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in Latin America and the Caribbean, preparatory to the 1994  
International Conference on Population and Development

Saint Lucia, 6-9 October 1992



**LATIN AMERICA AND THE CARIBBEAN: THE DYNAMICS  
OF POPULATION AND GROWTH**

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## Foreword

This study has been elaborated as one of the basic documents for the Meeting of Government Experts on Population and Development in Latin America and the Caribbean (Saint Lucia, 6-9 October 1992). This meeting is taking place prior to the regional meeting preparatory to the International Conference on Population and Development to be held in Cairo in September 1994.

The Saint Lucia meeting will provide an environment for government experts to share thoughts and experiences with a view to preparing for the debates to be held in Mexico City; it therefore seemed appropriate to contribute a series of papers to serve as reference papers at the sessions. The basic documents that have been prepared cover the various topics identified on the agenda; the present study, in particular, presents an overall view of population dynamics in the region and their relationship to economic and social development.

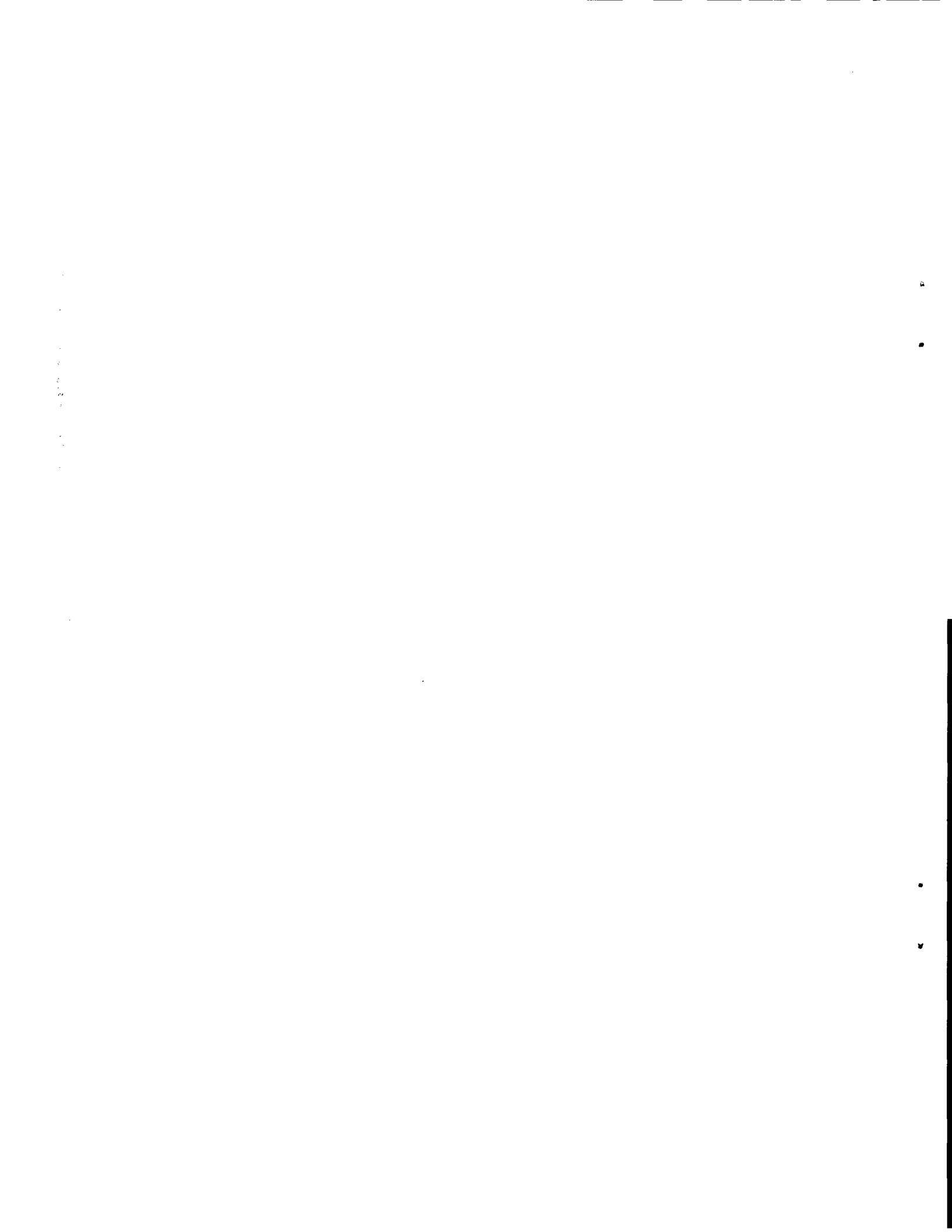
Chapter I discusses the current demographic situation and trends, the components of population growth and the structure by age groups in the countries of the region, including an analysis that takes into account the heterogeneity of the demographic transition process.

Chapter II deals with topics relating to mobility and spatial distribution, with special emphasis on international and internal migrations and the urbanization process.

In view of the importance of alleviating poverty in the framework of changing production patterns with social equity, Chapter III analyses the demographic expressions of social inequalities within countries. It also discusses some repercussions of these differential demographic behaviours on the socio-demographic reproduction of poverty.

Lastly, Chapter IV relates the above-mentioned situation and trends with future requirements for jobs, social services, etc., seeking to identify the main implications of population dynamics for the design of economic and social development policies.

This document was prepared in CELADE, with the help of, *inter alia*, Ms. Susana Schkolnik and Messrs. Jorge Bravo, José Miguel Guzmán, Jorge Martínez and Jorge Rodríguez. The work was coordinated by Juan Chackiel and Miguel Villa.



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## I. DEMOGRAPHIC SITUATION AND TRENDS

### A. DEMOGRAPHIC SITUATION AND MOST IMPORTANT CHANGES SINCE 1950

The population of Latin America and the Caribbean grew from 165 million, in 1950, to around 460 million, in 1992, accounting for approximately 8.5% of the total world population at the present time. The absolute increase of nearly 300 million persons is the result of high rates of demographic growth which, in many countries were around or higher than 3% up to the mid-1960s (see Annexes A-1 and A 2). Those rates resulted from constantly falling death rates —observed since the end of the Second World War or even earlier— and persistently high birth rates. These trends occurred —at least up to the mid-1970s— together with sustained economic growth in most countries of the region. During that period, economic growth was sufficiently great to produce such increases in the per capita gross domestic product as to generate high expectations in marginated sectors of the population of gaining access to the fruits of development.

In this context and based to a large extent on more or less explicit family planning programmes, a sharp drop in the number of children per woman began to occur in many countries. In that way, rising birth rates began to fall, a fact observed in the region as a whole by the end of the 1970s, dissipating —at least partially— fears of uncontrolled population growth. Generally, the phenomenon of lower birth rates spread to most countries and, within them, from the better educated sectors in urban areas to the poorly educated sectors of rural areas.

The economic crisis which began to affect the region at the end of the 1970s led to a clear and sustained drop in the per capita gross domestic product between 1980 and 1989. That situation, although certainly not of the same intensity in all countries, deteriorated standards of living generally and increased levels of poverty and indigence (ECLAC, 1990). It is important to note that, when the crisis was at its height, most countries were in a process of demographic transition which apparently was not affected by that crisis, although the crisis certainly did have important demographic effects in other areas, such as family composition, marriage, and migratory movements, especially in those sectors most affected by the crisis. Those phenomena must be researched in greater depth, basically in light of the results of the 1990 censuses, the results of which are now becoming available. During the 1980s, Latin America and the Caribbean, as a whole, had an average annual population growth rate of 2.1%, while a rate of 1.7% is expected for the 1990s, meaning an increase of 81 million persons. Those growth rates are similar to those expected for the global average and for Asia, with higher rates expected only in Africa (2.9%). The persistence of growth, in spite of changes in fertility, is to be explained mainly by the potential for population growth found in youthful age structures and will continue for some time. And there lies the challenge to recover the levels of well-being lost in most countries during the 1980s.

Moreover, one of the characteristic traits of Latin American population distribution is its relatively high degree of urbanization, a fact which has distinguished it from other developing regions for many years. In 1950, nearly 60% of Latin Americans lived in areas defined as rural but, by 1990, less than 30% live in those areas and, by the year 2000, it is expected that three quarters of the population will live in urban areas. This process, which is an integral element of the model of concentrational development which prevailed in Latin American countries, is thought to be one factor which has facilitated the process of demographic transition, insofar as it has allowed for the more rapid extension of educational systems, new cultural habits and modern technologies.

### 1. Typology of countries according to stages of demographic transition

"Demographic transition" refers to a process observed in diverse societies, consisting in evolution from high birth and death rates to low levels in those variables, achieved by passage through distinct phases. Although a "theory of demographic transition" does exist, sparking sharp controversy in academic circles, for the practical purposes of this paper reference will be made to the empirical process of demographic change as observed, in general, in most societies. It could be thought that this process of demographic transition is an integral part of the social changes which have occurred in the region, although the relationship between that transition and those changes is complex and has not been sufficiently clarified. The process has been fairly heterogeneous in the countries of the region, both among countries and within them, as well as in terms of geographical areas and social sectors, in the sense that populations in different stages co-exist. Countries in which women, on average, bear 6 children contrast sharply with those in which they bear approximately 2 children; at the same time, there are countries in which life expectancy at birth is less than 60 years, while in others it is around 75 years.

The countries of the region are grouped, below, according to the stage of demographic transition through which they are currently passing. As in every classification effort, each group contains exceptions and a certain degree of heterogeneity, especially given that the countries currently in the same stage may be experiencing different intensities of change in the trends of their demographic variables. Gross birth and death rates were used for this Table. Although those indicators do not reflect fertility and mortality levels accurately, they do determine population growth and reveal, moreover, the influence of the population age structures (see Box I.1). Statistical estimates for the 1985-1990 period were used in the generation of this Table: a rate higher than 32 per thousand was defined as high; a rate between 24 and 32 per thousand, moderate; and a rate lower than 24 per thousand, low. As well, mortality rates higher than 11 per thousand were defined as high; those between 7 and 11, moderate; and rates lower than 7, low.<sup>1</sup> The other factor of demographic change is international migration which, given its relatively slight influence on growth and population structures and because trends are not easily foreseeable, was not taken into account in the generation of this Table. It is, however, examined in Section A of Chapter II.

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<sup>1</sup> In the following description, it is understood that all references are made with respect to values obtained in the region. Developed countries, in most cases, have lower fertility and mortality rates.

Box I.1

**LATIN AMERICA AND THE CARIBBEAN: COUNTRY SITUATION ACCORDING TO  
CURRENT STAGE IN DEMOGRAPHIC TRANSITION,  
1985-1990**

Birth rate

|                  |   |   |      |
|------------------|---|---|------|
| H<br>I<br>G<br>H | NICARAGUA 3.5<br>GUATEMALA 3.2   <br>HONDURAS 3.2<br><br>EL SALVADOR 2.6<br>PARAGUAY 2.8  | BOLIVIA 2.6<br>HAITI 2.3  |      |
|                  | DOMINICAN R. 2.5<br>MEXICO 2.4<br>COSTA RICA 2.5<br>VENEZUELA 2.3<br>SURINAME 2.2<br>PANAMA 2.2<br>COLOMBIA 2.0<br>TRIN. & TOB. 1.9 | ECUADOR 2.5<br>PERU 2.2<br><br>  <br><br>BRAZIL 1.9<br>GUYANA 1.9                               |      |
|                  | JAMAICA 1.7<br>CHILE 1.7<br>BAHAMAS 1.5<br><br>MARTINICA 1.2<br>CUBA 1.1  | IV<br><br>GUADELOUPE 1.3<br>ARGENTINA 1.3<br><br>PUERTO RICO 1.1<br>URUGUAY 0.8<br>BARBADOS 0.7 |      |
| L<br>O<br>W      | LOW   | MODERATE  | HIGH |

Rates per thousand:

Birth rate: HIGH: 32 - 45 MODERATE: 24 - 32 LOW: 10 - 24

Mortality rate: HIGH: 11 - 16 MODERATE: 7 - 11 LOW: 4 - 7

Note: The number next to the country names corresponds to the natural growth rate, expressed as a percentage.

Source: CELADE and United Nations (1992).

On this basis, the following groups were defined:

**Group I. Incipient transition.** Countries with high birth rates and high mortality rates (moderate average natural growth on the order of 2.5%): Bolivia and Haiti.

