is not for food (cotton, coffee).

Statistics on each of the above three types of production are assembled and published annually by the International Economics Division of the U.S. Department of Agriculture. Table NH-2 reports measures of food production for Latin American countries from 1972 to 1981. These statis-

Table NH-1. Food Supply and the Nutritional Status of Population of Children in Latin American Countries.

Region and country	Daily per capita supply		Calorie ratio to 2500	Supply as ratio of daily requirement	Nutritional status of children under 5 years of age: percent			
	Calories	Protein			Normal	Grade I	Grade II	Grade III
Central America/other								
Belize	2,510	64.3	100	--	--	--	--	--
Costa Rica	2,487	58.1	99	1.16	54.2	36.8	8.5	0.5
Cuba	2,630	67.7	105	1.22	--	--	--	--
Dominican Republic	2,109	43.0	84	1.05	--	--	--	--
El Salvador	2,111	50.1	84	.99	47.1	42.5	9.9	0.5
Guatemala	2,023	53.7	81	.93	27.4	43.0	27.2	2.3
Haiti	2,041	49.1	82	.96	26.8	46.0	24.1	3.2
Honduras	2,084	51.5	83	.96	27.5	43.0	27.2	2.3
Mexico	2,668	66.1	107	1.21	--	--	--	--
Nicaragua	2,452	70.4	98	.99	43.2	41.28	13.2	1.8
Panama	2,346	57.8	94	1.03	50.0	38.6	11.4	
Tropical South America								
Bolivia	2,049	53.4	82	.87	--	--	--	--
Brazil	2,521	60.9	101	1.09	48.5	37.2	12.0	2.3
Colombia	2,246	48.6	90	1.08	--	--	--	--
Ecuador	2,111	54.4	84	.88	--	--	--	--
Paraguay	2,808	80.1	112	1.34	--	--	--	--
Peru	2,284	58.5	91	.99	--	--	--	--
Venezuela	2,436	64.9	97	1.12	--	--	--	--
Temperate South America								
Argentina	3,358	110.2	134	1.25	--	--	--	--
Chile	2,644	70.3	106	1.14	--	--	--	--
Uruguay	2,927	87.5	117	1.10	--	--	--	--
North America								
Canada	3,345	101.1	134	--	--	--	--	--
United States	3,339	106.2	118	--	--	--	--	--

SOURCES: Daily per capita supply, Food and Agricultural Organization, Food Balance Sheets, 1975-77, average, Rome, 1980; ratio of daily requirements (col. 4), World Bank, World Development Report, 1983; nutritional status, Pan American Health Organization, Health Conditions in the Americas, 1977-1980, 1982, p. 102.

Table NH-2. Indices of Per Capita Food Production in Latin America, by Country: 1972-1981.

Region and country	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Latin America total.....	97	100	102	105	108	108	110	111	112	114
Central America/other										
Costa Rica.....	106	107	107	119	112	112	119	113	100	101
Cuba.....	83	85	85	89	89	84	97	103	94	95
Dominican Republic.....	101	101	101	92	100	103	108	103	103	105
El Salvador.....	90	105	96	105	99	98	110	116	99	89
Guatemala.....	99	103	100	109	115	114	111	107	102	109
Haiti.....	108	101	92	90	88	97	108	104	96	103
Honduras.....	93	94	86	75	83	85	90	93	88	84
Mexico.....	98	102	97	104	100	98	102	97	101	104
Nicaragua.....	94	102	102	106	102	99	105	77	71	76
Panama.....	96	95	95	98	97	101	98	94	88	94
Puerto Rico.....										
Tropical South America										
Bolivia.....	98	103	105	113	116	107	103	103	99	94
Brazil.....	100	105	112	113	124	125	118	121	135	134
Colombia.....	103	103	107	112	110	108	119	124	129	128
Ecuador.....	99	99	102	109	106	114	112	109	117	119
Paraguay.....	93	90	101	99	104	118	114	121	123	123
Peru.....	98	98	100	98	100	95	82	80	76	84
Venezuela.....	96	98	102	108	101	114	113	118	118	112
Temperate South America										
Argentine.....	92	98	101	103	111	110	121	124	113	121
Chile.....	96	84	94	101	95	102	91	98	98	106
Uruguay.....	89	99	108	108	119	97	101	91	99	116
United States.....	102	103	98	106	107	111	112	116	111	120
Canada.....	98	98	88	99	107	108	110	106	107	113

NOTE: — indicates data not available.

SOURCE: United States Department of Agriculture, 1982, page 22.

tics do *not* measure nutritional levels (as discussed in the preceding section), but simply *trends* in production and production per capita. It is presumed that if per capita production increases, nutritional status will be favorably affected, but that if per capita production declines, nutritional deterioration is occurring.

Table NH-2 shows that the nutrition situation has not improved (indeed, it appears to have deteriorated) in Cuba, Dominican Republic, El Salvador, Honduras, Nicaragua, and Panama. Although a few nations with rapid growth rates increased their productivity per capita (Haiti, Paraguay), the negative relationship between per capita production of food and rate of population growth is strong.

The statistics in Tables NH-1 and NH-2 fail to give a full picture of the human misery associated with malnutrition in Central America. The following case study of Honduras provides more insight. It applies with equal vigor to Guatemala, Haiti, and parts of Nicaragua, El Salvador, and Mexico.

* * *

Malnutrition in Honduras: a case study*

The nutritionally at risk population. The target group for national policies and programs aimed at nutritional improvement should be the "nutritionally at risk population." This is defined to be that segment of the population that lives continually on the brink of malnutrition, and for whom relatively minor changes in income, food prices, health status, family size, or environmental conditions, can create not inconsiderable nutritional impacts. Within this population, we can expect a high percentage of the members to be experiencing malnutrition at any given time. The most visible effects of this malnutrition will be manifested in the most vulnerable segments of the nutritionally at-risk population, which experience has shown to be infants, young children, and pregnant and lactating women.

Honduras faces serious nutritional problems, with widespread effects that impact the lives of the great majority of the population, both urban and rural. The nutritionally at risk population comprises more than 60 percent of all urban families and more than 90 percent of all rural families, for a total of over 80 percent of the total Honduran population.

The principal nutritional problems in Honduras are protein-caloric malnutrition and a series of other nutritional deficiencies, caused by dietary inadequacies and/or the presence of infections which prevent proper utilization of food consumed, or which radically increase the body's nutrient requirements. A study of food consumption in Central America undertaken in 1971 and 1972 by GAFICA, an FAO advisory group attached to the Secretariat of the Central American Common Market, found that in 1970 the lower 50 percent of the Honduran population, in income terms, consumed less than 1,500 calories per person per day, an average deficit of over 700 calories per person per day.

Surveys conducted by the Honduran Ministry of Public Health and by the Institute of Nutrition of Central America and Panama (INCAP) show that between 75 and 85 percent of all children under the age of 6 years suffer from some degree of protein-caloric malnutrition.

Subsequent surveys have been conducted in Honduras by the Ministry of Public

*SOURCE: George V. Poynor. *Agricultural Sector Assessment for Honduras.* Washington, D.C.: U.S. Agency for International Development, 1978.

Health (MSP). They have demonstrated the following levels of malnutrition among children under the age of six in rural areas: 43 percent in Grade I; 32 percent in Grade II; and 6 percent in Grade III; for a total of 83 percent of children surveyed malnourished. The Honduran national nutrition planning group, SAPLAN, concluded in its 1976 assessment of the nutritional situation that malnutrition had increased in the period subsequent to the INCAP survey.

The effects of malnutrition. The effects of malnutrition in Honduras are pervasive and costly. Infant mortality, according to official estimates, is 117 deaths for each 1,000 live births (1977), which places Honduras among the countries with very high rates of infant mortality. In rural Honduras the official statistic for infant mortality is 127.2, and is acknowledged by Honduran health and nutrition planners to be underestimated because of problems of registration of infant deaths.

These statistics and others place Honduras among the countries of the world most seriously affected by malnutrition. The World Food Council's list of countries that face severe food problems, for example, includes only four countries of the western hemisphere; El Salvador, Guyana, Haiti, and Honduras.

Ninety percent of all children admitted for treatment to pediatric hospitals or clinics in Honduras, for whatever causes, suffer from some degree of malnutrition. The great majority of all illnesses which result in infant and child mortality are nutrition-related, in the sense that these same illnesses, in the well-nourished child, are either mild or routinely treated; whereas in the malnourished child they prove serious, and often fatal.

Malnutrition among women of childbearing age affects their own health as well as that of their infant children. A considerable percentage of maternal deaths associated with childbirth in Honduras have nutritional anemias as a contributing factor. Anemia and other maternal nutritional disorders are also factors in the low birthweights of children, and infant mortality is significantly higher among children of low birthweight. Chronic caloric shortages in the diets of lactating women lead to problems in breast feeding, and increases the probability of illness in the mother. These conditions, in turn, have deleterious effects upon the nutritional status, and health, of the infant.

Malnutrition affects the ability of members of the economically active population to sustain themselves and their families. Research undertaken by INCAP, and aimed at a better understanding of the relationship between nutritional status and work performance, has shown that a daily supplement of 600-900 calories in the diets of low income adults produces a surprisingly sharp increase in work stamina. Turning this around, we may conclude what many observers have long held: that chronic shortages of food energy (calories) in the diets of the poor lead to decreased work performance, and therefore, to overall reductions in labor productivity.

Conclusion. Hunger and malnutrition are serious problems in Central America. They are greatest where fertility is highest, and are improving least or deteriorating most rapidly where population growth is most rapid.

* * *

Table NH-3. Projected Food Requirements: Latin American Countries, 1980-2000.

Region and country	Daily caloric food requirement (total)				Percent change 1980-2000	
	1980	1985	1990	2000	Food requirements	Population
Central America/other						
Costa Rica	4,647	5,363	6,094	7,538	62.2	43.3
Cuba	21,098	23,624	26,127	31,326	48.5	31.2
Dominican Republic	11,321	13,379	15,491	19,731	74.3	52.8
El Salvador	9,713	11,743	14,004	18,996	95.6	72.5
Guatemala	15,202	18,266	21,540	28,694	88.8	79.4
Haiti	10,882	12,845	14,934	19,299	77.3	54.5
Honduras	7,091	8,733	10,683	15,484	118.4	95.2
Mexico	143,623	172,749	205,984	282,389	96.6	73.2
Nicaragua	5,450	6,635	7,974	10,955	101.0	78.0
Panama	3,983	4,705	5,448	6,942	74.3	53.3
Puerto Rico	--	--	--	--	--	--
Tropical South America						
Bolivia	10,990	13,269	15,905	22,242	102.4	79.8
Brazil	252,000	295,207	341,488	438,446	74.0	52.5
Colombia	54,375	61,954	69,372	84,636	55.7	37.8
Ecuador	16,218	19,377	22,856	30,564	88.5	66.3
Paraguay	6,129	7,324	8,624	11,377	85.6	63.5
Peru	3,769	4,561	5,431	7,457	97.9	70.1
Venezuela	28,616	33,677	39,256	51,578	80.2	59.0
Temperate South America						
Argentina	55,615	61,015	66,478	77,313	39.0	22.9
Chile	23,604	25,455	27,937	33.031	43.6	27.2
Uruguay	6,104	6,726	7,325	8,455	38.5	22.4

NOTE: -- indicates no data available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000. Chicago: Community and Family Study Center, 1979.