Those countries have high fertility rates, which have not changed or only very little in the period under consideration, and mortality rates which have decreased only slightly. This produces a moderate rate of growth which, on average, is around 2.5% (Box I.1). The high rates found in these countries are due to the fact that a significant majority of the population lives in poverty and in rural areas, limiting access to information, health care and family planning services. Given their high fertility rates, these populations are mainly composed by children and youth, requiring focus on maternal-infant care, programs of primary health services and policies which will tend to reduce the intergenerational transmission of poverty.

**Group II. Moderate transition.** Countries with high birth rates and moderate mortality rates (high average natural growth, around 3%): El Salvador, Guatemala, Honduras, Nicaragua and Paraguay.

Due to the high birth rates and moderate decreases in mortality rates observed in these countries, the average annual rate of population growth is high, around 3%, or even higher in some countries. In this group, Paraguay is an exception, both because it is outside the Central American subregion and because it has a relatively lower mortality rate than the other countries of the Group. In these countries, as in those of Group I, there are vast sectors of rural population which, given their conditions of social insertion, are not yet able to accede to the benefits of economic progress and, therefore, have high birth and mortality rates, although important advances have been made in the latter area. The decrease in the mortality rate, which has occurred mainly in the younger age groups, has produced a rejuvenation in the age structures of the population and, consequently, an accentuation of the problems inherent in a population with high degrees of dependence. For the near future, it is expected that the growth rate will drop as a result of probable further decreases in the birth rate. Even so, growth rates will continue to be high, as a result of the youthful age structure of those populations and because mortality rates should still drop considerably.

**Group III. In full transition.** Countries with moderate birth rates and moderate to low mortality rates (moderate average natural growth, around 2%): Brazil, Colombia, Costa Rica, Dominican Republic, Guyana, Ecuador, Mexico, Panama, Peru, Surinam, Trinidad and Tobago, and Venezuela.

This Group contains the majority of the population of Latin America, because it includes half of the countries of the region and, among them, those with the most inhabitants (see Box I.2). The very low gross mortality rate (over all, less than 7 per thousand) which characterizes this Group, can be explained: on the one hand, by the progress made by many of these countries in the area of health services, but, basically, by the age structures produced by lower birth rates. Those lower rates have led to proportionally high concentrations of the population in the younger ages, with low mortality rates, and in those ages in which women are most fertile. Because of this, there are relatively fewer deaths and, also, relatively more births, both factors which tend to produce moderate growth rates. On average, this Group has grown at a rate of 2.1% in recent years which, as could be expected, is similar to that of the region as a whole. It is expected that, for the coming decade, its growth rate will drop to 1.7% as a result of continued decreases in birth rates. That growth will not be less due to the inertia of age structures, which are still very young.

In these countries, important changes have been occurring in demographic behavior which create new challenges. Changes in mortality rates and age structures imply substantial variations in epidemiological profiles, demands on the educational system, on employment and social security services. Although there is a positive trend toward a reduction of dependent relationships, produced by a lower percentage of children, new concerns emerge, such as an increased occurrence of those chronic illnesses proper to the adult ages —which entail higher prevention and care costs— and increased pressure on the labour market, resulting from high population growth rates in previous decades. To these phenomena, the persistence of significant social inequalities must be added, which have their impact in those sectors without access to the benefits of development, including access to family planning information and services. With few exceptions, in most countries there has been a strong process of urbanization which, together with other factors, explains these striking changes in demographic patterns.

## Box I.2

**POPULATION SIZE AND GROWTH BY GROUPS OF COUNTRIES  
IN DIFFERENT STAGES OF DEMOGRAPHIC TRANSITION.  
PERIOD: 1990-2000**

Most of the population of Latin America and the Caribbean (75%) is undergoing a process of demographic transition, that is, they are experiencing significant changes in their mortality and birth rates which will lead to moderate growth rates in the coming years (1.7%). However, there are still countries in the region with high rates of growth, caused by their high birth rates. For this reason, the countries of Groups I and II (in incipient and moderate transition), which represent 10% of the population of the region, will contribute 16% of the increase which will occur during the 1990s. On the other hand, the countries in more advanced stages of transition (Group IV) represent 15% of the total population of Latin America and the Caribbean and will grow at rates of around 1% annually.

|                           | Groups |     |     |     |     |
|---------------------------|--------|-----|-----|-----|-----|
|                           | Total  | I   | II  | III | IV  |
| Population (millions)     |        |     |     |     |     |
| 1990                      | 441    | 14  | 29  | 332 | 66  |
| 2000                      | 523    | 17  | 39  | 393 | 74  |
| Percentage of total       | 100    | 3   | 7   | 75  | 15  |
| Annual average growth (%) | 1.7    | 2.2 | 3.0 | 1.7 | 1.1 |
| Increase (millions)       | 82     | 3   | 10  | 61  | 8   |
| Percentage of increases   | 100    | 4   | 12  | 74  | 10  |

**Group IV. Advanced transition.** Countries with low birth rates and moderate to low mortality rates (low average natural growth, around 1%): Argentina, Bahamas, Barbados, Chile, Cuba, Guadeloupe, Jamaica, Martinique, Puerto Rico and Uruguay.

In this group, two sub-groups are clearly evident. On the one hand, there are countries which have had low birth and mortality rates for a long time, such as Argentina, Uruguay and, to a lesser degree, Cuba, countries with age structures similar to those of more developed countries. Argentina and Uruguay have higher gross mortality rates due, in part, to their older age structures produced by their historically low birth rates. On the other hand, there are countries which, in recent years, have achieved important decreases in their birth and mortality rates but which, given their relatively young populations—which lead to a high potential for growth—still have higher rates of growth. In this sub-group, Bahamas, Chile and Jamaica (with natural growth rates between 1.5 and 1.7%) are to be found. Except for the Caribbean countries, the low overall birth rates and high life expectancies of these countries occur within a context of marked urbanization, involving over 80% of the population (in Argentina and Uruguay, close to 90%). The fact that these countries have older populations and experience the demands proper to this stage of transition does not mean that the problems of infant maternal care are not a concern. It is presumed that the low birth rates of these countries occur together with high rates of abortions and persistently high rates of adolescent pregnancies, phenomena which undoubtedly call for specific programs to reduce their frequency.

## B. FERTILITY

Beginning in the mid-1970s, in some Latin American countries, an accentuation in the process of birth rate transition began to be observed, which, gradually, spread throughout the region. Since 1950 and before this process began, average birth rates remained around 6 children per woman and the range of variation of the overall birth rate among countries implied a difference of 4.5 children. In the 1985-1990 period, the average fell to 3.4 children per woman and, even though these levels have fallen in all countries, the differences between extreme fertility values remain at 4 children per woman.

Given that the decrease in fertility is relatively recent and that the age structure of many countries is still relatively young, the annual number of births in Latin America has increased from 7 million to 12 million between the 1950-1955 and 1985-1990 periods, in absolute numbers, meaning considerable increases in most countries. However, in some countries in the advanced stages of transition, decreased fertility has already produced a certain degree of stability in the number of births.

Important differences in the levels and trends of birth rates among countries are evident (see Annex A-3). In countries classified as being in incipient or moderate transition (Groups I and II), the overall birth rate is still high (between approximately 4.5 and 6 children per woman). The trend, observed since the middle of this century and up to 1985-1990, is toward a decrease of between 1 and 2 children. Although there are groups of low fertility in every country, mainly among urban and better educated women—with averages of 2 and 3 children per woman—the greater part of the population has a high fertility rate, a phenomenon related to socioeconomic and cultural factors and to the less extensive use of modern contraceptive methods.

From the point of view of fertility, since 1950, the most important phenomenon has occurred among Group III countries, classified as being in full transition. In those countries, the overall birth rate, which was of 6-7 children per woman in mid century, dropped to 3-4 children, a decrease of 50%. Colombia and Dominican Republic have the greatest decrease, of 3.9 and 3.6 children per woman, respectively, in the period under consideration. In countries with the greatest change in birth rates, knowledge of modern contraceptive methods among women is practically 100% and use of them is over 45%, with the exceptions of Peru and Ecuador which have the highest birth rates of the Group.

Finally, among Group IV countries, in advanced transition, with rates of up to 3 children per woman, two groups can be distinguished. On the one hand, Uruguay and Argentina, with low levels of fertility since mid century, have not changed significantly during the period, while in the other countries the decrease has been on the order of 2 and 3 children per woman. Among these, Cuba, Barbados and Martinique are outstanding, presenting overall birth rates below the replacement rate.

Changes in average fertility levels are related to changes in fertility age structures. It has been observed that decreased fertility usually occurs among younger women, with the greatest contribution to the total number of children coming from women between 20 and 34 years of age, and has important consequences for maternal-infant health care, given that those ages present the fewest problems from the point of view of possible risks to the mother and the child (see Annex A-4 and Table I.1). It is important to note that the greatest decreases in fertility have been detected in the group of women over 34 years of age.

Within this context, there is growing concern —both within countries and among international organisms— for the high number of pregnancies and births among mothers younger than 20 years of age, occurring during a period of change with respect to sexual attitudes and conduct which favour exposure to sexually transmitted diseases and higher ages for first sexual contact.

This concern for the impact of adolescent fertility is based on the fact that, although there has been a general trend toward lower rates in the 15-19 year old group since mid century (Annex A-4), the absolute number of births in that group has risen in all countries, due to increased numbers of adolescents, produced, in turn, by the high birth rates of the past. Nicaragua experienced the greatest relative increase in the number of births among women between 15 and 19 years of age (more than 200%) between 1950-1955 and 1985-1990, while Uruguay experienced an increase of only 17%. Most countries of the region experienced increases of from 60% (Colombia, Chile) to 130% (Costa Rica, Paraguay) (Table I.1).



Table I.1  
 LATIN AMERICA: TOTAL ANNUAL BIRTHS AND PERCENTAGE OF BIRTHS  
 BY WOMEN'S AGE GROUPS DURING SELECTED FIVE YEAR PERIODS,  
 AND BY COUNTRIES GROUPED ACCORDING TO DEMOGRAPHIC TRANSITION STAGES

| Countries        | Total annual births (thousands) |         | Percentage of births by women's age groups <sup>a</sup> |         |                                       |         |         |         |         |
|------------------|---------------------------------|---------|---|---------|---------------------------------------|---------|---------|---------|---------|
|                  |                                 |         | Middle ages 20-34 years                                 |         | High risk ages 15-19 years 35 + years |         |         |         |         |
|                  | 1950-55                         | 1985-90 | 1995-00   | 1950-55 | 1985-90                               | 1950-55 | 1985-90 | 1950-55 | 1985-90 |
| <b>Group I</b>   |                                 |         |   |         |                                       |         |         |         |         |
| Bolivia          | 138                             | 248     | 274   | 69.0    | 71.5                                  | 10.6    | 12.4    | 20.4    | 16.1    |
| Haiti            | 148                             | 224     | 258   | 64.1    | 71.2                                  | 8.3     | 8.0     | 27.6    | 20.7    |
| <b>Group II</b>  |                                 |         |   |         |                                       |         |         |         |         |
| El Salvador      | 100                             | 172     | 192   | 72.3    | 66.2                                  | 14.9    | 23.5    | 12.8    | 10.2    |
| Guatemala        | 164                             | 350     | 415   | 68.1    | 69.9                                  | 17.4    | 17.1    | 14.5    | 13.0    |
| Honduras         | 78                              | 189     | 217   | 68.1    | 70.1                                  | 15.3    | 16.5    | 16.6    | 13.4    |
| Nicaragua        | 65                              | 150     | 176   | 69.6    | 67.2                                  | 16.0    | 22.0    | 14.4    | 10.8    |
| Paraguay         | 69                              | 139     | 161   | 70.9    | 71.9                                  | 10.5    | 11.7    | 18.7    | 16.4    |
| <b>Group III</b> |                                 |         |   |         |                                       |         |         |         |         |
| Brazil           | 2590                            | 3801    | 3474  | 71.7    | 78.8                                  | 9.3     | 9.0     | 19.1    | 12.2    |
| Colombia         | 607                             | 802     | 802   | 69.1    | 74.0                                  | 13.1    | 15.5    | 17.9    | 10.5    |
| Costa Rica       | 45                              | 82      | 87  | 72.8    | 73.1                                  | 12.5    | 16.8    | 14.7    | 10.2    |
| Ecuador          | 166                             | 321     | 335   | 67.3    | 73.9                                  | 14.3    | 13.9    | 18.4    | 12.2    |
| Mexico           | 1333                            | 2400    | 2466  | 71.0    | 72.0                                  | 12.6    | 18.3    | 16.3    | 9.7     |
| Panama           | 36                              | 62      | 63  | 69.6    | 72.1                                  | 17.1    | 18.5    | 13.3    | 9.4     |
| Peru             | 384                             | 636     | 670   | 67.3    | 72.8                                  | 13.8    | 12.4    | 19.0    | 14.8    |
| Dominican Rep.   | 129                             | 213     | 208   | 68.7    | 76.4                                  | 16.5    | 13.8    | 14.8    | 9.8     |
| Venezuela        | 263                             | 519     | 539   | 70.4    | 73.9                                  | 15.5    | 14.4    | 14.1    | 11.7    |
| <b>Group IV</b>  |                                 |         |   |         |                                       |         |         |         |         |
| Argentina        | 458                             | 669     | 698   | 75.2    | 73.7                                  | 10.7    | 13.7    | 14.2    | 12.7    |
| Cuba             | 182                             | 182     | 181   | 76.4    | 69.8                                  | 10.2    | 26.1    | 13.4    | 4.1     |
| Chile            | 239                             | 301     | 309   | 70.7    | 76.5                                  | 10.4    | 13.6    | 19.0    | 9.8     |
| Uruguay          | 49                              | 54      | 54  | 75.1    | 74.4                                  | 12.2    | 13.8    | 12.7    | 11.9    |

Source: CELADE and United Nations (1991).

<sup>a</sup> Percentage of births refers to the quotient obtained between births and in the age groups under consideration and total births in each country.

In Latin America, the range of variations in the birth rate of the 15-19 year old group, in 1985-1990, oscillates between 48 per thousand in Brazil and 160 per thousand in Nicaragua. Generally, rates in the countries of Groups I and II are higher than those in Groups III and IV, with the exception of Haiti, which has a low rate, second to Brazil. Among those with the highest rates—higher than 100 per thousand—are Guatemala, Honduras and El Salvador, countries in the stage of moderate transition. Together with Brazil and Haiti, already mentioned, the lowest rates, around or lower than 70 per thousand, are found in Argentina, Chile and Uruguay (Group IV) and Peru (Group III).

As for the evolution of those rates in that age group, between 1950-1955 and 1985-1990, available information indicates that most have fallen steadily from one five-year period to the other, in proportions which vary between 1% in Nicaragua to 52% in Dominican Republic. However, the evolution in three countries of Group IV, Argentina, Cuba and Uruguay, in which birth rates have risen in this age group, must be noted as exceptions.

At the same time, these data must be viewed with caution, given that information on children of younger mothers is usually deficient in several ways. For this reason, it is thought that the data do not portray the contemporary situation with the desired precision, nor do they allow for exact identification of the direction of more recent trends, for which national-level, reliable figures are not, generally, available (Wulf, 1986).

Brazil is one of the few Latin American countries for which studies of adolescent fertility exist. These reveal that the birth rate among women between 15 and 19 years of age seems to have increased slightly between 1970 and 1981-1986 (Henriquez *et al.*, 1989). For other countries, such as Dominican Republic and Panama (Wulf, 1986), data from surveys taken in hospitals, which indicate an increase in the proportion of births among adolescent women, could point to a phenomenon similar to that observed in Brazil, if the trend is confirmed. Moreover, comparative data from Peru indicate that, even though the specific birth rate among 15-19 year old women has remained nearly the same during the last 15 years, the birth rate among urban adolescents declined, while it rose among rural young women, from 115 to 137 per thousand (Ferrando, Singh and Wulf, 1989).

Both for its social effects and its negative impact on the health of mothers and children, adolescent pregnancies are a problem which requires further study and the search for effective solutions, related to education for youth and access to knowledge about and use of family planning methods. Given its particular characteristics, this phenomenon could lead to an increase in pregnancies and more abortions.

Lower birth rates have not occurred with the same intensity in all social groups. One aspect of this reality which is a source of concern for the governments of the region is the persistence of differences in fertility among groups which reflect serious disparities in standards of living. Pockets of high fertility exist which, in some countries, represent a very important percentage of the population and are linked mainly to residence in rural areas, low levels of education and more poorly paid work, with differences of up to 3 or 4 children. This problematic must be analysed in the awareness that an important percentage of births among the women of the countries of the region were undesired, as is demonstrated in the Demographic and Health Surveys taken in the 1980s. Bolivia and Peru are noteworthy examples, given that, at the time of the surveys, one in three children appear as undesired. What is more, the poorer social groups and those in rural areas have generally greater percentages of undesired births.

Differences in fertility among groups within a country—in absolute terms—are less when that country is more advanced in the process of fertility transition. In fact, in Chile and Cuba, countries in which the decrease has been more pronounced and which currently have birth rates classified as low (Group IV), there is a clear convergence between urban and rural birth rates, toward approximately 2 and 3 children.

In countries with intermediate birth rates (Group III), for example, Dominican Republic and Panama, changes in both urban and rural areas have been observed, although they have been, generally, less marked than in Chile and Cuba, and only recently is the trend toward convergence mentioned above emerging. In those countries, although the transition process is more advanced in urban areas, it is expected that more important changes will occur in rural areas, at least in those countries in which urban fertility has already reached low levels.

At the other extreme, in countries with continued, high fertility (Groups I and II), such as Guatemala and Honduras, decreases have only been detected in the capital cities—between approximately 10 and 15%—, while change in rural areas has not yet been observed. Further details with respect to differences in birth rates within countries are presented in Chapter III.

The concentration of populations in urban centres, more wide-spread education, broader health care coverage and, in general, access to improved and healthier living conditions for large sectors of the population are factors which have conditioned the decreases in birth rates in Latin America. However, those factors have not affected fertility directly. Rather, they have operated through other variables, which, in turn, affect fertility, such as marriage patterns and the age at which first unions occur, the norms which govern sexual relations within unions, the factors which affect exposure to conceptions, including mainly the use of contraceptives, and factors which affect pregnancies and births. These elements are present in every society but there are differences among them in terms of the levels of relative importance assigned to each or in the particular combination in which they are to be found, given that these factors are related to beliefs and values generally very strongly rooted in cultural traditions.

There is consensus that, among the determinant factors related to fertility, the element most closely related to decreased fertility in Latin America is the use of contraceptives. Due to urbanization, expanded education, changes in women's situation and the efforts of family planning programmes, among other factors, family planning information has been disseminated throughout the countries of the region.

In countries for which there is information, it has been observed that, in those in full transition (Group III), the proportion of women who use contraceptives is high and is concentrated in the use of more modern methods, while in countries with high birth rates (Groups I and II), fewer women use contraceptives. According to the latest available data, the use of modern contraceptives is approximately 55% in Brazil and Colombia; around 45% in El Salvador, Mexico, Dominican Republic and Trinidad and Tobago; 35% in Ecuador and Paraguay; and around 20% in Bolivia and Guatemala (Demographic and Health Surveys, 1991). Countries in which these studies have not been implemented are Argentina, Chile, Cuba and Uruguay, all of which have currently low birth rates. Although information with respect to the use of contraceptives in those countries is not available, it can be supposed that, given their low birth rates, their use must be high.

Abortion is another mechanism for reducing birth rates widely used in Latin America. Given that, with the exception of Cuba, abortions are illegal in the region, it is practically impossible to obtain reliable information with respect to the true magnitude of the phenomenon. However, there is reason to believe that the annual number of abortions practiced in the region is very high.

In fact, although its true magnitude is unknown, abortion is used to space births and eliminate undesired pregnancies. When practiced in unsanitary conditions or very frequently, it can have negative consequences for women's health. It is believed that the rates of hospitalizations and deaths due to complications related to abortions are high, but the documentation is very incomplete and difficult to obtain. In Brazil, for example, information has been generated, on the basis of extrapolations from several hospital experiences, to the effect that, in the early 1980s, there were approximately 3 million abortions a year. That same information indicates that most abortions occur among urban women, of low socioeconomic extraction who do not use contraceptives (Merrick, 1983).

Population projections made in recent decades clearly demonstrate the current limitations for projecting changes in birth rates. Although decreases were anticipated, it was not foreseen that Latin America would reduce its birth rate nearly 40% in 20 years.

As for the coming years, projections of lower birth rates are fundamentally based on the levels and trends observed in the different countries. Nevertheless, it cannot be denied that the impact of development strategies and the continued expansion of mass communications in many countries of the region may lead large sectors of the population to adopt the small family as an ideal, influenced by the more wide-spread assimilation of certain patterns of consumption and life style, including improved access to the means of controlling natality. Future birth rate decreases depend on the speed of this process.

Although, an average of 2.8 children per woman is expected for the last five year period of the century, according to available projections, it is also foreseen that, by 2020, the region as a whole will attain its replacement level that is, the birth rate necessary for a population to maintain the number of its members. In analysis by individual countries, those of Groups I and II still have high overall birth rates of around 5 children and should arrive at a net rate of reproduction, equal to 1, ten years later than the regional average. By around 1990, Bahamas, Barbados, Cuba, Martinique and Puerto Rico had already arrived at replacement levels of fertility, while the other countries of Groups III and IV should have overall rates of less than 2.5 children by the year 2010 and several of them should reach their replacement levels around that same year. These changes will have important effects on population growth and age structures, according to the analysis presented in Section D of this Chapter.

## Box I.3

Research performed in the late 1980s makes it possible to examine the level of knowledge about and use of contraceptives in several countries of the region. As can be seen, there is an important gap between knowledge about contraceptives and their use. The magnitude of the number of undesired children can also be observed, constituting one of the indicators of the unsatisfied demand for contraceptive methods.

PERCENTAGE OF WOMEN CURRENTLY MARRIED BETWEEN 15-49 YEARS OF AGE  
BY KNOWLEDGE ABOUT AND USE OF CONTRACEPTIVES  
AND NUMBER OF UNDESIRE CHILDREN

| Countries           | Year of the DHS | Percentage who know of some modern method | Percentage who currently use a method | Percentage who currently use some modern method | Number of undesired children |
|---------------------|-----------------|---|---------------------------------------|---|------------------------------|
| <u>Group I</u>      |                 |   |                                       |   |                              |
| Bolivia             | 1989            | 68  | 30                                    | 12  | 1.8                          |
| <u>Group II</u>     |                 |   |                                       |   |                              |
| El Salvador         | 1985            | 93  | 47                                    | 45  | 1.1                          |
| Guatemala *         | 1987            | 72  | 23                                    | 19  | 0.7                          |
| Paraguay            | 1990            | 96  | 48                                    | 35  | -                            |
| <u>Group III</u>    |                 |   |                                       |   |                              |
| Brazil *            | 1986            | 100                                       | 66                                    | 57  | 0.7                          |
| Colombia            | 1986            | 100                                       | 66                                    | 55  | 0.5                          |
| Ecuador             | 1987            | 90  | 44                                    | 36  | 0.7                          |
| Mexico              | 1987            | 93  | 53                                    | 45  | -                            |
| Peru                | 1986            | 86  | 46                                    | 23  | 1.5                          |
| Dominican Republic  | 1986            | 99  | 50                                    | 47  | 1.0                          |
| Trinidad and Tobago | 1987            | 99  | 53                                    | 44  | -                            |

Source: Demographic and Health Surveys (1991).

\* For women between 15-44 years of age.

### C. MORTALITY

One of the most notable achievements attained in Latin America since the Second World War has been the sharp reduction of overall death rates, implying a significant increase in life expectancy at birth in most countries (see Annex A-5). This indicator, which was around 52 years for the bulk of the population in 1950-1955, rose an average of two years per five year period, reaching 66.7 years for the 1985-1990 period. It is estimated that a child born in the year 2000 will live to be 70 years old, which is the World Health Organization goal for the end of the century, called, "Health for All by the Year 2000" (SPT-2000).

This gain of nearly 15 years of life expectancy at birth is mainly due to reductions of death rates among the early years of life and, especially, infant mortality, given the fact that, among older persons, the decrease has been much less.