Future requirements for food

Projections of the food requirements of the population of each nation of Central America were prepared on the assumptions that (a) malnutrition and hunger would gradually be eliminated by the end of this century and (b) there would be moderately strong declines in fertility.*

Table NH-3 summarizes the projected needs for food. In every country, the elimination of malnutrition requires food production to grow at a considerably faster rate than population—in some nations, by 25-40 percent faster. Yet as Table NH-2 reports, food production is not keeping pace with population in the most seriously malnourished countries. Thus, the malnutrition problem appears to be soluble only if there is a two-pronged program to raise agricultural production and productivity and to slow down population growth to permit the agricultural sector to catch up to the nations' nutritional needs.

II. Health and medical care

Because of its tropical climate, Central America harbors a wide variety of serious disease hazards that require major health and medical programs, along with rigorous self-care by the public, to overcome or control them. These illnesses are most severe, and cause death most often, among three high-risk groups: infants and children under one year, pregnant women and recent mothers, and the elderly. Among the

*Amy Ong Tsui. *Illustrative Functional Projections 1975-2000.* Chicago: Community and Family Study Center, 1979.

infectious and parasitic diseases posing major health problems are these:*

1. Vaccine preventable diseases. The Pan American Health Organization estimates in Latin America as a whole, 24 percent of all deaths in recent years from infectious and parasitic diseases in the 1-4 age group were due to vaccine-preventable diseases. The rate in Central America cannot be less. Measles, poliomyelitis, diptheria, whooping cough and teranus are in this group. Incomplete inoculation permits this hazard to persist.

2. Diseases requiring environmental control. Central America is estimated to have had more than 250,000 cases of malaria in 1980—a 35 percent increase over 1970. There have been periodic epidemics of dengue fever, which has spread to all nations of Central America. It is estimated that there are 280,000 new cases of tuberculosis each year. In addition, hepatitis, typhoid fever, and leprosy are not rare.

3. Acute respiratory infections. Influenza and pneumonia are among the five leading causes of deaths in infants and children in all nations of Central America for which data are recorded.

4. Diarrheal diseases. Such diseases are a leading cause of infant and childhood morbidity and mortality. Unsafe drinking water and inadequate environmental sanitation are basic sources of infection. Malnutrition resulting in low resistance to infection increases the rate at which such infections turn into serious illness.

5. Complications of pregnancy. Complications of pregnancy, childbirth, and the puerperium are a leading cause of death among women 15-49. In all countries of Central America for which data are available, 10 percent or more of the deaths of women in this age group are due to this category of causes. Lack of or insufficient prenatal care, high parity, delivery outside medical facilities, and malnutrition are contributing causes.

6. Chronic and degenerative diseases. The diseases that affect the elderly in all populations are no less important in Central America: diseases of the heart, malignant neoplasms, cerebrovascular disease, and diabetes mellitus require sustained medical attention.

Because a large proportion of the public is poor and uneducated, knowledge of preventive health self-care is limited. Because the national governments have severe limitations upon their resources, expenditures to improve the quantity and quality of health and medical services are insufficient to meet the needs.

Nevertheless, progress has been and is being made. Increasing expectation of life and declining infant and adult mortality rates described in Chapter 2 of this report are evidence that there have been improvements in the health status of the population and in the medical care being provided. Yet, as that chapter reported, several nations of the region (especially Honduras, Guatemala, Nicaragua, El Salvador, and Haiti) lag behind most other Latin American countries in lower mortality. Most of these nations have major programs, assisted by the United Nations and other international agencies, to bring about further improvement.

The magnitude of the deficit in health care in Central America can be roughly estimated from Table NH-4, which presents statistics on health and medical personnel in relation to population for the Latin

*The following summary was extracted from Pan American Health Organization, *Health Conditions in the Americas, 1977-80,* 1982.

Table NH-4. Population per Physician and Medical Personnel per 100,000 Inhabitants: Latin American Countries.

Region and country	Population per:				Medical personnel per 100,000 inhabitants				
	Physician		Nursing persons		Year	Physicians	Pharmacists	Graduate nurses	Dentists
	1960	1980	1960	1980					
Central America/other									
Costa Rica	2,700	1,470	710	450	1977	72	6	220	22
Cuba	1,060	700	950	360	1974	89	8	--	32[a]
Dominican Republic	8,220	4,020	--	2,150	1973	54	24	75	12
El Salvador	5,260	3,040	--	870	1977	27	13	109	9
Guatemala	4,420	3,600	9,040	1,620	1971	24	--	15	5
Haiti	9,320	8,200	4,020	2,490	1976	9	--	25	2
Honduras	12,620	3,120	--	700	1975	32	10	75	7
Mexico	1,830	1,260	3,650	1,420	1974	56	0.2	73	3
Nicaragua	2,690	1,800	1,250	550	1976	61	--	170	11
Panama	2,730	980	3,460	420	1975	75	--	--	13
Puerto Rico	--	--	--	--	--	--	--	--	--
Tropical South America									
Bolivia	3,830	1,850	--	3,070	1974	51	37	30	23
Brazil	2,670	1,700	2,810	820	1974	61	8[a]	42[a]	28[a]
Colombia	2,640	1,920	4,220	1,220	1977	51	--	80	18
Ecuador	2,670	1,620	2,360	--	1977	62	--	16	18
Paraguay	1,810	1,710	1,380	1,100	1976	47	9[b]	44[b]	26[b]
Peru	1,910	1,390	2,210	690	1977	63	19	133	19
Venezuela	1,510	950	2,840	370	1977	115	25	278	34
Temperate South America									
Argentina	740	530	750	--	1975	192	3[c]	94[c]	19[c]
Chile	1,780	1,920	640	450	1977	61	22	30	40
Uruguay	960	540	800	190	1975	130	--	--	23

NOTE: -- indicates data not available

[a]Based on 1972 data

[b]Based on 1975 data

[c]Based on 1973 data

SOURCE: Population per physician, World Bank, World Development Report, 1983; medical personnel, United Nations, Statistical Yearbook, 1980.

American nations. If a ratio of one physician per 500 persons is accepted as the minimum desirable standard, it is obvious that no nation in Central America even approaches it. However, the table does provide evidence of very rapid improvement in all nations of the region except Haiti in the 1960-80 period. If progress continues at this rate, the shortage of medical personnel will be greatly eased—despite rapid population growth.

Table NH-4 also provides statistics of the ratio of selected categories of medical personnel to population. If the ratios for Argentina and Venezuela can be used as a point of comparison, as minimally desireable, then it is clear that all of Central America is seriously deficient. The greatest deficiencies are found in El Salvador, Guatemala, and Honduras (also in Haiti). The shortage is far greater in these countries than in any other Latin American nation. (El Salvador has a comparative shortage of physicians and doctors, but less of nurses.)

Table NH-5 reports projections of the number of medical personnel and facilities required in each country if it were to try to move gradually to the level of medical care common in Europe and North America. The need for growth is very large. Facilities must be expanded at a pace even greater than the rapid population growth rates in order to make up for pre-existing deficits. These projections illustrate and emphasize how extremely difficult it will be for the nations with the greatest health and medical deficiencies ever to catch up with the rest of Latin America and the world while continuing to grow rapidly. Because a very large percentage of the clients in any health system of Central American countries are expectant mothers and infants, reducing fertility rates provides almost immediate relief on the pressure to expand facilities, and reduces the quantity of facilities that will be ultimately required. If present growth rates continue, attainment of the goals set for this century might not be reached until well into the next.

Table NH-5. Projected Health and Medical Facilities in Latin America: 1980-2000.

Region and country	Number of physicians			Number of hospital beds			Number of hospitals			Percent change 1980–2000		
	1980	1990	2000	1980	1990	2000	1980	1990	2000	Doctors	Beds	Hospitals
Central America/other												
Costa Rica	1,606	2,377	3,232	9,562	14,562	20,199	53	76	102	101.2	111.2	92.5
Cuba	9,653	12,321	15,178	49,134	67,591	88,271	411	482	551	57.2	79.7	34.1
Dominican Republic	3,385	5,499	7,979	14,887	28,547	45,524	347	471	595	135.7	205.8	71.5
El Salvador	1,835	3,906	6,742	11,988	25,337	43,592	102	169	252	267.4	263.6	147.1
Guatemala	2,587	5,696	9,914	22,284	42,506	69,049	238	339	451	283.2	209.9	89.5
Haiti	1,147	3,254	6,025	8,788	22,359	40,014	103	169	244	425.3	355.3	136.9
Honduras	1,428	3,102	5,700	7,837	18,474	35,246	60	114	193	299.2	349.7	221.7
Mexico	49,803	98,682	167,090	189,376	547,026	1,076,420	2,118	3,437	5,157	235.2	468.4	143.5
Nicaragua	1,914	3,175	4,773	7,522	15,287	25,994	83	124	171	149.4	245.6	106.0
Panama	1,798	2,864	4,054	8,725	16,613	26,115	71	99	125	125.5	199.3	76.1
Puerto Rico	--	--	--	--	--	--	--	--	--	--	--	--
Tropical South America												
Bolivia	3,036	5,484	8,961	13,465	28,844	15,639	268	376	508	195.2	293.5	89.6
Brazil	92,921	166,028	257,206	597,788	1,069,060	1,656,963	5,563	7,213	8,846	176.8	177.2	59.0
Colombia	14,291	22,748	32,832	68,050	124,253	193,124	942	1,168	1,397	129.7	183.8	48.3
Ecuador	4,360	7,700	12,035	21,307	42,596	71,260	266	374	493	176.0	234.4	85.3
Paraguay	2,671	3,953	5,404	6,510	14,462	25,100	165	227	292	102.3	285.6	77.0
Peru	11,042	18,516	25,585	46,904	94,385	144,534	542	779	958	131.7	208.1	76.8
Venezuela	16,195	22,750	30,227	58,642	117,035	194,727	479	689	933	86.6	232.1	94.8
Temperate South America												
Argentina	64,482	82,587	101,590	167,561	228,780	295,028	3,608	4,970	6,449	57.5	76.1	78.7
Chile	5,799	8,975	12,678	46,942	66,304	88,448	342	421	506	118.6	88.4	48.0
Uruguay	3,462	4,280	5,043	14,895	23,391	32,487	77	115	156	45.7	118.1	102.6

NOTE: -- indicates data not available.

SOURCE: Amy Ong Tsui. Illustrative Functional Projections 1975-2000. Chicago: Community and Family Study Center, 1979.

Housing and Amenities

10.

One of the greatest development needs in Central America, as in all of Latin America, is the improvement of the quality of housing and the provision of basic facilities required for healthful living with at least minimal comfort. Tables H-1, H-2, and H-3 report some indicators of the present housing quality in each country. Where available, data are provided separately for urban and rural residence. From these data, the following facts emerge:

(a) The average house is small (only 2 or 3 rooms), yet the average household contains 4-6 persons, with the result that the density per room tends to be very high—2 or 3 persons per room. By international housing standards, 1.0 person per room is regarded as the density desirable, and density above 1.5 indicates definite over-crowding. Hence, there is severe overcrowding in Central America.