As well, the decrease in mortality among women during the period under consideration has been much greater than among men; that is, the increase in life expectancy at birth for women has been greater than for men (16 and 14 years, respectively). This phenomenon has led to increased differentiation by sex in average life spans, which, in general for the region, has grown from little more than 3 years to around 6 years. By observing a group of countries whose vital statistics permit confidence in the quality of estimates disaggregated by sex (Argentina, Chile, Costa Rica, Cuba, Guatemala, Mexico, Uruguay and Venezuela) (CELADE, 1990), it can be seen that, for the 1985-1990 period, differences fall between 6-7 years in Chile, Argentina, Mexico and Venezuela, while, in Costa Rica, Cuba and Guatemala, they fall between 3.5 and 4.7 years (the extremes are Chile, with 7 years of difference between men and women and Cuba, with 3.5 years). These differences show that the biological determinants of the differences in survival by sex are conditioned by the effects of each country's specific context, which involves such variables as the magnitude of health risks which characterize the economic activities performed by the active population, mainly male, the level of women's participation in those activities, nutritional patterns, etc.

Estimates for different countries reveal a trend toward increasingly lower gains in life expectancy at birth. In particular, the 1980s, in nearly all countries, seem to have been witness to a lower net decrease of mortality than that observed in earlier decades. This phenomenon could reflect the diverse kinds of difficulties associated with the economic and social crisis and, at the same time, reveal how difficult it is to achieve further reductions, as diseases, relatively easy to treat and prevent, are brought under control.

The process of change, briefly described above, did not follow the same curve nor did it begin from the same level in all countries of the region. The extremes of current Latin American reality, with respect to levels of mortality, are represented by, on the one hand, Haiti and Bolivia, found in Group I, with life expectancies at birth lower than 60 years (54.7 years in the case of Haiti) and, on the other hand, by Costa Rica and Cuba, with averages slightly over 75 years.

If the trends in Groups of countries are analysed, several important facts appear: first, the important gains in average life spans realized by countries which began with very low levels is noteworthy. This is the case for Peru, Guatemala, El Salvador, Nicaragua and Honduras. Beginning in the 1950s with life expectancies of 42-45 years, they currently are achieving values of 61-64 years for that indicator, which is a total gain of 20 years. Bolivia is another country in which life expectancy rose significantly; however,

given the low level from which it began, Bolivia still had average life spans of less than 60 years in the 1985-1990 period. None of these countries, which generally belong to the Groups of countries in incipient and moderate stages of transition, will achieve the SPT-2000 goal of 70 years by the end of the century. They will, however, be near that figure.

Another group of countries, which began with higher levels of life expectancy in the 1950-1955 period (between 46-55 years), has achieved averages of 64-70 years for the 1985-1990 period. Among these are the countries of Group III, such as Brazil, Ecuador, Dominican Republic, Colombia, Mexico and Venezuela: the first three of these will not achieve the goal of 70 years life expectancy at birth by the year 2000, although they will be near that figure. Another two countries which began with averages below 55 years are Chile and Panama, but their trends toward decreases were much sharper, which led them to surpass the goal of 70 years during the 1985-1990 period. A case to the contrary is found in Paraguay, which began the 1950s with a life expectancy at birth over 60 years but which has not achieved significant advances, scarcely reaching 67 years of life expectancy for the 1985-1990 period.

Argentina and Uruguay, countries of already advanced demographic transition in the 1950s, achieved significant advances, especially in the 1960s, but did not achieve the same degree of success as Cuba and Costa Rica, countries which, even beginning with lower life expectancies, have surpassed 75 year life expectancies during the most recent period. What converts these two countries into important points of reference within the Latin American context is not so much the magnitude of the absolute gains achieved during the period under analysis, but rather the fact that those gains were achieved when the death rates of those countries were already fairly low, a stage in which further advances are more difficult.

With respect to the non-Latin Caribbean zone, the situation is similar to that in Latin American countries with low mortality, given that, for the 1985-1990 period, life expectancies were over 70 years. Guyana and Surinam are exceptions, with life expectancies lower than 70 years. Guyana will not reach the goal of 70 years life expectancy by the year 2000.

Although, in general, levels and trends in death rates correspond to the stages of demographic transition used to classify countries in the first Chapter, that correspondence is not always complete. Some countries, such as Paraguay and Costa Rica, have high life expectancies in terms of the stage of transition in which they are classified; other countries, such as Peru, have very low life expectancies compared with other countries classified in Group III. These apparent discrepancies are explained, in part, by the fact that birth and death rates are not always in the same phase of the transition process.

Comparison of the levels and trends of Latin American death rates with the same variables of the developed countries of North America (Canada and United States) reveals that the gap in life expectancies has become less pronounced. The difference between these two subregions has changed from 17 to 10 years. In spite of this fact, it must be kept in mind that the current levels of life expectancy in the region are similar to those obtained in Canada and United States 40 years ago, when neither the current knowledge nor the means for preventing and treating an important number of diseases existed (CELADE, 1990).

Moreover, as noted above, the magnitude of the decrease in mortality has been different among age groups, with much greater decreases occurring among the younger ages. Thus, for example, it has been established that for three countries (Chile, Guatemala and Mexico) around half of the increase in life expectancies gained between the end of the 1960s and the early 1980s was due to reduced death rates in the first five years of life.

In Annex A-6, it can be seen that, for Latin America as a whole, infant mortality fell more than 50% between 1950-1955 and 1985-1990. Overall, in 1950-1955, no Latin American country had an infant mortality rate lower than 50 per thousand and only 6 had rates lower than 100 per thousand. By 1985-1990, the situation was completely different: 10 countries had rates lower than 50 per thousand and none had a rate over 100 per thousand. It must be noted, however, that, in Latin America, excluding the non-latin Caribbean, only 8 of the 20 countries will achieve the SPT-2000 goal of a mortality rate lower than 30 per thousand.

When the situation is analysed by country, several aspects emerge which should be noted. First, among those countries with high infant mortality are Bolivia and Haiti, which belong to the incipient transition Group, with rates bordering on 100 infant deaths per thousand live births. They are followed by Peru, which has a rate of 90 per thousand. Nearly 10% of total births of the region occur in these three countries, which also have the highest death rates.

A second group of countries, with infant mortality around 60-70 per thousand during the period under consideration, is made up by Nicaragua, Dominican Republic, Honduras, Brazil, Ecuador, Guatemala and El Salvador. Nearly half the total births of the region during the period under consideration occurred in these countries.

According to projections performed by CELADE —jointly with national organisms— none of the countries of these first two groups will achieve the SPT-2000 goal.

A third group consists of countries with infant mortality rates of between 35 and 50 per thousand, including Paraguay, Mexico, Colombia and Venezuela. During the 1985-1990 period, one in three children of the region was born in these countries. With the exception of Paraguay and possibly Colombia, they will achieve rates lower than 30 per thousand by the year 2000. A fourth group consists of countries which, in 1985-1990, had rates of between 20 and 35 per thousand. This group includes Argentina and Uruguay —countries in advanced transition— and Panama. Finally, there are Chile, Cuba and Costa Rica, countries with death rates of less than 20 per thousand. In these last two groups, which have the lowest death rates in Latin America, slightly more than 10% of births occur.

With respect to the non-Latin Caribbean, most countries have rates lower than 20 per thousand. As occurred in the analysis of life expectancy at birth, Guyana and Surinam are exceptions, with rates of 56 and 33 per thousand, respectively, during 1985-1990.

The levels of infant mortality mentioned above have been achieved in very different contexts, although they share certain characteristics. Among these, in recent years and in most countries, is the priority given to activities geared to reduce infant mortality. Mass vaccination and oral rehydration programmes together with improved and expanded health services are only a few of the programmes designed to achieve improved probabilities of infant survival. As well, the role played by lower birth rates and their positive effects on the reduction of infant mortality, by reducing the proportion of births with higher risk of death, must be taken into account, as mentioned



in the previous section. It is no surprise, then, that, even in the context of the economic crisis which affected the region in the 1980s, no interruption in the decrease of infant mortality is observed, at least at national levels, although in some cases it is true that the decrease itself is slight, as was also seen to be the case for life expectancy at birth. In this sense, it is important to highlight the significant advances achieved even in contexts of deficient sanitary conditions. The experience of countries, such as Cuba, Costa Rica and Chile, which have made notable progress, has demonstrated that, even within contexts of economic restrictions, those achievements are possible and that important changes can still be made.

Those advances cannot, however, lead to the conclusion that the struggle against precocious death has concluded in victory. When the behaviour of indicators within countries is observed, important differences in infant mortality among social and geographic groups are observed. High infant death risk levels persist in poor sectors, among children of women with low levels of education or who live in poor housing conditions (see Chapter III, on inequities in demographic behaviour). Even within the same city, there are notable differences in infant death rates. The identification and census of those groups must lead the way to further progress and to the elimination of the social inequity inherited from the past, which it is necessary and possible to overcome.

As well, when Latin America is compared with developed countries, striking differences are observed. In countries with high infant mortality rates, the risk of infant death is fifteen times greater than in developed countries. Moreover, even in the better off Latin American countries, infant mortality is from three to four times higher than in those developed countries most advanced in the control of early mortality.

With respect to mortality by cause, the reduction of infectious diseases (diarrheas, acute respiratory infections and immune-preventible diseases) has been one of the most significant factors of change in death rates.<sup>2</sup> Given that control of those diseases has been associated mainly with reductions of infant and childhood mortality, those deaths due to diseases which are chronic to adults (cancer and cardiovascular) have become ever more important in the structure of deaths by cause, as well as those related to violence (WHO, 1990). This phenomenon is aggravated by the ageing of population age structures, producing relative increases in the size of the older age groups, which are more prone to that type of disease.<sup>3</sup> The conclusion is, therefore, that the new stage for Latin American poses new challenges in the struggle to prolong life, within which a central role will be played by degenerative diseases, the treatment of which is usually more difficult and more costly.

The correlation between structures of deaths by groups of causes and the levels of mortality associated with them has been demonstrated with great clarity on the basis of data from the 1980s for several countries of the region with relatively reliable records (PAHO, 1990). Table I.2 clearly shows that, in Guatemala, a country with high death rates, communicable diseases still account for a considerable number of deaths (47% of total deaths). In contrast, in countries such as Argentina, Uruguay, Cuba and Costa Rica, the percentage of deaths related to those causes is 5-8%.

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<sup>2</sup> This phenomenon can be observed in all cases in which vital statistics have permitted this type of research. See, for example, the following documents: Yasaki, 1990 (Study of the State of São Paulo, 1975-83); Ruiz, 1982 (Venezuela 1968-78); Dfáz, 1987 (Guatemala 1960-79).

<sup>3</sup> In this context, it is important to highlight the importance of a preventive focus for health programmes, since it is well known that many elder adult diseases have their roots in adolescence.

Table 1.2

LATIN AMERICA: PERCENTAGE DISTRIBUTION BY MAJOR GROUPS OF CAUSES OF DEATH  
AND DEMOGRAPHIC INDICATORS IN SELECTED COUNTRIES

| Causes of death<br>and demographic<br>indicators | Uruguay<br>1985 | Cuba<br>1986 | Chile<br>1986 | Costa<br>Rica<br>1987 | Guatemala<br>1984 |
|--|-----------------|--------------|---------------|-----------------------|-------------------|
| TOTAL  | 100.0           | 100.0        | 100.0         | 100.0                 | 100.0             |
| -COMMUNICABLE DISEASES                           | 5.4             | 8.4          | 12.2          | 7.4                   | 46.6              |
| -TUMORS  | 24.4            | 19.2         | 19.9          | 21.6                  | 3.6               |
| -DISEASES OF THE<br>CIRCULATORY SYSTEM           | 43.9            | 43.7         | 30.0          | 28.7                  | 6.6               |
| -PERI-NATAL DISEASES                             | 2.4             | 1.7          | 2.7           | 5.9                   | 12.1              |
| -INJURY OR POISONING                             | 6.0             | 11.6         | 13.2          | 11.3                  | 13.8              |
| -ALL OTHER CATEGORY                              | 17.9            | 15.4         | 22.0          | 25.1                  | 17.3              |
| LIFE EXPECTANCY AT BIRTH<br>(1985-90)            | 72.0            | 75.2         | 71.5          | 74.7                  | 62.0              |
| POPULATION (1990)                                | 100.0           | 100.0        | 100.0         | 100.0                 | 100.0             |
| 0-14 years                                       | 25.8            | 22.7         | 30.6          | 36.2                  | 45.4              |
| 15-64 years                                      | 62.6            | 68.8         | 63.4          | 59.6                  | 51.4              |
| 65 or over                                       | 11.6            | 8.5          | 6.0           | 4.2                   | 3.2               |
| DEATHS   | 100.0           | 100.0        | 100.0         | 100.0                 | 100.0             |
| 0-14 years                                       | 6.9             | 5.7          | 9.8           | 17.4                  | 54.5              |
| 15-64 years                                      | 26.5            | 31.4         | 33.9          | 31.6                  | 26.8              |
| 65 or over                                       | 66.6            | 62.9         | 56.3          | 51.0                  | 18.7              |

Source: CELADE (1991).

Moreover, tumors and circulatory diseases account for a significant portion of total deaths in countries with low mortality. Such is the case for Uruguay, where two of every three persons die of those causes. This is so, not only because those countries have managed to reduce mortality from communicable diseases drastically, but also because, as can be seen in the same Table, they have greater percentages of elderly persons.

In spite of the changes noted above, it is still worrisome that, even before low levels of mortality were achieved, in many countries there are signs that diseases are reappearing which were thought to be under control and whose appearance and lethal effects are, undoubtedly, related to living conditions and the capacity of health service systems to deal with them. Outstanding examples are the reappearances of malaria, cholera and tuberculosis. It has been noted that malaria persists or has become more frequent in areas where it already existed and it has reappeared in areas in which it had been eradicated. This has been confirmed not only by increased numbers of cases of malaria; several countries have also been concerned by increased numbers of deaths from the disease (WHO, 1990). With respect to cholera, it has been seen how that disease has appeared and had important effects in Peru and, to a less degree, in other countries. A combination of factors, such as sanitary conditions, access to health services and sanitary education, seem to have played a significant role in the spread of this disease, in its persistence and lethal effects.

The study of the dissemination patterns of AIDS and the prospects for its dissemination among Latin American populations also constitute an important health challenge. This is a case in which the importance of investing in prevention is clear, especially if the economic limitations of the region and the high costs of treatment of this disease are kept in mind.

Another challenge which the region must face as it reduces death rates involves lowering the levels of maternal mortality, which is still at alarming levels in many countries. These rates remain high as a result of the people's limited access to deliveries attended by specialized personnel and of the high frequency of abortions.

At the same time, the frequency and increase of deaths by violence is one of the serious problems which the health sector of the region must face. This phenomenon constitutes an important area for research and action in the region. It is found very notably in several countries (Peru, Guatemala, El Salvador, Colombia, among others) and is associated with political and ethnic repression, terrorism, drug traffic and, generally, with the lack of opportunities, goals and perspectives which afflicts a significant number of youth in many countries. The growing importance of deaths in automobile accidents is another of the undesirable consequences of the process of urbanization and economic growth.

Finally, the need for incorporating the environmental dimension into health concerns seems to be acquiring new relevance, given the patterns of industrialization and management of agriculture which characterize most countries of the region. As one of its effects, this process leads to the seldom controlled discharge of a growing number of different industrial wastes, which increases the exposure of broad sectors of the population to products which, due to their toxicity, constitute health dangers and even a threat to the survival of that population (WHO, 1990). The high levels of contamination to which workers are exposed on the job are also very harmful, as occurs in mining operations. These facts make it necessary to locate human survival and quality of life as central concerns in the search for sustainable development.

The elements outlined above reveal the necessity of accurate measurements of death rates by causes. In this sense, it is most important to improve the quality of vital statistics. At a still more general level, it can be said that the need to measure levels of adult and infant mortality directly still exists, given that many countries still operate on the basis of model-generated estimates.

#### D. POPULATION GROWTH AND AGE STRUCTURES

Changes in the demographic components of the region, basically in birth rates, are also producing changes in population age structures. As was to be expected, the general trend is toward the overall ageing of the age structure, understood as the process of the proportional reduction of the number of children and the progressive increase of the elderly population. The ageing process of the population of the region occurs in very direct correlation to birth and death rate trends and, therefore, with the stages of demographic transition. Thus, the population age structure also expresses the placement of each country in the process of demographic transition. At any rate, modifications in the relative distribution of the population by age occur slowly and can only be clearly appreciated in the mid and long terms.

In the initial stage of demographic transition, which corresponds to high birth and death rates, children and youth constitute large segments of the population and there are very few elderly persons. In Group I, the percentage of those under 15 years of age is around 42%, while those over 65 years is around 4% (Annex A-7).

In the following stage of transition, in which death rates fall and birth rates drop only slightly (Group II), the population becomes younger, with a greater proportion of children (45% in 1990). This phenomenon occurs because the death rate which decreases most is that which affects very young children, having the same effect as an increase in fertility. This results in a lower percentage of elderly population (3%).

The countries of Group III, which has been defined as full transition, already have a lower percentage of those younger than 15 years of age (36% in 1990). This proportion is still high as a result of high fertility in the past which produces a large number of women in their fertile years. Note that the decrease in the proportion of children is compensated for by an increase in the middle years, while the percentage of those over 65 years of age is 4% (Annex A-7).

In those countries in the most advanced stage of transition, the percentage of elderly is double that of countries in the initial stage. According to Annex A-7, populations in this group have 28%, younger than 15 years of age, and 10%, elderly.

## Box I.4

**LATIN AMERICA AND THE CARIBBEAN: EVOLUTION  
OF COMPOSITION BY AGE IN THE 1990s**

In terms of the demands to be faced, 81% of the total population increase which Latin America and the Caribbean will experience in the 1990s will occur in the middle age groups (67 million persons), an important number of whom will be incorporated into the labour market and will enter their reproductive years. Those younger than 15 will absorb 10% of the growth (8 million persons) and the elderly, a similar percentage. In this sense, the most relevant characteristic for the region at the present time is the coexistence of demands, given that, even though the effects of high past fertility are still being felt, the symptoms of elderly populations are already beginning to be felt. These average figures embrace considerable dispersion, as has been noted throughout this paper. Thus, for example, in Guatemala, the group of those younger than 15 years will grow at a rate of 2.3% while the group of those over 64 will grow at a rate of 4.4%. In Brazil, meanwhile, the rates will be -0.3 and 3.3%, respectively. Moreover, it is important to anticipate long term changes which must be considered so as to avoid the negative experiences of countries in more advanced stages of transition which have not been able to the stress of the ever greater demands on social security and health services arising from the elderly population.

The figures for the population evolution of large age groups in Latin America and the Caribbean are the following:

|                                     | Total | Age groups |       |             |
|-------------------------------------|-------|------------|-------|-------------|
|                                     |       | 0-14       | 15-64 | 65 and over |
| <b>Population (millions)</b>        |       |            |       |             |
| 1990                                | 441   | 158        | 262   | 21          |
| 2000                                | 523   | 166        | 329   | 28          |
| <b>Percentage of the population</b> |       |            |       |             |
| 1990                                | 100   | 35.8       | 59.5  | 4.7         |
| 2000                                | 100   | 31.7       | 62.9  | 5.4         |
| <b>Annual average growth (%)</b>    | 1.7   | 0.5        | 2.3   | 3.0         |
| <b>Increase (millions)</b>          | 82    | 8          | 6     | 7           |
| <b>Percentage increase</b>          | 100   | 10         | 81    | 9           |

Although the analysis of the relative distribution of the population in age groups allows for situating countries in the different stages of demographic transition, as noted above, trends change only slowly. In forty years, the overall population of Latin America and the Caribbean has evolved from the first stage (40% children), passing through a rejuvenation in the 1960s as a result of the gains made in reduced infant mortality, acquiring, at the present time, the characteristics of the third stage (36% children), that is, a relatively young population, with strong representations of children and young adults. Given the supposed demographic trend changes for the future, by 2025, for example, the age structure of Bolivia will still be younger than that of Uruguay at the present time. Undoubtedly, this could be different if birth rates drop more rapidly than has been expected until recently, a phenomenon which seems to be beginning to occur. Generally, it can be concluded that population structures will only change in the mid and long terms for countries in different moments of demographic transition.

In spite of this, a notable phenomenon are the differences of absolute and relative growth which will occur in the different age groups in the 1990s (Annex A-8) and which determine the demands to which priority should be given. The general characteristic is that, in those countries which are entering into demographic transition, growth rates are high and similar for all ages. In those cases, given that they are young populations, absolute growth among those younger than 15 years will be up to 15 times higher than that of the elderly population. On the other hand, as birth rates fall, the growth rate for children drops substantially, while the rate for the elderly maintains its high levels, as a result to previous high fertility. Thus, in Group IV, the population 65 years and over grows at a rate of around 2%, while the 0-14 year old group grows at 0.5%. In absolute terms, this implies growth in the number of elderly which is 30 greater than that of children.

Trend projections of demographic components analysed for the mid and long terms show lower population growth rates. From nearly 2% currently, they will drop to around 1% in the year 2010 and to lower than that figure in 2025 in most countries. Hypothetically, it is thought that the region could arrive at a combination of birth and death rates which could, on average, lead to each woman having around two children by around 2020 and that at least one of those children would be a daughter who would replace the mother in her reproductive function. If that were to occur, zero growth would be achieved and, therefore, a stable limit population which would, subsequently, suffer little change. However, as a result of still young age distributions, that situation would only be achieved many years later, probably by the year 2050, with a population of around 800 million persons for the region. In an exercise of long term projection, prepared by CELADE, in that year, only Cuba, which already has birth levels below replacement levels, would achieve a negative growth rate.

It is interesting to observe that, in the 1950-1990 period, the population grew 167%, reaching 441 million persons. The prevalent high growth rates of that period produced that striking increase. However, according to current projections, which suppose decreasing growth rates, the population of the region will increase 60% over the same number of years in the future (1990-2025), arriving at a population of 700 million persons. The relative weight of Latin America and the Caribbean in the world total, according to "World Population Prospects" of the United Nations (United Nations, 1992), is on the order of 8.2% and will be the same in 2050. This regional constancy at global levels contrasts with what will occur in Africa, which will rise from 12 to 19%, reducing the relative importance of the populations of Europe and East Asia.

As a result of the supposed convergence of birth rates toward replacement levels, the relative distribution of population by ages in the region will be characterized by a trend, also convergent, toward a more elderly population. By the middle of the next century, the population younger than 15 years of age will account for 20% of the total in most countries. However, significant differences remain at the present time, with some countries having populations with 40% children and others, with less than 30%. As a result of the anticipated changes in age structures, the relation of dependence will tend to decrease, initially —due to the reduction in the percentage of children—, to subsequently recover part of its value, due to the increase in the number of elderly persons. At any rate, the current relation of dependence —70 persons in inactive ages for every 100 in their active years— will already reach values of around 50% by the year 2010 in the region, although countries such as Bolivia and Guatemala will still maintain relations similar to those currently prevalent in the region (see Table I.3). These trends will have a strong impact on demands for education, health and social security services and on employment, a situation which will be examined in Chapter IV of this paper.

The convergence of birth rate trends with those in population age structures means that, at the present time in many countries of the region, the number of births is reaching its maximum historic values and will decrease in the future, with the consequent effects on demand for maternal-infant attention and other services related to infancy. However, the same phenomenon will only occur in the countries of Groups I and II within two or three decades.

In summary, as a result of changes in demographic changes, mainly in birth rates, there will also be changes in population composition by ages and in other related aspects, such as, for example, epidemiological profiles, relations of dependence and, therefore, in the structure of demand for basic services. In the short and mid terms, these changes imply coexistent demands because there will continue to be sharp increases in the numbers of children and persons in their middle years, to which will be added a similar situation in the elderly population.