(b) In most of the countries, only 20 to 50 percent of the homes have electricity. This means that food cannot be refrigerated, illumination must be deficient, there can be no piped water outside urban areas, and all amenities and electrical appliances (such as TVs, clothes irons, washing machines) must be foregone.

(c) Except for Mexico, Costa Rica, and Cuba, less than one-half of the dwellings have piped water available. This deficiency is most serious in rural areas, where only about 20 percent of dwellings have piped water. In rural areas, a high proportion of households take their water from streams or other unprotected sources or from wells, a high percentage of which are subject to contamination. Even in urban areas, 10-30 percent of dwellings must use water that is not delivered by pipes.

Table H-1. Households, Dwellings, and Housing Facilities: Latin American Countries.

Region and country	Year	Private households		Dwellings				Percent of dwellings with		
		Number (000)	Average persons	Number (000)	Number occupied	Rooms per dwelling	Persons per room	piped water	elec-tricity	Toilet
Central America/other										
Costa Rica	1973	--	--	337	315	4.0	1.4	81.0	68.8	46.2
Cuba	1970	1,905	4.5	1,924	1,901	3.7	1.2	45.6	70.7	--
Dominican Republic	1970	746	5.2	719	--	3.6	1.5	22.9	36.8	74.5
El Salvador	1971	--	--	--	655	1.7	3.1	26.0	34.1	41.3
Guatemala	1973	998	5.0	998	935	2.4	2.2	25.4	28.5	40.8
Haiti	1976	1,065	4.4	--	1,065	2.2	--	--	--	--
Honduras	1974	--	--	527	463	2.4	--	15.4	25.0	33.2
Mexico	1970	8,286	5.8	--	8,286	2.3	2.5	49.4	58.9	41.5
Nicaragua	1971	--	--	--	305	2.2	--	27.9	40.9	19.3
Panama	1970	--	--	--	285	--	--	64.4	51.9	71.9
Puerto Rico	--	--	--	--	--	--	--	--	--	--
Tropical South America										
Bolivia	1976	1,041	4.4	1,114	1,078	--	--	14.4	33.0	14.3
Brazil	1973	--	--	--	19,402	3.9	--	33.8	55.6	67.5
Colombia	1973	3,472	5.7	2,956	2,800	3.4	1.8	64.2	58.1	--
Ecuador	1974	--	--	1,313	1,189	2.4	--	20.0	41.2	42.0
Paraguay	1972	428	5.5	--	--	2.7	2.1	11.1	17.5	93.8
Peru	1972	2,772	4.9	2,904	2,771	2.5	1.9	25.3	32.1	24.7
Venezuela	1971	--	--	2,127	1,844	3.9	1.5	53.3	76.8	77.4
Temperate South America										
Argentina	1970	6,056	3.8	--	--	2.8	1.4	--	--	--
Chile	1970	1,690	5.1	1,775	--	2.9	1.4	59.6	--	43.6
Uruguay	1975	769	3.6	848	751	1.7	2.1	83.9	80.7	92.1

NOTE: -- indicates no data or data not available.

SOURCE: United Nations. Statistical Yearbook, 1979, 1980.

Table H-2. Source of Household Water Supply, Urban and Rural Areas: Latin American Countries (Percent of Households That Obtain Water from Specified Sources).

Region and country	Year	Total			Urban			Rural		
		Piped system	Well	Streams or other source	Piped system	Well	Streams or other source	Piped system	Well	Streams or other source
Central America/other										
Costa Rica	1973	69.8	8.0	22.2	--	--	--	--	--	--
Cuba	1970	56.3	33.2	10.5	82.6	14.3	3.1	7.4	68.2	24.4
Dominican Republic	--	--	--	--	--	--	--	--	--	--
El Salvador	1971	47.2	15.3	37.5	87.8	6.2	6.0	18.5	21.7	59.8
Guatemala	1973	42.3	27.3	30.4	82.3	9.3	8.4	18.9	37.8	43.3
Haiti	--	--	--	--	--	--	--	--	--	--
Honduras	1974	43.1	29.7	27.1	90.5	5.7	3.8	21.2	40.8	37.9
Mexico	1970	61.0	--	--	80.2	--	--	33.8	--	--
Nicaragua	1971	37.5	31.2	31.4	71.8	18.6	8.7	4.4	43.3	52.4
Panama	1970	51.1	12.2	36.7	90.7	4.0	5.3	11.9	20.2	67.9
Puerto Rico	--	--	--	--	--	--	--	--	--	--
Tropical South America										
Bolivia	1976	36.8	23.5	39.8	78.9	6.7	14.3	7.9	34.9	57.2
Brazil	1970	32.8	24.7	42.4	55.0	23.6	21.4	2.5	26.3	71.2
Colombia	1973	69.9	11.8	18.3	91.4	2.7	5.9	30.2	28.4	41.3
Ecuador	1970	42.9	26.1	30.9	83.4	3.8	12.8	15.1	41.5	43.4
Paraguay	1972	11.1	80.6	8.3	27.6	67.7	4.8	--	89.2	10.8
Peru	1972	41.4	9.1	49.5	69.1	5.7	25.2	4.8	13.6	81.6
Venezuela	1971	78.6	--	21.4	--	--	--	--	--	--
Temperate South America										
Argentina	1960	51.5	41.8	6.7	62.9	33.5	3.6	14.1	68.9	16.9
Chile	1970	71.0	18.9	10.1	89.5	5.8	4.7	9.0	62.8	28.2
Uruguay	1975	72.8	17.0	10.2	73.2	17.0	9.5	3.6	58.4	38.1

NOTE: — indicates data not available.

SOURCE: Economic Commission on Latin America, 1983, United Nations, Statistical Yearbook, 1977, 1976, 1975, 1974, and 1972.

Table H-3. Type of Sanitary Facilities in Living Quarters: Latin American Countries (Percent of Households with Specified Facilities).

Region and country	Year	Total			Urban			Rural		
		Water closet	Latrine	None or unknown	Water closet	Latrine	None or unknown	Water closet	Latrine	None or unknown
Central America/other										
Costa Rica	1973	44.3	44.7	11.1	--	--	--	--	--	--
Cuba	1970	43.8	38.2	18.0	64.1	29.0	6.9	6.0	55.1	38.8
Dominican Republic	--	--	--	--	--	--	--	--	--	--
El Salvador	1971	22.4	18.6	58.8	51.8	30.5	17.8	1.7	10.6	87.8
Guatemala	1973	17.9	22.8	59.2	45.5	36.9	17.6	1.8	14.6	83.6
Haiti	--	--	--	--	--	--	--	--	--	--
Honduras	1974	14.4	17.8	67.8	41.9	36.9	21.2	1.6	9.0	89.4
Mexico	1970	--	58.5	--	--	39.9	--	--	86.2	--
Nicaragua	1971	19.3	34.0	46.7	37.9	52.7	9.4	1.3	16.1	82.6
Panama	1970	40.1	31.6	28.3	74.0	23.1	2.9	6.6	40.1	53.3
Puerto Rico	--	--	--	--	--	--	--	--	--	--
Tropical South America										
Bolivia	1976	14.5	6.8	78.7	34.4	12.2	53.4	0.8	3.1	96.1
Brazil	1970	26.9	33.3	39.7	45.1	40.9	14.0	2.1	22.8	75.1
Colombia	1973	57.6	10.5	31.9	82.2	9.4	8.4	12.3	12.7	75.0
Ecuador	1974	28.1	9.9	62.0	64.4	15.8	19.8	3.2	5.9	90.9
Paraguay	1972	14.3	79.4	6.2	33.6	63.9	2.5	1.3	89.9	8.8
Peru	1972	22.2	4.8	73.0	38.6	7.7	53.7	0.5	0.8	98.6
Venezuela	1971	53.5	23.9	22.6	--	--	--	--	--	--
Temperate South America										
Argentina	1960	61.5	25.2	13.3	73.8	19.3	6.9	21.1	44.7	34.2
Chile	1970	51.5	45.7	2.7	64.5	35.2	0.3	8.1	81.2	10.7
Uruguay	1975	43.8	48.3	7.9	25.3	67.4	7.3	0.9	74.7	24.5

NOTE: --indicates data not available.

SOURCES: United Nations, Economic Commission on Latin America, Economic Survey of Latin America, 1983.

(d) Sanitary facilities are seriously deficient in both urban and rural areas. Less than one-half of the homes have water closets, even in urban areas (except Panama, Cuba, and El Salvador). Latrines, which are a health hazard in cities, or no facilities at all, are used to dispose of much human waste in cities. In rural areas, water closets are almost non-existent, and latrines are rare (except in Mexico and Cuba). As much as 80 percent of the human waste in rural areas of Central America is disposed of without sanitary facilities.

The housing situation in urban areas and environs of Central America has been described in a recent report as follows,

> The provisions of. . . housing has lagged far behind population growth. Overcrowded, deteriorating rooming houses in central cities, squatter settlements on precarious riverbanks close to central cities, illegal subdivisions in outlying areas and makeshift semi-rural settlements on the margins of the urban periphery bear testimony to urbanization fueled by demographic and economic forces. . . .*

Haechel and collaborators estimated that in five key Central American nations from 60 to 90 percent of all housing is inadequate even for minimal comfort and health. They classified housing units into two categories:

(a) Not capable of upgrading, fit only to be replaced;

(b) Capable of upgrading, including addition of basic facilities of water, sanitary disposal, electricity.

A summary of their findings is contained in Table H-4.

Rural housing. Thirty to fifty percent of rural housing is basically deficient and needs to be totally replaced (constructed of inadequate materials, deteriorated conditions, insuffient ventilation and facilities for cooking). Moreover, a high percentage of units that do have minimally adequate construction are without even basic waste disposal facilities. Many rural folk do not own the land on which their dwelling is located, or the dwelling itself, and must rely on the owner to provide amenities. Throughout the rural areas, income is so low that there is very little money to invest in shelter, even if it is owned. Overall, in Central America at least one-third of rural housing units need to be destroyed and replaced and an additional one-half need to undergo major upgrading.

Urban housing. The standards for adequate housing in urban places are only slightly better than that in rural areas. About one-fourth of all housing units are too deficient for upgrading, and an additional 30 to 50 percent lack plumbing and toilet facilities essential for congested living and other needed improvements.

Population growth demands that the housing supply be increased at the rate of 2.5 to 3.0 percent per year merely to provide housing to families newly formed. In order to remedy the present deplorable housing situation two things should occur:

(a) The construction of more inadequate housing should be prevented,

(b) Each year a portion of the inadequate housing should be replaced with adequate housing.

Accomplishing the first goal, under conditions of present rapid growth, is extremely difficult in view of the many other development needs of these nations and the low incomes of a majority of the people. Achiev-

*Haechel, Bernard et al. *Basic Shelter Needs in Central America, 1980-2000.* Washington, DC: Office of Housing, Agency for International Development, 1980.

Table H-4. Indicators of Inadequate Housing in Five Nations of Central America: 1975.