Table I.3

DEMOGRAPHIC INDICATORS FOR LATIN AMERICA  
AND SELECTED COUNTRIES  
1990-2050

| Year and<br>indicator       | Countries  |         |           |        |        |           |
|-----------------------------|------------|---------|-----------|--------|--------|-----------|
|                             | L. America | Bolivia | Guatemala | Mexico | Brazil | Argentina |
| <u>1990</u>                 |            |         |           |        |        |           |
| Pop.(thousands)             | 430182     | 7171    | 9197      | 84486  | 149042 | 32322     |
| TGF <u>a/</u>               | 3.1        | 4.6     | 5.4       | 3.2    | 2.7    | 2.8       |
| e(0) <u>b/</u>              | 69         | 62      | 65        | 70     | 66     | 72        |
| r natural <u>c/</u>         | 2.1        | 2.5     | 3.1       | 2.3    | 1.6    | 1.2       |
| % pop. - 15 years           | 36         | 41      | 45        | 38     | 34     | 30        |
| Depend. ratio (%) <u>d/</u> | 69         | 82      | 95        | 72     | 65     | 64        |
| <u>2010</u>                 |            |         |           |        |        |           |
| Pop.(thousands)             | 587106     | 11087   | 15827     | 118455 | 194002 | 40193     |
| TGF                         | 2.3        | 3.0     | 3.6       | 2.2    | 2.1    | 2.3       |
| e(0)                        | 72         | 69      | 71        | 74     | 71     | 73        |
| r natural                   | 1.2        | 1.8     | 2.3       | 1.3    | 1.0    | 0.9       |
| % pop. - 15 years           | 28         | 35      | 39        | 29     | 25     | 26        |
| Depend.ratio (%)            | 51         | 65      | 76        | 52     | 47     | 56        |
| <u>2025</u>                 |            |         |           |        |        |           |
| Pop.(thousands)             | 686450     | 14096   | 21668     | 137483 | 219673 | 45505     |
| TGF                         | 2.1        | 2.4     | 2.7       | 2.0    | 2.0    | 2.2       |
| e(0)                        | 74         | 70      | 72        | 79     | 72     | 74        |
| r natural                   | 0.8        | 1.3     | 1.7       | 0.9    | 0.5    | 0.6       |
| % pop. - 15 years           | 24         | 29      | 33        | 23     | 22     | 24        |
| Depend.ratio (%)            | 47         | 54      | 60        | 47     | 47     | 54        |
| <u>2050</u>                 |            |         |           |        |        |           |
| Pop.(thousands)             | 785448     | 17931   | 29599     | 158124 | 235455 | 51362     |
| TGF                         | 2.1        | 2.2     | 2.2       | 2.0    | 2.0    | 2.1       |
| e(0) <u>e/</u>              | 74         | 70      | 72        | 79     | 72     | 74        |
| r natural                   | 0.3        | 0.7     | 1.0       | 0.3    | 0.1    | 0.4       |
| % pop. - 15 years           | 21         | 22      | 23        | 20     | 19     | 21        |
| Depend.ratio (%)            | 54         | 50      | 48        | 55     | 56     | 55        |

Source: Chackiel (1992).

a/ Overall Fertility Rate.

b/ Life Expectancy at Birth.

c/ Natural Rate of Growth.

d/  $((-15)+(65+))/(15-64)$

e/ The e(0) were maintained for 2020-2025.



## II. POPULATION MOBILITY AND SPATIAL DISTRIBUTION

### A. INTERNATIONAL MIGRATION

In Latin America, the movement of persons across international frontiers have become a complex phenomenon. They have mainly consisted in movements for purposes of residence —which is the very definition of international migration— and temporary displacements associated with seasonal fluctuations in economic activities. Both of these categories include the return to the country of origin, forced displacements involving refugees and displaced persons, undocumented migrants, long distance migrations and those to neighboring countries. Lately, a growing form of migration consists in the circulation of persons within the context of the opening of national markets and the globalization of the economy.

All of this means that international must be understood as a concept closer to that of the general mobility of persons, so that its importance undoubtedly transcends the strictly demographic consequences which, certainly, continue to be felt in several nations. Thus, international migration is an issue of concern given its repercussion in multiple dimensions, such as, for example, for countries which mainly receive immigrants and for those whose emigrants imply a certain degree of selectivity involving a possible loss of human resources or, from another point of view, when emigration constitutes a mechanism of sending the so-called "returns" back to the country of origin.

Usually, the typification of migratory movements is complicated by the lack of reliable information, a situation aggravated by, among other factors, "illegal" migration, the nature of which hinders adequate quantification both of the flow and stock (numbers) of migrants. This information problem has been highlighted for a long time as a central issue in the area of international migration, a issue difficult to resolve and which may become more difficult yet in light of the new modalities of population mobility.

In the past, when migration in several Latin American countries occurred for purposes of permanent residence, its demographic impact on growth and population age and sex structures was variable only over the long term, being concentrated in certain territories and localities. Currently, except in certain countries with small populations, the phenomenon does not seem to be producing important demographic consequences at national levels —at least in the long term— and perhaps this trend holds due to its possible loss of significance relative to migration for purposes of permanent residence.

Up to the first half of this century, international migration was very important for several countries of the region, mainly due to the numbers of European immigrants, especially in Argentina, Brazil, Cuba, Mexico, Uruguay, Venezuela and English-speaking Caribbean countries. Although of low relative importance in comparison with the total population, the Europeans represented 60% (some 3 million persons) of the foreigners in censuses around 1980 in 13 Latin American countries, a figure which is

surely larger than in previous decades.<sup>4</sup> From the point of view of their contribution to demographic growth, there is evidence to show that, for example, in Argentina, in several periods between 1870 and 1970, immigration represented up to 70% of total population growth at the end of the last century and 60% in the early 1900s, a percentage which declined progressively since the 1950s. This means that that country experienced one of the greatest demographic and social impacts of European immigration in the region (Recchini and Lattes, 1975).

With the exceptions of the omissions of unknown fractions of undocumented migrants and of the probable changes in recent years, related to economic adjustments and contractions, Annex A-9 shows the evolution of the population enumerated in censuses in countries other than those of origin around 1970 and 1980 in countries for which information is available (existence of immigrants). It is noteworthy that the relative weight is not more than 10% of the total population in each country, although in some cases it may be greater if its distribution within sub-national regions is considered.

Given the lack of reliable estimates of numbers of undocumented migrants, there have been frequent conjectures with respect to those countries which usually record high numbers of immigrants. One way of partial approach to the issue consists in considering the results of "voluntary legalization" actions. Thus, in Venezuela, 270 thousand foreigners (92% Colombians) regularized their situation between 1980 and 1981 (Torrealba, 1992); and in United States, 3 million persons (75% Mexicans) sought legalization of their residence in the country between 1982 and 1987 (Percy and Warren, 1992). Thus, the migration of undocumented persons represents another serious problem which must be faced, both in terms of diagnosis and control measures adequate to the interests of Latin American and Caribbean countries, with due care for human rights.

Currently, international migration in the region is characterized by two basic patterns: intraregional and that oriented toward industrialized countries, mainly United States. If the Mexicans in that country are excluded and without considering most Caribbean countries, censuses of around 1980 reveal figures relatively similar in both patterns. Both phenomena involve persons with diverse qualifications; an association more or less frequent is that established according to the distance migrants move, insofar as greater selectivity is found in movements involving longer distances, such as of South Americans to United States. There is less selectivity in those cases of traditional migration linked to conditions of poverty, such as Haitian migration to United States, Canada and other Caribbean nations. The migration which affects persons obliged to move  $x$ , as occurred in Central America until recently, constitutes another type of movement which usually involves groups of persons with diverse sociodemographic characteristics (entire families, professionals, small farmers, youth, the elderly).

Intraregional migration has increased considerably. The most recent information available indicates that, in the 1980s, 2 million Latin Americans were living in the region in countries other than their country of birth. Argentina and Venezuela had the highest numbers of Latin American immigrants, coming especially from neighboring countries. Thus, in the case of Argentina, most were Paraguayans, Chileans, Bolivians and Uruguayans, while, in Venezuela, most were Colombians who constituted the movement of greatest magnitude in the region. In the case of Uruguayans, emigration, nearly all of which was oriented toward Argentina, attained a rate similar to the rate of mortality between 1970-1975 and the negative migratory balance doubled natural growth in 1974, an occurrence in a country of small relative

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<sup>4</sup> Another 2 million foreigners appearing in censuses in those 13 countries came mainly from the Latin American and Caribbean region itself.

demographic size (Fortuna and Niedworok, 1985). The relevant phenomenon of migration in the Central American sub-region can be added to this description: it is estimated that 2 millions migrated during the 1980s within the context of the general crisis and conflicts which affected that region (CIREFCA, 1989).

In recent years, important numbers of persons have been returning to Central America as a result of peace accords, a phenomenon seen to occur previously in South American countries which have recovered democratic systems (Argentina, Chile, Uruguay), although in those countries the numbers are small. In any case, the return to the country of origin is a facet little studied to date and it seems clear that it is an important challenge for national societies in terms of the social reinsertion of migrants and refugees. In some cases, the return may have been obligatory for those residing in countries which suffered severe economic crises during the 1980s, as was the case for a number of Colombians in Venezuela. Nevertheless, that country continued to receive immigrants during that decade, as is indicated by the preliminary figures of the 1990 census, given that the total number of foreigners and of Colombians is unchanged from that of 1981. These trends demonstrate the dynamic which international migratory movements can generate, as well as the effects of momentary situations —both in countries of origin and those of destination— on variations in their dimensions.

Migration in the Caribbean basin is particular to that area for several reasons. One reason concerns the strong incidence of the international flow of person (that is, recurring movements with clear proposals to return), favoured perhaps by geographical proximity. There is evidence that countries, such as Bahamas, together with receiving an enormous continent of immigrants who plan to stay, have also been the transitory destination of persons from other islands, as is the case, for example, for Haitians. Another peculiarity of the Caribbean is that international emigration is a decisive demographic component in several countries, such as Dominique and Grenada, among others. Still, in spite of the intensity of movements within the sub-region, those undertaken for purposes of residence account for only 300 thousand persons, according to census information from around 1980, a figure which accounts for only 1% of the population of the area (Simmons and Guengat, 1992). On the other hand, extraterritorial migrants reached considerably higher figures, given that the population born in Cuba, Jamaica, Dominican Republic, Haiti, Trinidad and Tobago, and Barbados, recorded in the 1980 census in United States, amounted to 1.2 millions.

The emigration of Latin Americans and Caribbeans to United States has constituted a clear migratory trend, especially since the second half of this century, when it became the principal destination for regional emigration. Its magnitude is notable in absolute terms and has affected Mexico, Cuba, Dominican Republic, Colombia and several Central American and Caribbean countries notoriously. Migration to United States is complex in composition given the coexistence of highly qualified persons, undocumented migrants and those taken in as refugees and displaced persons. Generally, nearby and Caribbean countries have had historical migratory links with United States, which have been sensitive to momentary situations of diverse nature and to changes in migration law. Returns to countries of origin is a characteristic of this migration and they lend it great importance in terms of a significant influx of funds and contributions to the subsistence of family groups. This has been demonstrated by research related to Central American countries which concluded that those returns have tripled export income (El Salvador; ECLAC, 1992b).

Mexicans in United States, of whom there were more than 2 million in 1980, constitute the most important fraction of the foreign population in that country. That same year, more than 4 million Latin Americans and Caribbeans were recorded by the census in United States, a figure double that of 1970 (Annex A-10). Admission statistics for Latin Americans and Caribbeans and, especially, for Central

Americans, who entered as immigrants, have risen in the last two decades (Table II.1), which should be reflected to some extent in the North American census of 1990.

The Latin American and Caribbean character as a population "sender" is often an issue in discussions of international migration in the region, frequently addressed in an alarmist tone. However, that phenomenon must be understood in its true dimensions. According to the current estimates of population projections for twenty Latin American countries—even taking the limitations of available data into account—the net annual negative balance of regional migration will be of some 375 thousand persons for 1985-1990, or a rate of only -1 per thousand. Even though it is true that the population loss will occur throughout the Caribbean sub-region, what ought to be noticed is that the "expulsion" from the region as a whole arises from the migratory behaviour of only a few countries, in some of which that phenomenon does not have appreciable demographic effects. Proper analysis must also include the fact that emigration is not always permanent, even in those cases in which a change of habitual residence is sought.

The attraction of United States as a place for the development of professional activities (especially given the possibilities of receiving higher income) has led to a significant presence of Latin American professionals and technicians there. However, that phenomenon does not only occur in that country but is also found within the region itself. This issue is important for the repercussions which receiving or sending qualified human resources always has for developing countries, that is, when it is perceived as a modality of technology transfer. The migration law of United States has had a major impact on the admission of new Latin American immigrants, who have seen their numbers reduced with respect to total admissions, although, in practice, the number of professional and technical migrants doubled between 1970 and 1980, affecting some countries more than others (see Annex A-10). It is probable that the 1990 North American census will also show an increase in Latin American and Caribbean qualified labour, except for a proportional reduction of some flows from Central America, if the admissions data for 1974 are compared with those for 1989 (Percy and Warren, 1992). It is also probable that, as a result of changes in the North American law, the profile of professional migrants will have changed with respect to previous decades. Within Latin America, the available census data from the 1980s shows that Venezuela, Argentina and Brazil were, up to that time, the main receivers in the region, while Colombia, Chile and Argentina again had the greatest numbers of emigrants destined preferentially to the countries mentioned above (see Annex A-11).

Given the characteristics of international mobility and the weakness of the available empirical data, it is not possible to describe recent trends clearly nor is it, therefore, possible to propose solidly based hypotheses about its behaviour beyond the short term. It is clear that international migration does not usually continue over time in such a way as to project its behaviour, as occurs with birth and death rates. This is one reason why population projections, generally, suppose that it will not affect demographic trends in most countries very much. However, unresolved problems related to the quality of data (flows, numbers, undocumented persons); numerous unknown factors posed by the process of return (favoured by the processes of social pacification and democratization, or the effects of the economic crisis of the 1980s); the impact of Caribbean migration to United States; concern with trends in the migration of highly qualified person (even though it does not involve the intention of permanent residence change); and the existence of persons returning, which constitutes an essential motive for international migration, are all clearly identifiable and interrelated aspects, among perhaps many others, which assign the phenomenon a transcendence which, as indicated above, goes beyond demographic concerns and requires special attention to understand it better.

Table II.1

## UNITED STATES: POPULATION ADMITTED AS IMMIGRANT. 1970-1989

| Countries<br>or region | Immigrants admitted (thousands) |        |           |        |
|------------------------|---------------------------------|--------|-----------|--------|
|                        | 1970-1979                       | %      | 1980-1989 | %      |
| Total                  | 4231                            | 100.00 | 5811      | 100.00 |
| Mexico                 | 609                             | 14.39  | 662       | 11.39  |
| The Caribbean          | 732                             | 17.30  | 839       | 14.44  |
| Cuba                   | 271                             | 6.41   | 163       | 2.81   |
| Dominican Rep.         | 139                             | 3.29   | 225       | 3.87   |
| Haiti                  | 58                              | 1.37   | 122       | 2.10   |
| Jamaica                | 136                             | 3.21   | 205       | 3.53   |
| Trinidad and Tobago    | 63                              | 1.49   | 37        | 0.64   |
| Others                 | 65                              | 1.54   | 87        | 1.50   |
| Central America        | 118                             | 2.79   | 264       | 4.54   |
| El Salvador            | 29                              | 0.69   | 96        | 1.65   |
| Guatemala              | 23                              | 0.54   | 45        | 0.77   |
| Honduras               | 16                              | 0.38   | 37        | 0.64   |
| Nicaragua              | 11                              | 0.26   | 30        | 0.52   |
| Panama                 | 20                              | 0.47   | 29        | 0.50   |
| Others                 | 19                              | 0.45   | 27        | 0.46   |
| South America          | 260                             | 6.15   | 394       | 6.78   |
| Brazil                 | 14                              | 0.33   | 21        | 0.36   |
| Colombia               | 72                              | 1.70   | 107       | 1.84   |
| Ecuador                | 47                              | 1.11   | 47        | 0.81   |
| Guyana                 | 40                              | 0.95   | 91        | 1.57   |
| Peru                   | 25                              | 0.59   | 50        | 0.86   |
| Others                 | 62                              | 1.47   | 78        | 1.34   |
| Canada                 | 113                             | 2.67   | 114       | 1.96   |
| Europe                 | 827                             | 19.55  | 655       | 11.27  |
| Asia                   | 1453                            | 34.34  | 2681      | 46.14  |
| Africa                 | 83                              | 1.96   | 163       | 2.81   |
| Oceania                | 36                              | 0.85   | 39        | 0.67   |

Source: INS (1979) and (1989).

## Box II.1

**MIGRATION AND CRISIS IN VENEZUELA: THE CASE OF  
COLOMBIANS IN THE 1980s**

According to census figures, between 1981 and 1990, the number of Colombians resident in Venezuela grew only slightly, from 508 thousand to 530 thousand, a time during which they represented somewhat more than half of the foreigners in the country. These figures demonstrate that, compared to previous periods, Colombian immigration dropped off considerably during the 1980s (in 1971, around 180 thousand born in Colombia were recorded by census), although this was not sufficient to counteract one of the most persistent historical phenomena in Latin America: the presence of a significant contingent of Colombians in Venezuela. Up to the first half of the decade, migration back to the country of origin predominated, accounting for a negative migratory balance of Colombians. At any rate, the slight growth of the Colombian population in Venezuela between the last two censuses ratifies the continuance of traditional migratory trends because it compensated for those who died or who returned to Colombia during that period.

The return of Colombians seems to have affected a specific set of persons, as a result of the behaviour of certain components of the situation of crisis. This has been associated with lower oil income and limitations on international credit which directly affected production and influenced the devaluation of national currency and financial processes. In that context, one of the most sensitive sectors, as is usually the case, was construction, which occupied a large proportion of the non-agricultural Colombia work force: unemployment indexes were as high as double that of national unemployment between 1981 and 1986, which could be one of the principal detonating factors of the return process. Other factors associated with that process are related to the devaluation of the Bolivar, mainly affecting certain groups whose income suffered in comparative terms. However, due to low unemployment rates in the agricultural sector, to the scant impact on the buying power of poorly paid workers, as was to be expected, and to the deterioration of the employment situation in Colombia, return flows were not greater, although many workers remained in precarious situations in Venezuela. At the same time, the employment dynamics expressed in the persistent demand for agricultural and domestic workers, together with the implementation of coal mining programmes located in specific areas such as Guajira, help explain continued frontier movements and, thus, the slight increase observed in the total number of Colombians in 1990.

Most of these census data, as well as for all departures, refer to workers who entered the country legally. The general trend of undocumented immigration could have followed that of legal immigration, although it is probable that, in that case, returns would have been fewer, given the low expectations of and possibilities for upward social mobility in their country of origin for a very poorly qualified population.

**References:** Central Office of Statistics and Information (1992), Preliminary 1990 Census Figures. Torrealba, R. (1988), "Mercados de trabajo y migraciones laborales entre Colombia y Venezuela en el contexto de la crisis venezolana: 1980-1986", in G. Bidegain G. (Comp.), Las migraciones laborales colombo-venezolanas, ILDIS-UCAB-Nueva Sociedad, Caracas.

In spite of these restrictions, it is possible to suppose that, within the modalities of international migration, a kind of transitory mobility or circulation is clearly emerging, especially within the region, which may have even more varied demographic and social effects than movements for purposes of residence. Migration will continue to be characterized by sensitivity to momentary situations, although perhaps more predictably; where differences in economic opportunities (jobs, salaries) become more evident, population movements can be expected to increase temporarily. But, apart from those situations and the dynamics of migratory movements encouraged by the circuits already established -which impose a minimum basis for projecting future movements-, uncertainty arises with respect to what will happen in a context of the consolidated democracy and productive equity, as factors which may retain population, subject to new modalities of integration and the openness of national markets, which, in turn, may increase migratory movements. This uncertainty is valid insofar as certain integration initiatives do not take into account aspects related to labour mobility.

Thus, the historical patterns of mobility and specific facts, such as agreements among countries with a view to increasing commerce (Mexico-United States-Canada, Mercosur), together with developments in transportation and communications systems, are some of the aspects which will mark the probable evolution of international migratory trends in the region.

## B. SPATIAL DISTRIBUTION OF POPULATION AND URBANIZATION

The process of population redistribution in Latin America after the Second World War has combined the persistence of the more than secular trends toward concentration with a broadening of the horizons of territorial occupation. Increased concentration in ever more extensive areas has not hindered the opening of ancient unpopulated areas, the "internal frontiers", toward which a growing proportion of demographic factors have been moving. An important contribution to the gradual reduction of population "gaps" has been made by advances toward the Amazon and Orinoco basins which, accounting for somewhat more than 40% of the surface of the region, caused their populations to more than quadruple between 1950 and 1980. As a result of these complementary centripetal and centrifugal trends, a relatively important loss of population in long-established areas, with essentially agro-extractive economic bases, has occurred simultaneously with patterns of demographic concentration and dispersion.

As a synthetic, although abstract, expression of the increased use of space in the region, it is worth noting that the average population density in Latin America —following the rhythm of demographic growth— tripled between 1950 and 1990. However, the magnitude recorded in 1990 (little less than 22 persons per square Km.), continues to be considerably less than that of other regions of the planet. At any rate, the regional average does not reveal the great variety among national demographic densities, which range from 7 inhabitants per square Km. in Bolivia, to 230 in Haiti and El Salvador (see Annex A-12). While figures for South American countries, except for Ecuador and Colombia, fall below the regional average, in Mesoamerica, except for Nicaragua and Panama, the figures more than double that reference figure. Since, generally, the rhythm of demographic growth has been greater in the more densely populated countries, the panorama around 1990 reveals sharper differences than in previous years. As well, an aggregate indicator, such as national density, does not reveal the considerable contrasts which occur at local levels. Moreover, given that demographic density is only one relation between two gross quantities, it is unable to reveal or to measure so complex a correlation as that involved in the notion of population pressure on natural resources.

Changes in the modalities of population distribution in the insular territories of the Caribbean have also been important, especially because they have occurred within relatively small areas. A frequent trend, with historical roots, has been the increase in the relative importance of the population in littoral areas, a phenomenon encouraged by tourist industry development in certain localities, the evaluation of which would require finer analysis. It must also be recognized that certain recent modifications in patterns of demographic distribution are closely linked to the effects of international migration and mobility, as can be observed in the case of Bahamas, among other localities, where the differences between the demographic dynamism of the Family Islands and that of the rest of the archipelago are becoming ever more marked. As holds for the rest of the region, population densities in the countries of the Caribbean Community are also very different, one from another. Thus, in those located on the Northern coast of South America, such as Guyana and Surinam, national averages are lower than 5 persons per square Km., while in the insular sector proper, density values are considerably higher, as occurs in Barbados, where density is nearly 600 inhabitants per square Km.

One of the distinctive sociodemographic characteristics of Latin American within the Third World is its relatively high degree of urbanization. In 1950, only four of every ten Latin Americans lived in urban centres; by 1990, on the contrary, 71% of the population of the region was classified as urban (see Annex A-13). With respect to the countries of the Caribbean basin, it is important to distinguish between those with relatively reduced territorial and demographic dimensions, in which urban-rural boundaries are frankly diffuse, as is observed in Barbados or Grenada, and those larger countries in which most of the population lives in urban areas, as in Jamaica, Puerto Rico or Trinidad and Tobago. Again, the incidence of international movements has affected the degree of urbanization in several Caribbean countries decisively, the fluctuations observed in Surinam being a case in point.

Although the degree of urbanization in the different countries of Latin America has increased over time, the rhythm of increase, or rate of urbanization, has been variable. It increased sharply between 1930 and 1950, when overall population growth was spurred by abrupt declines in death rates. However, after the first half of this century and having attained an urban majority in the region, the rhythm of increase of the degree of urbanization lost impetus, which occurred immediately prior to the appearance, within the total population, of the trend toward lower birth rates, the first symptoms of which appeared within urban social contexts. At any rate, given the high urban percentage of the population of the region, it should not be a surprise that the rate urbanization has been declining in recent decades. However, the speed with which it shifted from increase to decline remains noteworthy, a phenomenon which, in other zones, seems to have taken longer periods of time.

Although taking different routes, several countries are coming to be similar to each other in terms of degrees of urbanization. This apparent trend toward convergence coincides with the negative association generally observed between the urban percentage of the population and its rate of increase. Thus, in Argentina, Chile and Uruguay, with their high degrees of urbanization, that indicator has risen only slightly in recent decades. On the contrary, in 1990, in a number of countries, the persistence of urban dynamism presages important future increases in the urban percentage of the total population, other factors remaining the same. This would seem to be the case for Haiti, Bolivia, Ecuador, Dominican Republic, Honduras and Paraguay.