Area and Indicator	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Urban					
Units not capable of upgrading	7.3	32.2	20.6	22.8	21.4
Other units without flush toilet	57.0	30.9	50.3	47.7	44.2
Total	64.0	63.0	71.0	71.0	66.0
Rural					
Units not capable of upgrading	54.0	34.8	39.1	29.5	37.4
Units without waste disposal facilities	9.6	48.6	47.8	60.8	43.8
Total inadequate units	64.0	83.0	87.0	90.0	81.0

Source: Haeche', Bernard et al. Basic Shelter Needs in Central America, 1980-2000. Washington, DC: Office of Housing, Agency for International Development, 1980.

ing the second, as an additional effort added to population growth, makes the goal of offering minimally adequate housing to all extremely difficult to attain.

Haechel and his collaborators estimated the necessary costs of constructing a minimally adequate house with basic facilities in urban and rural areas (in terms of U.S. dollars). Their estimates are between $5,000 and $7,000 per unit.

If the per capita income in a nation is $800, the income of an average family of four persons would be about $3,200. Thus, the average cost of a house to an average family would be the equivalent of about two years' income. If the housing estimates and income estimates are even approximately correct, the rates between the cost of housing and family income in Central America is not too dissimilar from that of industrialized nations, where the value for an owner-occupied house normally may vary between 2 to 7 times annual family income. This leads Haechel et al. to conclude:

> Adequate and acceptable shelter solutions can be provided in most developing countries, for all except perhaps the lowest 10% of the income distribution, at a cost not exceeding the share of income that poorer households normally spend on shelter services. Conversely, lower income groups can and are willing to spend a sufficient portion of their limited income for secure and sanitary shelter and income is rarely the paramount constraint in the provision of adequate shelter. Given this experience and aware of the lack of resources and political will in most countries for subsidizing shelter programs for a large share of the lower income population, programs for meeting basic shelter needs should be self-supporting.
>
> Since, based on these assumptions the effective demand for shelter is adequate to meet the basic needs of all but the poorest of the poor, the widespread lack of acceptable shelter in developing countries can only be explained by the failure of the supply system. Institutional constraints on the supply of land, public services and financing as well as excessively high standards have driven the cost of adequate shelter beyond the reach of a large share of the population.*

One qualification which the analysis of Haechel et al. overlooks is the large public

*Haechel et al. *op cit.*, p. 8.

service expenditure which would be required to provide minimally adequate housing. Streets, water mains, sewers, electric power lines, police protection, fire protection, and other community services which now are minimally available to squatter settlements must be supplied. These expenditures must be taken from government revenues, badly needed for schools, health, industrial development, and other economic and social development needs.

Rapid population growth is placing demands on governments to expand rapidly in so many sectors simultaneously that a "path of least resistance" is to permit rural people to continue to live in substandard housing and build more as they need it, and to permit the ring of squatters' huts at the peripheries of the cities to accumulate--postponing to the future the task of trying to deal comprehensively with the housing problems. Meanwhile, the construction industry, with limited capital and facilities for mortgage credit, has other more remunerative outlets for its limited capital and facilities than to construct homes for the poor at low profit prices.

Bringing housing up to a minimum standard of safety for health, density, and essential facilities requires tremendous investments and major programs. Rapid population growth is making the task far more difficult. Each year, larger and larger amounts of substandard housing are built to house a burgeoning population living in poverty. By slowing population growth, accompanied by special national programs to increase the supply of housing, the goal of better, minimally adequate homes for all might be achieved by the end of this century or in the first decades of the next.

Part II. National Economic Development

National Economic Development

Throughout Central America, few if any public issues are more discussed by government officials and the public at large than "economic development." A less developed country (LDC) is one in which a majority of the citizens are unable to obtain a minimally adequate level of living. The average household is poor, both by national and international standards, and a substantial fraction (20 percent or more) are desperately poor. The citizens of these countries have strong expectations that their business and governmental leaders will correct this situation and develop an improved economy incorporating modern technology which will permit them to earn at least a minimum livelihood that will at least meet their minimum needs. Central America is in midstream in the transition from being less developed to becoming more developed countries (MDC). The materials presented in earlier chapters (education, health, nutrition, housing) show considerable progress but much nation-to-nation variation. This chapter attempts to measure the economic status of the region in monetary terms and discuss the prospects for completing the transition to the desired state of development. This analysis will show that population growth is centrally involved in this transition, and should be taken into account in all efforts to speed up the economic development process.

One of the most consistent correlations that demographers have uncovered is the inverse relationship that exists between economic development and population growth rates. This relationship is so strong and consistent that it could almost be said to be a "natural law" of modern demography:*

*The only outstanding exception to this relationship are the nations with large exports of petroleum. In these countries, the generosity of nature and a small technological work force is able to generate huge revenues which the citizens as a whole do not earn, in the conventional sense, but which is earned for them.

(a) Wealthy nations have low growth rates, based on low fertility.

(b) Poor nations have high growth rates, based on high fertility.

The United Nations, which maintains the official classification between LDCs and MDCs, reports the following growth rates and fertility rates for the two groups of countries. Data for Central America are repeated for comparison with other LDCs.

	More developed countries	Less developed countries	Ratio LDC to MDC	Central American countries
Annual average growth rate:				
1950-55.	1.28	1.99	1.55	3.04
1960-65.	1.19	2.33	1.95	3.23
1965-70.	0.87	2.38	2.73	3.23
1970-75.	0.84	2.32	2.76	3.15
1975-80.	0.71	2.08	2.93	2.98
Total fertility rate:				
1950-55.	2.84	6.10	2.14	6.77
1960-65.	2.56	5.81	2.27	6.43
1965-70.	2.28	5.59	2.45	6.24
1970-75.	2.19	5.22	2.38	5.92
1975-80.	2.05	4.64	2.26	5.47

[Source: United Nations, Demographic Indicators of Countries, 1982.]

The growth rate of LDCs has been nearly three times, and those of Central America about four times, those of the MDCs between 1970 and 1980. Fertility rates in the LDCs have been 2¼ times and those of Central America more than 2½ times those of the MDCs during the same period. Few social and economic indicators separate the LDC and the MDC nations more cleanly than this differential in population growth and fertility.

Much theoretical and academic controversy has taken place concerning the interpretation to be placed upon this "demographic gap" between rich and poor countries. Does low fertility "cause" the economic development or does economic development "cause" the low fertility? The theme of this chapter is that although slow population growth alone cannot "cause" economic development, rapid population growth in Central America places handicaps and impediments on development in so many different ways that full economic development cannot be achieved there unless population growth rates decline concurrently or beforehand. The clear implication is that any developing nation in Central America which succeeds in slowing down population growth to more moderate rates will establish preconditions which will make other direct efforts at development more effective. Equally unambiguous is the implication that nations where population growth rates do not slow down will have great difficulty in closing the gap between themselves and the MDC nations.

Population growth and per capita wealth

One much-used indicator of the level of economic development of nations is the per capita gross domestic product (PCGDP). This is the value of all goods and services produced by the economy of the nation during a calendar year divided by the population of the country. On the one hand it is a crude measure of the productivity of the work force and on the other hand it is a crude measure of average income. It suffers in that it fails to reveal anything about the distribution of income. Since it is an approx-

imate statistic that can be computed for almost every country, it is widely accepted as an approximate measure of economic development or national level of living. Statistics for PCGDP are reported for the nations of Latin America in Table EC-1, expressed in U.S. dollars as of 1980. Equivalent statistics, adjusted for inflation, are provided for 1960 and 1970 to permit the measurement of change. The table also provides statistics of fertility. Figure EC-1 graphs the total fertility rate against PCGDP. The graph and the table reveal the following information:

(a) There is wide variation among the nations in per capita GDP, ranging from $271 in Haiti to $2,615 in Venezuela. In comparison with the other less developed nations, most of the nations of Central America (especially Mexico, Venezuela, Costa Rica, and Panama) tend to fall in an intermediate position between the very poor nations of Africa and Asia and the industrialized nations of Europe and North America. Thus, like most Latin American nations, the nations of this region are approaching the threshold of minimum development to cease being classified as "underdeveloped." Government plans and policies are aimed at closing this gap. It is foolish to talk of population problems in the economic development of Central America in terms of famine, starvation, and disaster. Instead, it should be analyzed in terms of the extent to which population factors favor or impede the closing of the gap between the Latin American nations and the already industrialized nations.

(b) There is a significant but moderate negative correlation between the level of fertility and the per capita gross domestic product: the higher the fertility, the poorer the nation tends to be.

(c) There is also a small but low negative correlation between the amount of *change* in PCGDP between 1960 and 1980 and the total fertility rate in 1975-80. Countries with lower fertility tended to have more growth in PCGDP than did countries with high fertility. However, the differences are great. On the one hand, Honduras, Haiti, Nicaragua and several high fertility nations grew by less than average amounts. On the other hand, countries like Mexico and Brazil managed to grow very rapidly despite comparatively high fertility. Some nations with lower birth rates also had comparatively stagnant economies; Argentina is an example.

Hence, it is clear that although high fertility may be a factor, a great number of other factors enter into the equation to determine how fast the economy of a nation grows, even on a per capita basis. Among these factors is the quality of natural resources, and especially those that can be exported in the international market as well as consumed internally. Other factors are the quantity and quality of arable lands, rainfall, altitude, slope, and other factors that affect agricultural production. Table EC-2 shows the source of CDP in the various nations. Seven nations derive 5 percent or more of their GDP from mining or petroleum extraction:

Dominican Republic	gold, bauxite
Mexico	petroleum, copper, silver, lead, zinc, others
Bolivia	tin, tungsten
Ecuador	petroleum
Peru	iron ore, copper, silver, lead, petroleum
Venezuela	petroleum, iron ore
Chile	copper

Except for Chile, these tend to be high fertility nations, whose GDP relies substantial-

Table EC-1. Per Capita Gross Domestic Product of Latin American Countries: 1960-81 (In U.S. Dollars as of 1980).

Region and country	Per capita GDP				Change in GDP per capita				Total fertility rate
	1960	1970	1980	1981	1960-70	1970-80	1960-80	1980-81	
Central America/other									
Costa Rica	838.1	1,150.1	1,535.9	1,446.1	312.0	385.8	697.8	-89.8	3.57
Cuba	--	--	--	--	--	--	--	--	2.16
Dominican Republic	513.0	673.0	1,033.6	1,043.9	160.0	360.6	520.6	10.3	5.00
El Salvador	529.6	681.7	688.2	604.7	152.1	6.5	158.6	-83.5	6.01
Guatemala	728.2	927.6	1,205.1	1,182.8	199.4	277.5	476.9	-22.3	5.68
Haiti	234.0	213.6	274.3	270.9	-20.4	60.7	40.3	-3.4	5.92
Honduras	469.5	570.6	634.0	616.3	101.1	63.4	164.5	-17.7	7.14
Mexico	975.4	1,376.4	1,868.6	1,953.7	401.0	492.2	893.2	85.1	5.40
Nicaragua	653.3	1,003.4	835.2	888.8	350.1	-168.2	181.9	53.6	6.57
Panama	892.2	1,564.3	1,958.4	1,982.7	672.1	394.1	1,066.2	24.3	4.12
Puerto Rico	--	--	--	--	--	--	--	--	2.36
Tropical South America									
Bolivia	382.5	477.0	568.5	549.9	94.5	91.5	186.0	-18.6	6.39
Brazil	650.6	923.9	1,651.6	1,554.9	273.3	727.7	1,001.0	-96.7	4.50
Colombia	478.7	646.8	921.8	925.9	168.1	275.0	443.1	3.1	4.31
Ecuador	507.2	645.2	1,040.1	1,053.2	138.0	394.9	532.9	13.1	6.29
Paraguay	525.6	637.8	1,145.5	1,205.0	112.2	507.7	619.9	59.5	5.20
Peru	910.4	1,142.0	1,271.3	1,294.0	231.6	129.3	360.9	22.7	5.49
Venezuela	1,779.5	2,295.6	2,658.0	2,615.2	516.1	362.4	878.5	-42.8	4.74
Temperate South America									
Argentina	1,371.2	1,767.2	1,941.9	1,795.9	396.0	174.7	570.7	-146.0	2.87
Chile	1,126.7	1,414.3	1,612.4	1,674.6	287.6	198.1	485.7	62.2	3.10
Uruguay	1,514.4	1,671.5	2,183.3	2,155.9	157.1	511.8	668.9	-27.4	2.89

NOTE: -- indicates data not available.

SOURCE: World Bank. Economic and Social Progress in Latin America, 1982.

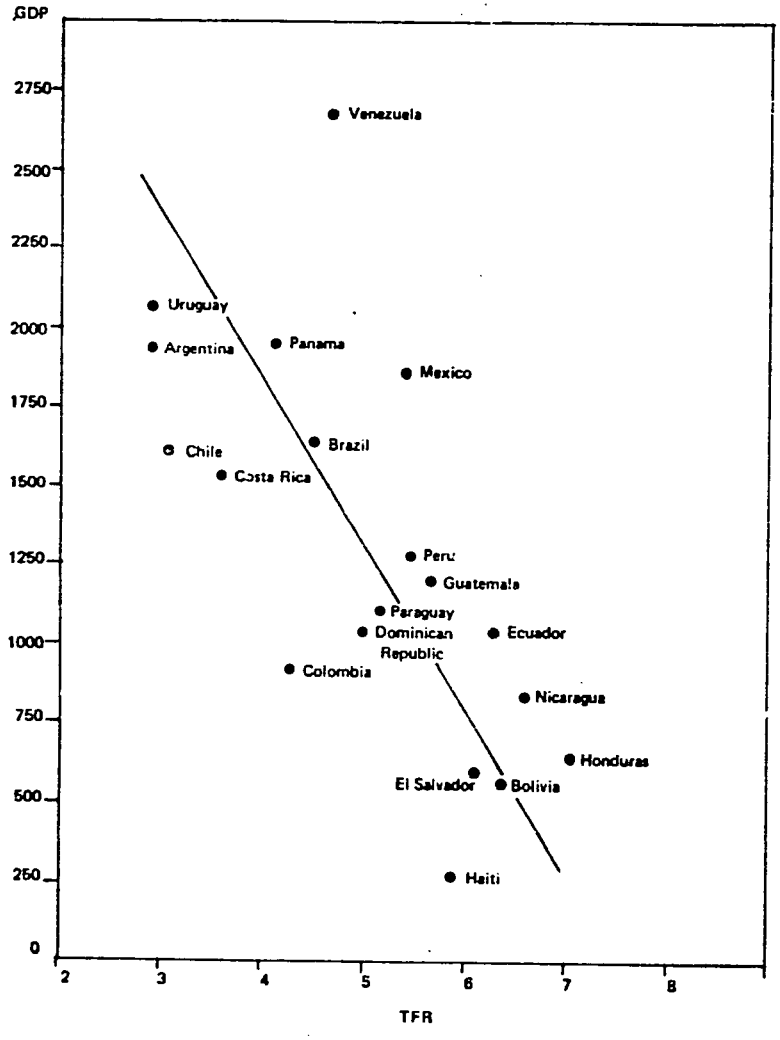


Figure EC-1. Scattergram of Per Capita Gross National Product, by Total Fertility Rate.

Source: Tables F-1 and EC-1.

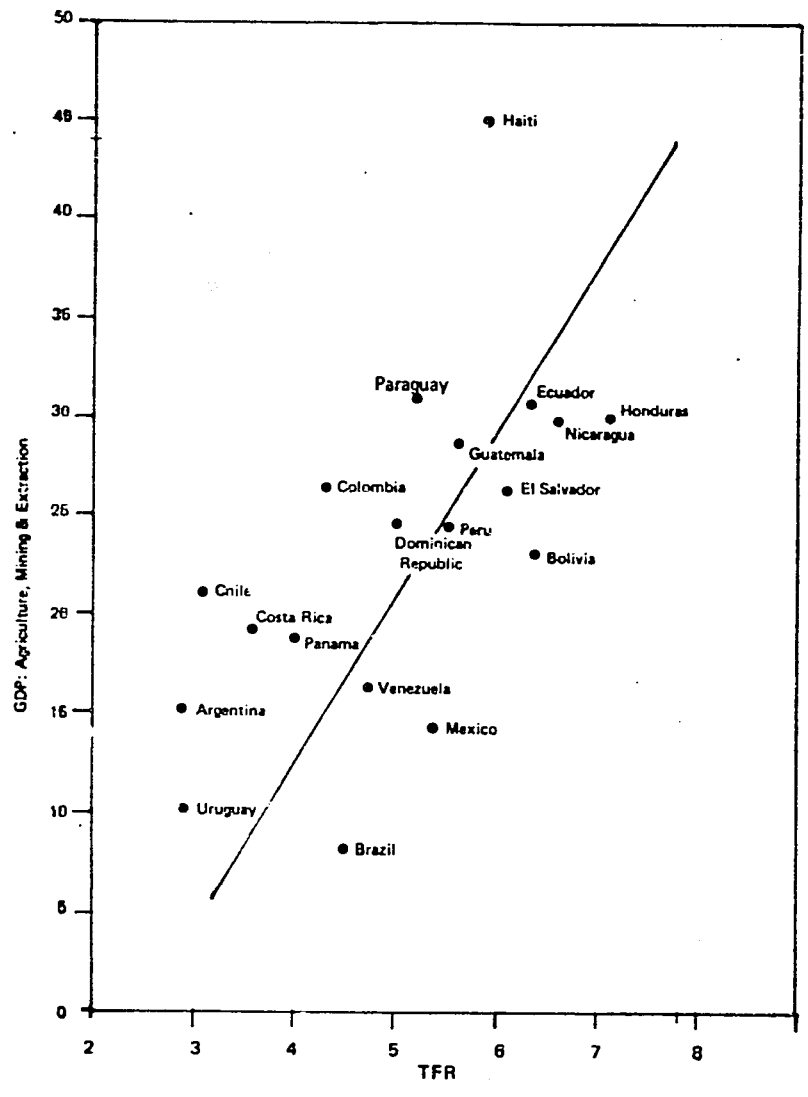


Figure EC-2. Percent of Gross Domestic Product Derived from Agriculture and Mining Extraction.

Source: Tables F-1 and EC-2.

Table EC-2. Percent Distribution of Gross Domestic Product by Economic Activity: Latin America, 1978.

Region and country	Agri-culture	Mining and quarrying	Manufac-turing	Con-struction	Util-ities	Trans-port and communi-cation	Commerce and finance	Housing	Defense and gov't services	Other services
Central America total	11.9	3.4	25.2	5.6	2.1	6.4	20.9	6.8	8.6	9.0
Central America/other										
Costa Rica	19.3	...[b]	18.0	6.5	2.3	6.8	16.5	13.8	...[a]	16.7
Cuba	--	--	--	--	--	--	--	--	--	--
Dominican Republic	19.6	5.0	16.4	7.8	1.8	9.1	13.8	7.4	...[a]	18.6
El Salvador	26.2	0.1	18.3	5.3	2.3	6.0	20.5	3.6	...[a]	17.0
Guatemala	28.5	0.2	15.0	4.2	1.3	4.2	27.5	5.4	...[a]	13.6
Haiti	43.8	1.3	12.0	4.5	1.8	2.9	12.1	8.5	...[a]	12.9
Honduras	28.0	1.8	15.9	6.1	1.6	7.9	17.4	7.3	...[a]	14.6
Mexico	9.5	4.9	24 7	5.9	1.8	3.4	26.7	6.1	...[a]	16.3
Nicaragua	29.5	0.2	21.1	3.2	2.4	5.0	19.6	4.9	...[a]	15.0
Panama	18.5	0.2	11.6	4.9	3.0	9.9	13.4	7.0	...[a]	30.1
Puerto Rico	--	--	--	--	--	--	--	--	--	--
Tropical South America										
Bolivia	16.9	6.1	15.7	4.5	1.6	11.4	17.6	8.2[a]	...[a]	18.7
Brazil	7.5	0.8	29.6	6.9	3.0	6.0	20.3	...[a]	...[a]	24.5
Colombia	26.0	0.5	18.7	3.7	1.8	9.3	19.4	5.7	...[a]	13.6
Ecuador	24.0	6.6	21.2	6.5	1.9	5.6	10.2	10.7	...[a]	15.1
Paraguay	30.4	0.5	17.0	6.5	2.4	4.8[a]	20.5[a]	3.0	...[a]	15.5
Peru	14.7	9.8	21.2	4.8	1.4	...	...	4.5	...[a]	42.6
Venenzuela	6.5	9.7	12.9	8.2	2.3	13.9	11.1	13.6	...[a]	22.2
Temperate South America										
Argentina	13.3	2.0	29.3	6.4	2.9	9.5	12.6	4.9	...[a]	19.8
Chile	8.3	12.8[b]	23.4	2.2	2.1	5.4	18.1	--	--	43.3
Uruguay	10.4	...[b]	26.3	5.0	1.7	9.4	16.8	...[a]	...[a]	30.2

NOTES: (...[a]) included in other services. (...[b]) included in manufacturing.

SOURCE: Economic Commission on Latin America, Series históricas de crecimiento de América Latina, Santiago, 1978, 1980.

ly on export of raw irreplaceable natural resources, rather than on internal manufacture From Table EC-2, it is clear that if GDP from agriculture and mining are combined to get a measure of the proportion of GDP derived from "exploitation of natural resources" and correlated with fertility, the relation is quite strongly negative, as Figure EC-2 shows.

Alternative growth and PCGDP

Still another way of measuring the impact of population growth upon economic development is to estimate what the per capita gross domestic product *would have been in 1980* if each nation had grown at the rate of 1.0 percent or 1.5 percent per year between 1960 and 1980, instead of the higher rate actually experienced. Table EC-3 reports such estimates. This is a valid computation because all but a small fraction of the babies born during this 20-year period were still too young in 1980 to have been in the labor force, and would have added little to the GDP. This computation "holds constant" country-to-country differences in resources and quality of labor force, and hence is a much more valid basis for estimating the impact of population growth than the tables and scattergram of Figures EC-1 and EC-2. From Table EC-3, one can learn that:

Table EC-3. Per Capita Gross Domestic Product Under Two Assumptions of Population Growth.

Region and country	1960 population (000)	Estimated population in 1980 under		1980 GNP actual	Estimated per capita per in 1980 under		Difference in percent growth of GNP under	
		1% growth (000)	1.5% growth (000)		1% population growth	1.5% population growth	1% population growth	1.5% population growth
Central America/other								
Costa Rica	1,236	1,510	1,668	1,539	2,256	2,042	717	503
Cuba	--	--	--	--	--	--	--	--
Dominican Republic	3,258	3,979	4,398	958	1,433	1,296	475	338
El Salvador	2,574	3,144	3,475	690	1,054	[illegible]3	364	263
Guatemala	3,966	4,844	5,354	1,161	1,741	1,575	580	414
Haiti	3,723	4,547	5,026	236	302	273	66	37
Honduras	1,942	2,372	2,621	636	990	896	354	260
Mexico	36,881	45,046	49,784	1,873	2,900	2,624	1,027	751
Nicaragua	1,472	1,798	1,987	740	1,125	1,018	385	278
Panama	1,095	1,337	1,478	1,957	2,776	2,514	819	553
Puerto Rico	--	--	--	--	--	--	--	--
Tropical South America								
Bolivia	3,428	41,87	4,627	572	760	688	188	116
Brazil	71,513	87,346	96,533	1,601	2,242	2,029	641	428
Colombia	15,538	18,978	20,974	935	1,271	1,150	336	215
Ecuador	4,422	5,401	5,969	1,037	1,540	1,393	503	356
Paraguay	1,778	2,172	2,400	1,116	1,671	1,512	626	366
Peru	10,181	12,435	13,743	1,203	1,705	1,543	502	340
Venezuela	7,550	9,222	10,191	2,373	4,019	3,637	1,646	1,264
Temperate South America								
Argentina	20,611	25,174	27,822	1,987	2,134	1,931	147	-56
Chile	7,585	9,264	10,239	1,591	1,907	1,725	316	134
Uruguay	2,531	3,091	3,416	2,162	2,045	1,850	-117	-312

NOTE: -- indicates data not available.

SOURCE: Gross domestic product from the Inter-American Development Bank. Economic and Social Progress in Latin America, 1982 Report (Washington, D.C.: IADB, 1982). Population figures from United Nations. Demographic Indicators of Countries, 1982.

(a) In most of the nations, if population had grown at a rate of 1.0 instead of the much faster rate, the per capita gross domestic product in 1980 would have been 50-65 percent higher than it actually was.

(b) If population had grown at a rate of 1.5 percent per year, the PCGDP in most of the nations would have been 30-50 percent higher than it actually was.

(c) Under either the 1.0 or the 1.5 percent assumptions, some of the nations of Latin America would now be approaching the level of development of Europe, and would definitely be passing out of the "underdeveloped" state into the "developed" category.

(d) The conclusion is almost inescapable that one of the reasons the following nations are still in the low per capita PCGDP category is their high rate of population growth caused by continuing high fertility:

El Salvador	Nicaragua
Guatemala	Honduras
Dominican Republic	

Income distribution and population growth

In nearly all nations of the world, incomes are not distributed equally; some individuals and families get more money than others because of differences in occupation, skill, fame, power, ownership of property or other advantages. That the unevenness of income distribution is greater in Central America (and in other less developed countries) than it is in industrialized nations of Europe and North America is well known, and its causes and consequences are much discussed. Table EC-4 reports estimated income distribution data for eight nations of Latin America. (This table also reports per capita GDP data for 1981 to supplement Table EC-1.) Table EC-5 reports estimates of the per capita income of each income decile of the population for five nations of Central America. Together these two tables permit a general assessment of income distribution in Central America.

(a) The poorest 20 percent of the population is *very* poor; it receives only 3 percent of the income, and has per capita incomes almost unbelievably low.

(b) The range of inequality is extremely great. A crude measure of inequality is the ratio of the per capita income in the first decile of the rural population to the per capita income of the tenth decile of the metropolitan population. For five nations of Central America as of 1975 these ratios were as follows:

	Ratio
Costa Rica	31.3
El Salvador	48.8
Guatemala	89.3
Honduras	92.1
Nicaragua	39.0

Thus, in these nations, the wealthiest 10 percent of the metropolitan population received incomes between 30 and 90 times those of the poorest decile of the rural population. Within the rural and urban areas, the wealthiest decile received incomes 10 times or more those of the poorest decile.

Social scientists have pointed out a number of implications which poverty and unequal income distributions have for economic development.

(a) The poor must spend almost all of their small incomes on basic survival needs (food, shelter, clothing) and have practically no purchasing power to consume other goods produced by the modernizing economy.

Table EC-4. Per Capita Gross Domestic Product, 1981, and Indicators of Income Distribution for Selected Latin American Countries.

Region and country	Year	Percentages share of household income by percentile groups of households						Gross domestic product per capita	
		Lowest 20 percent	Second quintile	Third quintile	Fourth quintile	Highest 20 percent	Highest 10 percent	1981 dollars	Average annual percent growth 1960–81
Central America/other									
Belize	—	—	—	—	—	—	—	—	—
Costa Rica	1971	3.3	8.7	13.3	19.9	54.8	39.5	1,430	3.0
Cuba	—	—	—	—	—	—	—	—	—
Dominican Republic	—	—	—	—	—	—	—	1,260	3.3
El Salvador	—	—	—	—	—	—	—	650	6.5
Guatemala	—	—	—	—	—	—	—	1,440	2.6
Haiti	—	—	—	—	—	—	—	300	0.5
Honduras	—	—	—	—	—	—	—	600	1.1
Mexico	1977	2.9	7.0	12.0	20.4	57.7	40.6	2,250	3.8
Nicaragua	—	—	—	—	—	—	—	860	0.6
Panama	1970	2.0	5.2	11.0	20.0	61.8	44.2	1,910	3.1
Puerto Rico	—	—	—	—	—	—	—		
Tropical South America									
Bolivia	—	—	—	—	—	—	—	600	1.9
Brazil	1972	2.0	5.0	9.4	17.0	66.6	50.6	2,200	5.1
Columbia	—	—	—	—	—	—	—	1,380	3.2
Ecuador	—	—	—	—	—	—	—	1,180	4.3
Paraguay	—	—	—	—	—	—	—	1,630	3.5
Peru	1972	1.9	5.1	11.0	21.0	61.0	42.9	1,170	1.0
Venenzuela	1970	3.0	7.3	12.9	22.8	54.0	35.7	4,220	2.4
Temperate South									
Argentina	1970	4.4	9.7	14.1	21.5	50.3	35.2	2,560	1.9
Chile	1968	4.4	9.0	13.8	21.4	51.4	34.8	2,560	0.7
Uruguay	—	—	—	—	—	—	—	2,820	1.6

Source: World Bank, World Development Report, 1983.

Table EC-5. Estimated Per Capita Income by Deciles in Five Central American Countries, by Residence: 1980.

Area and decile	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Rural					
First decile	314	109	70	52	85
Second decile	459	186	97	63	149
Third decile	571	226	126	81	197
Fourth decile	683	271	152	99	234
Fifth decile	886	319	178	132	275
Sixth decile	941	360	208	153	319
Seventh decile	1,131	416	278	196	360
Eighth decile	1,377	473	415	257	408
Ninth decile	1,769	582	553	378	509
Tenth decile	3,147	1,099	854	862	869
Nonmetropolitan urban					
First decile	523	204	451	123	214
Second decile	886	351	605	200	273
Third decile	1,091	384	760	321	401
Fourth decile	1,395	539	929	415	487
Fifth decile	1,500	629	1,084	510	623
Sixth decile	1,863	719	1,267	652	649
Seventh decile	2,182	964	1,492	704	777
Eighth decile	2,841	1,095	1,838	1,124	974
Ninth decile	3,909	1,275	2,225	1,539	1,255
Tenth decile	6,636	2,011	3,436	3,768	2,887
Metropolitan					
First decile	597	354	468	220	228
Second decile	909	546	766	366	368
Third decile	1,193	830	915	463	427
Fourth decile	1,478	938	1,128	561	512
Fifth decile	1,819	1,107	1,383	683	568
Sixth decile	2,168	1,415	1,766	854	616
Seventh decile	2,671	1,522	2,170	1,049	711
Eighth decile	3,296	1,614	2,660	1,366	1,100
Ninth decile	4,461	2,243	3,766	1,927	1,650
Tenth decile	9,832	5,320	6,254	4,787	3,313

Source: Haechel, Bernard et al. Basic Shelter Needs in Central America, 1980-2000. Washington, DC: Office of Housing, Agency for International Development, 1980.

(b) The poor can save very little money to help accumulate capital for economic development.

(c) The poor cannot be taxed very much to help with the capital expenditures which the government must make in order to stimulate economic development.

(d) Poverty is prevalent in both rural and urban areas, but is far worse in rural areas. If a per capita GDP of $600 is accepted as the poverty line, then 90 percent or more of the rural population of El Salvador, Guatemala, Honduras, and Nicaragua were below that line in 1975, whereas only 50 percent or less of the urban and metropolitan population fell below it. This explains why there is such massive exodus from rural to urban areas, even when hopes for adequate urban employment are dim.

(e) The "poorest of the poor" tend to become discontented with their lot in life, and to be potential recruits for radical political movements.

High fertility is an important contributing factor in causing unequal distribution of income and in perpetuating it. Previous chapters have established that fertility rates are much higher in rural than in urban areas throughout Central America and that fertility rates among the illiterate and less educated are much higher than among the population with secondary or university education. These fertility differences affect income distribution in two ways:

(a) Poverty and wealth tends to be transmitted from generation to generation. Because the poorest levels of population are growing at a rate double that of the wealthy, fertility is causing an extremely rapid expansion of this poorest segment and thereby worsening the income distribution situation.

(b) The very small incomes which rural and low income urban earners receive must be shared among a larger number of family dependents, resulting in even less income available for each. This constraint makes it difficult for the family to improve its housing, save money, or afford modern goods.

The combined effect of these two demographic processes is to perpetuate income inequality, independently of whatever economic efforts are being made to equalize it. With this in view, it would appear that the best strategy for lessening the inequality of income distribution would be to make special efforts to increase the flow of income to the "poorest of the poor" simultaneously with a program to encourage a decrease in family size among the lower income groups (both rural and urban). This would help the poor to have the advantages of declining fertility already being enjoyed by the wealthy.

National finance and population growth

Economic development requires the construction of additional modern factories and facilities that make use of modern technology in both the agricultural and industrial sectors.

Acquisition of the machinery, equipment, and raw materials required for these innovations requires foreign exchange for overseas purchases and investments at home to establish them. The government must obtain the foreign exchange by an excess of exports over imports, by investments from abroad, from loans, or from gifts and grants from industrialized nations. Rapid population growth has the tendency to counteract and neutralize these national financial efforts.

(a) Population has expanded faster than

agricultural production, forcing the government to spend foreign exchange for the purchase of basic foods needed to prevent a national food crisis.

(b) Population growth tends to increase the volume of imports of basic or essential consumer goods not produced in the country,

(c) Rapid population growth makes it difficult to develop the skilled, professional and managerial work force required to diversify the economy and make use of modern technology so efficiently that it will enable the nations to compete in world markets.

(d) The products of new industries and diversified production can find only a limited market within the home country if purchasing power is low and concentrated in a small fraction of the population.

(e) Rapid population growth forces the government to spend more of its revenues on education, health care, public facilities, and special welfare programs which otherwise could be invested in economic expansion.

Thus, in international finance, rapid population growth tends to upset the balance of trade for the nation, forcing consumer imports to compete for scarce foreign exchange with capital production goods needed for economic development. In national finance, rapid population growth tends to consume tax and other revenues by compelling them to be spent for expanding public services to a growing populace which otherwise could be used for development. As a consequence, the ability of the government to support new ventures in economic development is drained off by forced expenditures to meet the basic needs of the population. When the population is growing at the rate of 3.0 percent per year, this drain is very heavy.

Economic recession and population growth

Since the onset of World War II until 1980, the gross domestic product of most nations of Central America grew at rates in excess of 5 percent per year. Under these circumstances, a population growth rate of 2.5 to 3.0 percent did not seem disastrous, because the excess of economic growth over population growth permitted about 2 percent per year improvement in the national economic situation.

However, this 30-40 year surge of economic growth (which suffered severe fluctuations in some Central American countries during this time) came to an abrupt end in 1980, with the onset of world recession.

Instead of increasing at the rate of 5 percent or more, the gross domestic product grew by only 2 percent or even less (becoming negative in some countries). The data for 1981 may be compared with the record for earlier years in Table EC-1. The world recession did not affect population growth appreciably, however, and governments have been forced to increase their expenditures for population-related services despite the sharp decrease in revenues. The result has been a deterioration in the per capita gross national product and a contribution to the acute financial crises for governments. Although population growth is only one of many elements in this situation, it is not a negligible one. The prospect of continued rapid population growth is an important consideration in plans for dealing with the future. This leads to the principle: A given rate of economic stagnation in a nation with a low rate of population growth has a less negative impact than the same rate of stagnation in a nation with high population growth rates, other factors being equal. Recovery from prolonged recession is more difficult and prolonged for a nation with high population growth rates than for one with low growth rates. This principle applies directly to the hopes of Central American countries, to recover

from the effects upon their economies of the world economic recession.

Conclusion

These findings contain the basis for an inference that the efforts of individual nations of Central America at closing the gap between themselves and the more developed nations of the world will continue to be thwarted in proportion to the level of their birth rates. The small fertility declines now underway are very possibly providing as much benefit to this campaign to raise levels of living as much of the international loans being incurred for this purpose. A combination of investing in

(a) industrial growth and development and
(b) fertility reduction

is plausibly the most economical and quickest strategy for "closing the gap" between the rich and poor nations in the Americas.

Part III. Family Planning and Socioeconomic Development

Family Planning and Socioeconomic Development

Throughout this report, there has been frequent mention of the beneficial effects that a slower rate of growth of the population would have over numerous aspects of social and economic development in the nations of Central America. This analysis has demonstrated that a slower rate of growth can be achieved only by a reduction in the fertility rates, which have remained high while mortality has plummeted to levels approaching those of the developed countries. This reduction in fertility could take place if more married couples were to decide to have three or four children instead of six as at present. The most socially acceptable way to achieve this would be by means of "family planning," or the use of contraceptive methods (natural, chemical, or mechanical) to plan how many children to have and when to have them.

It is essential, therefore, to conclude this report by presenting information concerning family planning as it now is being practiced in the region to reveal the desires and intentions of the public with respect to the use of family planning methods in the future.

Awareness of contraceptive methods

It can be said with confidence that almost every adult (especially women) in Central America (as in all of Latin America) knows that contraception is possible and can name at least one or two modern, reliable methods. Moreover, there is almost universal awareness of the oral pill, injections, and female sterilization, the most-used methods to plan family size, and very high awareness of the intrauterine device (also a very popular method). Table FP-1 summarizes information derived from reports of the World Fertility Survey and contraceptive practice surveys.

If it is accepted that Honduras represents the nation where the level of information is lowest (excepting Haiti), due to its high fertility, low literacy, and rural concentration in comparison with other regional countries, it must be inferred that in every nation of the area the principle of family planning is widely known and that most adult women know of more than one of the modern reliable methods. Moreover, because of continuing publicity about the topic, it can also be safely inferred that the level of knowledge will continue to rise steadily.

Motivation for family planning

Awareness of contraception, in itself, cannot promote adoption of family planning unless the public can perceive some benefit or advantage to its use. An indicator of the public acceptance and approval of the principle of family planning is provided by a question, "Do you wish to have any more children?" Young women with 0, 1, or 2 children tend to respond overwhelmingly "yes" to this question, but numerous surveys show that as the size of the family increases, the tendency to respond "no" increases rapidly. Table FP-2 summarizes some information on this point for several Central American countries. More than one-half of all fecund married women who have born three children claim they do not wish to have any more. The proportion expressing this wish rises with increasing family size until it attains 90 percent at family size 8 or 9. This pattern is very consistent in all countries surveyed, with only relatively minor country-to-country variation. The data for Honduras are evidence that even in nations with the

Table FP-1. Percent of Ever-Married Women Aged 15-49 Reporting Knowledge of Contraception, by Method: Selected Countries of Latin America, 1982.

Country	Any method	Oral pill	Injection	Condom	Female sterilization	Rhythm	IUD	Male sterilization
Costa Rica	100	98	88	91	94	81	91	67
Dominican Republic	98	91	68	72	95	43	78	30
Honduras	91	88	65	35	77	25	63	18
Mexico	90	83	68	42	68	48	75	38
Panama	99	95	26	76	93	66	89	65
Peru	82	63	61	40	60	55	42	19

SOURCE: World Fertility Survey, except Honduras, which is derived from a Contraceptive Prevalence Survey (Westinghouse Health Systems, 1982).

Table FP-2. Percent of Currently Married Fecund Women Who Want No More Children, by Number of Living Children: Selected Countries of Latin America, 1980-82.

Country	Number of living children						
	3	4	5	6	7	8	9+
Costa Rica	58.9	68.4	74.5	77.8	77.3	86.7	85.0
Colombia	64.5	79.0	78.2	85.1	92.5	89.1	90.1
Dominican Republic	61.8	69.6	78.3	73.6	75.0	83.6	78.3
Honduras	72	81	81	90			
Mexico	53.5	69.4	77.2	81.6	86.3	89.0	91.1
Panama	72.6	81.7	85.1	86.7	96.3	86.6	88.6
Peru	62.1	74.2	80.1	80.7	87.2	88.1	94.7

SOURCE: World Fertility Survey, except Honduras, which is derived from a Contraceptive Prevalence Survey (Westinghouse Health Systems, 1982).

highest fertility there seems to be very great desire to have fewer children than are actually being born.

On the basis of this overwhelming multinational data, it is clearly evident that there is little public resistance to the idea of contraception. It is difficult not to conclude that a large majority of the public is positively motivated and that it believes family planning can be beneficial.

Use of contraception

In view of the highly positive results specified above—almost universal knowledge of contraception, and widespread desire for no more children after having borne a third or fourth child—one would expect a reasonably high prevalence of family planning throughout Central America. This is the case in at least two countries that have been shown to have low fertility—Costa Rica and Panama (Table FP-3). In the countries with high fertility (such as Honduras), the prevalence is much lower, but still is impressively high when one considers the low level of literacy, the poverty, and the fact that there is little organized family planning service as a part of the public health system.

From these surveys, it is known that:

(a) Practice of contraception is much higher in urban than in rural areas.
(b) Practice of contraception is much higher among women with a primary education or higher than among illiterate women or with incomplete primary education.

When one-third or more of the currently married women are using family planning and a majority want no more children, the fact must be recognized that contraception is now a part of the normal culture and family life of Central America. It is no longer an "innovative" idea—it is a socially approved customary action.

Intention to use in the future

Additional evidence of the attitude of the public toward contraception is provided by responses to a question asked in Honduras of all women who were not currently using a contraceptive method: "Do you intend to use contraception at some time in the future?" The responses were as follows:

Response	Total	Urban	Rural
Yes, will use . . .	47.5	57.7	43.9
Not sure, don't know	12.8	7.5	14.8
No, will not use . .	39.5	34.8	41.3
Total	100.0	100.0	100.0

Table FP-3. Percent of Currently Married Fecund Women Who Are Using an Efficient Method of Contraception, 1980-82, by Number of Living Children: Selected Nations of Latin America.

Country	Total	Number of living children					
		None	1	2	3	4	5+
Costa Rica	73	41	77	81	78	77	69
Colombia	47	24	44	54	54	53	46
Dominican Republic	37	14	28	45	46	49	39
Honduras	--	2	24	29	35	28	27
Mexico	35	13	33	45	43	39	34
Panama	63	37	60	69	70	70	59
Peru	23	9	17	30	30	25	20

SOURCE: World Fertility Survey, except Honduras, which is derived from a Contraceptive Prevalence Survey (Westinghouse Health Systems, 1982).

Table FP-4. Married Women Who Are Familiar With But Do Not Use a Contraceptive Method: Reasons for Nonuse by Intention to Use in the Future: Honduras.

Reasons for not using	Intention to use			Total
	Use	Not use	Don't know	
Temporary	47	11	19	30
Pregnant	26	6	12	16
Breastfeeding	19	4	6	12
Separated from spouse	2	1	1	2
Physiological/health	5	20	6	12
Menopause	2	18	4	9
Illness/medical recommendation	3	2	2	3
Cultural/moral	16	16	22	22
Wants to have children	12	13	11	13
Religion does not permit	0	10	2	5
Spouse does not permit	4	3	9	4
Psychological	27	38	44	33
Does not like/is apprehensive	14	25	24	19
Does not have information	13	13	20	14
Other reasons	4	4	9	4
Cost	3	0	7	2
Other	1	4	2	2

SOURCE: Westinghouse Health Systems. Contraceptive Prevalence Survey: Honduras, 1982.

Thus, those not already making use of a method are not doing so out of firm resistance in most cases. When asked why they were not using a method, women in Honduras responded according to the pattern shown in Table FP-4. Firm resistance would be indicated by cultural and moral reasons, which constituted only 16 percent of the "do not intend to use" group. Of far more importance were the psychological reasons, such as lack of information and unfounded fear of the effects upon health of the methods. Lack of access to services and prohibitive costs when prescribed by private physicians are other reasons commonly supposed to explain the considerable gap between intention to use and actual use.

The family planning movement in Central America*

The high level of awareness of the population problem, the universal familiarity with contraceptive methods, and the strong motivation of the public of all socioeconomic classes to limit fertility to the number of children that can be provided for adequately are not accidental occurrences. Much of this favorable situation is due to the organized efforts of a number of private voluntary organizations and semi-governmental or governmental agencies to sensitize and inform the public about the need for family planning and to provide family planning services.

*Most of the materials of this section have been summarized from an article by Dr. Benjamin Viel, "El Problema Demográfico de Mexico y el Istmo Centro-Americano: Pasado, Presente y Futuro Inmediato." Dr. Viel is a former dean of the School of Medicine, University of Chile, and the retired Executive Director of the International Planned Parenthood Federation, Western Hemisphere Region.

Table FP-5. Private Organizations for Family Planning in Central America, Affiliated with International Planned Parenthood Federation.

Country	Name of organization	Date organized
Costa Rica.....	Asociación Demográfica Costarricense (ADC)	1967
El Salvador.....	Asociación Demográfica Salvadoreña (ADS)	1969
Guatemala.....	Asociación Pro-Bienestar de la Familia de Guatemala (APROFAM)	1969
Honduras.....	Asociación Hondoreña de Planificación de la Familia (ASHONPLAFA)	1965
Mexico.....	Fundación para Estudios de la Población (FEPAC)	1967
Nicaragua.....	Asociación Demográfica Nicaragüense (ADN)	1975
Panama.....	Asociación Panameña para el Planeamiento de la familia (APLAFA)	1969

Private organizations. Among the forefront of these groups have been the national groups affiliated with the International Planned Parenthood Federation, a nonprofit organization with headquarters in London and a regional office for the Western Hemisphere in New York. Table F-5 lists these organizations and the year in which they were organized in each country. As the table shows, every country in Central America has such an organization. Most of them have been working for 10 to 15 years or more. They are small, with limited financing. Their goal has been to advise national leaders that an unmet need for family planning exists in their country and to demonstrate it by successfully operating specialized clinics where such services are offered. The work of these organizations has consisted of three activities:

(a) Disseminate public information about the reasons for family planning and about the methods of contraception available. They have promoted family planning primarily on humanitarian and health grounds and not for demographic reasons.

(b) Provide training in family planning service, both informational and medical, for medical and social welfare personnel in the nation.

(c) Provide contraceptive services to clients, at a high level of medical and counselling quality, as a model demonstration. This often takes the form of special programs of community distribution door-to-door or at special outposts, or of subsidized commercial distribution.

Because their budgets are small, they have been able to satisfy only a small fraction of the need and demand for information and services. They have conducted information programs via mass media, using radio, television, newspapers, magazines and special printed bulletins, brochures, leaflets and posters. They have held public meetings where adults can come to receive information and ask questions. The clients for their services have spread the news of family planning by word of mouth to their friends and neighbors and relatives. At times there have been public controversies over family planning, sometimes provoked by criticism from extreme right or extreme left political groups, or from conservative religious lead-

ers. Such controversies have tended to serve the useful purpose of bringing the issue to public attention. Such confrontations have stimulated the flow of discussion and information, both pro and con, thereby allowing the citizenry at large to be better informed and able to develop an opinion.

Because of limited resources, the family planning units have been concentrated in the capital cities and in the other major cities of the country. The rural areas have been able to receive information about family planning via radio and other mass media, but have had little access to contraceptive services except by travelling to a source of service—often a considerable distance.

The Declaration of Bucharest. In 1974 the United Nations sponsored a World Population Conference in Bucharest, which culminated in a resolution that knowledge of family planning was a fundamental right of every couple, and that it was an obligation of governments to provide it. Every nation of Central America signed this agreement. The conference arrived at unambiguous conclusions about the possible humanitarian benefits of family planning for children, mothers, and family economic and social welfare. This resolution provoked further debate and discussion among political and religious groups throughout Central America.

All nations in Central America (as in all of Latin America) participated in another World Population Conference, held in Mexico City in August, 1984. At that time, most of the themes concerning population and socioeconomic development discussed in this report were topics for discussion and resolutions promoting family as well as national welfare.

Commercial distribution. Meanwhile, the rising level of interest and information has caused private pharmacies to stock contraceptives and to sell them to the segment of the population wealthy enough to afford to purchase them at commercial prices. In some countries, the private family planning associations have worked with pharmacies to arrange for commercial distribution at subsidized prices, in order to make contraceptives available to low income families. Thus, a combination of private voluntary organizations and private commercial enterprise has brought at least minimal access to family planning to the middle and upper classes, and to much of the poorer classes, especially in urban areas.

Ministries of health and other public agencies. In 1977 the United Nations organized the Fund for Population Activities, which began to award grants to developing countries which promised to integrate family planning as a part of their regular maternal and child health services. This program caused Ministries of Health to have increased interest in family planning. Beginning somewhat earlier, bilateral assistance from the United States Agency for International Development to some nations of Central America supported programs integrating family planning with maternal and child health programs. Programs for health and medical facilities funded by loans from the World Bank also had some family planning elements. As a result of interaction with the private voluntary organizations and with the international assistance programs for health, the Ministries of Health in all Central American countries have been thoroughly exposed to the philosophy of family planning. A limited number of physicians, nurses, and public health educators have been trained for family planning. In several nations, the Social Security System operates its own medical and health facilities, and has included family planning as a regular service. In almost all countries, Ministries of Welfare, planning agencies, and even offices of presidents and vice presidents have also become directly involved in population and family planning programs.

A positive government policy permitting family planning services to be offered through public health clinics has been implemented in almost all Central American countries: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, and Panama. In some cases these programs are operated jointly by the private family planning associations and by the Ministry of Health.

The quantity and quality of services offered through the Ministries of Health differ from country to country, and even from province to province within each country, depending upon the attitudes and beliefs of the chief medical officers and their superior officers. Because family planning has been both a political and a religious issue, some officers have been slow to implement the Declaration of Bucharest. Because they are fully employed caring for the sick, and have limited budgets, combined with political and religious sensitivities, the integration of family planning with health services has often been mostly maternal and child health with comparatively little family planning services. As a result, a very important share of family planning services is being provided by the private family planning associations and private pharmacies, despite their limited budgets and few outlets for services. Table FP-6 for El Salvador illustrates the situation: In metropolitan areas where birth rates are lowest, only slightly more than one-half of family planning services are provided by public facilities, and nearly one-half are provided by private sources. In rural areas, in contrast (where the practice of family planning is still very limited and birth rates are very high), 80 percent of all family planning services are provided by government sources.

The present situation. As a result of a decade or more of exposure to the family planning issue, with opportunity for repeated discussion and sustained dialogue among representatives of all political and religious views, family planning has ceased to be an issue of whether family planning is "to-be-or-not-to-be" and has become a policy planning one of "who-what-how"

Table FP-6. Source for Obtaining Contraceptives by Married Women 15-44 Years of Age Who Are Currently Practicing Contraception, by Area of Residence: El Salvador, 1978.

Source of contraceptives	Area of residence			
	Total	Metro-politan	Other urban areas	Rural
Total	100.0	100.0	100.0	100.0
Ministry of Health	61.7	38.1	59.4	75.7
Institute of Social Security	11.8	23.0	15.8	3.6
Planned Parenthood affiliate	7.7	11.5	6.3	6.5
Pharmacy	7.2	12.9	6.9	4.4
Private physician	5.1	10.4	4.4	2.7
Rural health worker	0.0	0.0	0.0	0.0
Other	0.7	0.4	0.2	1.2
Does not apply[a]	5.7	3.7	7.1	6.0
Number of cases	590	224	198	168

[a]Using rhythm or withdrawal methods.

SOURCE: Asociación Demográfica Salvadoreña, Encuesta Nacional de Fecundidad, Planificacion Familiar y communicacion masiva, El Salvador, 1978 (FESAL-78).

(what services are to be offered, by whom, and by what channels). There are still sensitivities in some countries over the use of particular methods of contraception. There are still sensitivities by government agencies toward doing a great deal of publicity favoring family planning, even though they may be ready to serve those clients who request it. There is universal shortage of funds from national budgets to purchase supplies and employ the additional personnel required to meet the public demand in addition to providing essential health care. However, increasing coordination between public and private sources is permitting a division of labor to evolve appropriate for each nation, with official approval by governments for such cooperation. Meanwhile, the shortages of funds, of trained personnel, and of materials and facilities both for public education and for contraceptive services continue to be major impediments to progress.

Unmet need and demand for family planning

A basic premise of the family planning movement throughout Central America has been that there exists among the population a very large unmet need and demand for family planning information and services, which should be provided to those who desire it as a part of the Bucharest Declaration. Meeting such needs does not require a discussion or decision concerning the effect of rapid population growth on economic development and other policy decisions. It is only a movement to supply, on humanitarian grounds, information and service which by international agreement (certified by each Central American nation) ought to be provided. Consequently, there is much interest in attempting to measure this demand. Table FP-7 presents estimates for Honduras, made in a survey in 1981. Because of the country's

Table FP-7. Estimate of Demand and Unmet Demand for Family Planning, by Urban and Rural Residence: Honduras, 1981.

Estimate	Place of residence		
	Urban	Rural	Total
Group A: No Demand	21.8	28.0	25.8
Components:			
Women pregnant at time of survey			
Women who want a child within two years of the date of survey			
Group B: Unsatisfied Demand	30.8	56.0	47.3
Components:			
Women who want no more children but are not using contraception			
Women who want more children, but only after two years or more from date of survey			
Group C: Satisfied Demand	47.4	16.1	26.9
Component:			
Women who are using contraception			
Total	100.0	100.0	100.0
Number	754	1,431	2,185

SOURCE: Encuesta Nacional de Prevalencia del Uso de Anticonceptivos (ENPA). Honduras, 1981.

high fertility, low level of educational attainment, and high poverty one could suspect the demand to be quite low in Honduras—lower perhaps than in any other Central American nation. The results contradict this. The data indicate that *75 percent of the population demands services for family planning, and that only one-third of this demand is being met. The unmet needs are tremendously large in rural areas,* where 72 percent of the couples want family planning services, and less than one-third of this demand is being satisfied. *Even in urban areas, only moderately more than one-half of the demand is being satisfied.*

Experience in Central America as a whole has shown similar results—everywhere couples want family planning information and services which are not being supplied to them adequately. The result has been high maternal mortality (and other related medical complications), which is now a major health problem and a leading cause of death among women of reproductive age in these countries. Experience in Latin American countries has also shown that when the national government accepts family planning as a part of its health system, the birth rates begin to decline within a very short time, and quickly descend to levels which meet the targets for more effective economic development. Two of the outstanding examples of this policy are Costa Rica and Mexico. Both had extremely rapid fertility and growth rates, *despite* rapid economic growth until family planning programs were offered by the national governments. In both cases the effect was observable within two years, and was remarkable after five years. Similar results have not yet occurred in Guatemala, Honduras, or Nicaragua because of ambivalent policies and insufficient commitment as yet by their governments. Meanwhile, their citizens desire such services, in the ratio of at least three or more persons in favor for every one against.

Conclusion

The analyses of Parts I and II of this report have demonstrated that slower population growth, through reduced fertility, is an essential component of a comprehensive plan for social and economic development in the nations of Central America. A family planning program that offers information and contraceptive services to the population on a voluntary basis is the mechanism for accomplishing this slower growth. This final part of the report has demonstrated that family planning, on humanitarian grounds to help individual couples bear only children which they wish to have, in order to give each one a good upbringing, is approved and wanted by an overwhelming majority of the population. Lack of information and services to fulfill this need is a major reason why fertility rates and population growth remain so high. Therefore, by accelerating family planning information and services in these countries, two highly important functions can be performed: National population growth can be slowed to a pace that will not neutralize efforts at socioeconomic development. Simultaneously, an essential service will be provided to the majority of couples who keenly realize that their own welfare and the future welfare of their children rest upon their ability to plan their families.

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