By classifying Latin American countries according to degree of urban percentage in 1990, it is possible to identify four categories which, in turn, are associated to a certain extent with the different instances of demographic transition (see Annex A-13). The first includes those nations with degrees of urbanization over 80%. These are Uruguay, Argentina, Chile and Venezuela. The first three, which are classified in the advanced stage of demographic transition (or Group IV), stand out because they have had predominately urban populations for some time, to the extent that absolute growth of those areas surpassed growth of the respective total populations, meaning that the number of rural inhabitants in 1990 was less than that of 60 years ago. As could be expected, the rate of urbanization in those three countries has been lower than the regional average. Venezuela, on the other hand, has been characterized by a sweeping increase in its urban percentage, rapidly achieving the highest values in the region, while its rural population declined (that population in 1990 was similar to that of 1940). This behaviour, proper to high growth rates, corresponds to full demographic transition (Group III).

A second category of countries includes some of the most populous of the Latin American region, such as Brazil, Mexico, Colombia and Peru, which, in 1990, held 67% of the inhabitants of the region and which are in full demographic transition (Group III). In all of them, urbanization was over 69%, in 1990, and its evolution has been marked by high rates of urbanization. The case of Brazil is outstanding, given that the number of urban dwellers multiplied by a factor of 13.8 between 1930 and 1990, while its rural population declined during the 1980s until it was one magnitude less than in 1960. A fifth member of this category is Cuba, which displays fairly peculiar behaviour: it is a country in the advanced stage of demographic transition (Group IV) and its urbanization is "old", but with a notably low rate of urban growth, except in 1970, when its rural population began to decline in absolute terms.

The third category of countries displays a somewhat low degree of urbanization and includes those countries in different stages of demographic transition, although none of them is in the more advanced stages (IV). A first sub-group to be noted is that formed by Ecuador, Nicaragua and Dominican Republic, all with more than 55% urban populations, in 1990. The case of Dominican Republic stands out because, thanks to its high rate of urbanization, within a context of rapid population growth, its urban inhabitants, in 1990, were 17.2 times more numerous than in 1930. A second sub-group includes Bolivia, Costa Rica, El Salvador, Panama and Paraguay, which share a degree of urbanization between 45 and 53%. While the three Central American countries have had low rates of urbanization in the last 20 years, suggesting the deceleration of an initially vigorous process, indicators for the two South American countries show increases beginning in the 1960s.

Finally, Guatemala, Haiti and Honduras comprise the fourth category, with degrees of urbanization lower than 41%, in 1990. These countries are classified in the initial stages of demographic transition (moderate and incipient) (Groups I and II). Within this sub-group, Guatemala is outstanding, with steady, high rates of urbanization until the 1940s, when they began to decline. Meanwhile, Haiti and Honduras seem to have begun their processes of urbanization later, maintaining high levels until the end of the period.

In spite of the fact that this classification, based on the degree of urbanization achieved by Latin American countries in 1990, coincides fairly well with the stages of demographic transition according to figures for the same year, that coincidence is not perfect. Such imperfection makes it possible to suggest that the relations between the two processes, urbanization and demographic transition, are more complex than those expressed by the indicators used here. In all rigour, demographic transition must be understood as a plurality of possible behaviours and not as a kind of unique model of evolution; the true moving forces of transition correspond to sociocultural and economic factors which give validity to demographic

conduct. At the same time, urbanization is a process of change, multi-dimensional in character, the peculiar quality of which, beyond the ways in which population is located within the territory, is generated by the historical matrix within which it occurs. Therefore, improved understanding of the relations between the two processes would require lending attention to the specificities of their evolution in each particular society, an observation relevant both for what distinguishes one country from another, as well as for differences within them.

When the inequalities in demographic behaviour are analysed in greater depth, according to specific social and spatial contexts, it is seen that the intensities and changes in birth and death rates correlate more closely with urbanization than can be observed at the level of large groupings of countries. An example of this type of considerations is the frequent empirical discovery of the greater incidence of biological reproduction in rural areas, compared to urban areas; something similar is noted with respect to the moment in which decreases in relevant values occur, because it has been observed that these changes tend to become evident first in urban areas. However, mere urban classification of places reveals itself to be an insufficient key for understanding the differences which appear when the conditions of birth and death rates among countries, and even among specific localities, are compared. In those circumstances, the heterogeneity of historical matrixes, within which the conditions which determine urban realities, becomes evident.

Examination of the way in which the urbanization process of a given population evolves requires consideration of the sources of demographic input. From this perspective, it is useful to distinguish between two terms which, although intimately related and often used as synonyms, have different meanings: the concept of urbanization and that of urban population growth. Distinguishing these terms is not only useful because it provides improved understanding of the matter under consideration, but also because policy concerns are involved. While urbanization is a process which ends when it becomes impossible to increase the proportion of the total population resident in urban localities (that is, when the entire population becomes urban and the rural population ceases to exist), urban growth or increase in the number of inhabitants in localities classified as urban can continue, even if the entire population has become urban, because it will always depend on the balance between births and deaths.<sup>5</sup> Therefore, it is important to detect the factors which directly affect the demographic indicators proper to these two concepts.

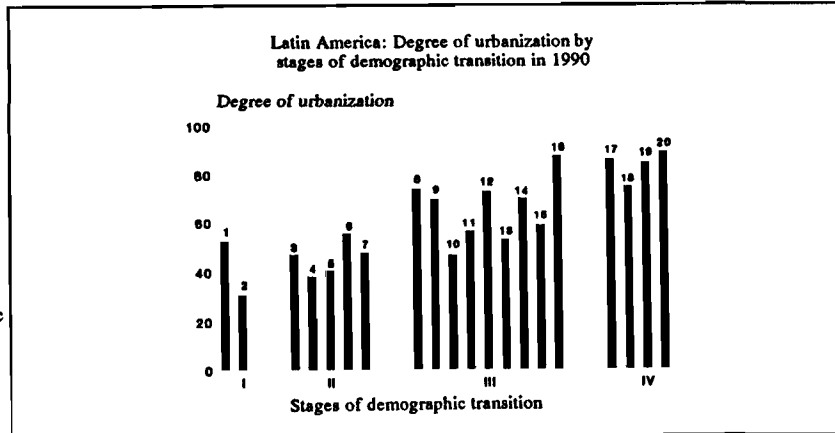
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<sup>5</sup> The confrontation of both concepts makes it clear that the rate of urbanization consists in the discrepancy between the rate of urban growth and that of the total population. By the same token, as the rate of urbanization in Latin America declines, the rhythm of urban increases tends to become similar to that of the total population.

## Box II.2

## URBANIZATION AND DEMOGRAPHIC TRANSITION

- Codes
1. Bolivia
  2. Haiti
  3. El Salvador
  4. Guatemala
  5. Honduras
  6. Nicaragua
  7. Paraguay
  8. Brazil
  9. Colombia
  10. Costa Rica
  11. Ecuador
  12. Mexico
  13. Panama
  14. Peru
  15. Dominican Republic
  16. Venezuela
  17. Argentina
  18. Cuba
  19. Chile
  20. Uruguay



Note: Within each stage of demographic transition, countries are ordered alphabetically.

In sociodemographic analysis, urbanization is frequently understood as a contributing factor process to decreases in mortality and reduced birth rates, that is, as a supporting factor for progress in demographic transition. This link is based on a series of characteristics proper to urban life which, in the case of mortality, are related to greater ease in the execution of preventive health and mass sanitary programmes among concentrated populations and the relatively better living conditions found in urban nuclei. As for birth rates, it is noted that urban life encourages the emergence and expansion of social classes and strata with possibilities of social mobility in inverse correlation with birth rates, undermining traditional behavioural norms which hinder control of offspring, and making children economically unattractive. Urban life also socializes "westernized" cultural patterns within the nuclear family and facilitates the implementation of family planning programmes and the use of contraceptive techniques, etc.

The graph reveals that the association between urbanization and demographic transition implies a network of interrelations between demographic change and social transformation. It is certainly clear that empirical evidence supports the argument presented above, given that it is systematically observed that the more urbanized groups of countries are in the more advanced stages of demographic transition. Notwithstanding this general association, the graph also makes it possible to infer that the relation between the two processes is not causal, given that there are many countries in which the degree of urbanization does not correlate with the situation of demographic transition. Thus, Bolivia, even though it is found in Group I of demographic transition, has a higher percentage of urban population than that observed for countries in full transition, such as Costa Rica and Panama; in the same way, Venezuela, whose degree of urbanization is the second highest in Latin America, is still not in an advanced stage of transition; and Cuba, included in Group IV of demographic transition, has a lower degree of urbanization than the other countries of its group and even lower than some countries in full transition. These examples indicate that the effects of urbanization on demographic transition are linked to socio-economic and cultural transformations, more than to the mere concentration of the populations involved in the process.

It can be concluded that, although there is evidence for asserting that urbanization encourages progress in demographic transition, in no way it can be attributed a causal character. Therefore, it is reasonable to indicate that there are historical specificities which define the rhythms of progress and the intensities of association which fluctuate in time and space. In synthesis, the different socio-economic modalities in which urbanization occurs generate diverse types and magnitudes of effects on the components of the dynamics of the population; for its part, the course of demographic transition is influenced by numerous factors, some of which operate with considerable autonomy vis-à-vis the degree of urbanization.

On the basis of a set of available empirical evidence, it is possible to argue that the natural rates of growth of Latin American urban population have tended to be lower than those of its rural counterpart. Such an observation is based on the higher birth rates observed in rural areas. However, the total rates of growth observed in urban populations have been systematically higher than those noted in rural areas. This apparent paradox makes it possible to postulate that the increase in the degree of urbanization is essentially due to net rural-urban migration and the re-classification of localities. Without these phenomena, which involve unequal demographic interchanges between rural and urban areas, the population of Latin America would have become rural, simply because its rural areas have been the scene of the most vigorous rhythm of natural increase. Since the opposite has occurred (that is, urbanization in the region has been on the rise), the rural population must have contributed to the increase of the urban proportion, through movements or the reclassification of rural settlements.

In order to measure this assertion about urbanization with precision and perceive the difference between it and what has occurred in the area of urban population growth, it would be necessary to dispose of information about each of the factors involved; unfortunately, that data is not available, making it necessary to have recourse to an indirect estimate. A now conventional procedure consists in establishing inter-census comparisons among cohorts of the total and urban populations, using survival ratios. Proceeding in this way, estimates of the contribution of the net rural-urban transfer are obtained (or the joint effect of net rural-urban migration and of re-classification) and, residually, the effect of natural increases is derived separately. Calculations performed on the basis of data for selected countries, with reference to different inter-census periods from between 1950 and 1990, substantiate a reiteration of what was noted above, in the sense that the increase of the degree of urbanization has mainly been due to the contribution of the net rural-urban transfer. However, the results also indicate that that same factor has accounted for, on average, less than two fifths of the growth of urban populations in each interval; as well, the remaining three fifths can be attributed to the effects of natural growth.

The analyses performed lead to the conclusion, therefore, that urban population growth is mainly due to its own demographic increases and, less importantly, to the direct contribution of rural migration; on the other hand, urbanization, or the urban proportion of the total population, is basically nourished by the net transfer of population between rural and urban areas. Of course, the preceding estimates with respect to urban growth correspond to the total for each country, although considerable differences are possible for particular cities. These data call into question appreciations such as those which argue that the increase of urban dwellers is due to the effects of "excessive" migration from rural areas. That erroneous perception seems to arise from confusion of the two concepts discussed above (urbanization and urban growth). In this way, the information provided by the exercises performed helps clarify the role played by natural growth in the urban environment, a necessary antecedent in any attempt to introduce deliberate change in the trends of a population's spatial distribution.

If the increase in the urban population of Latin America has been notable, the absolute figures involved may seem even more impressive. In fact, the number of urban inhabitants of the region grew from some 33 million, in 1930, to 66 million, in 1950, and to 320 million, in 1990, or virtually ten times more than the initial figure.<sup>6</sup> When the rhythm of growth of the urban percentage, or the rate of urbanization, tended to decline, in the 1950s, another facet of the process took on greater weight:

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<sup>6</sup> Since the total population of Latin America quadrupled in those 60 years, the discrepancy between both factors of expansion (4 in the case of total population and 10, for urban populations) makes it possible to understand the increase in the degree of urbanization.

## Box II.3

### COMPONENTS OF URBANIZATION AND URBAN POPULATION GROWTH

The degree of urbanization of a country or the percentage of its population which lives in urban localities only increases when the rhythm of urban population growth is higher than that of the rural population. That difference may be due either to the effects of natural growth or to the net transfer of persons between rural and urban localities (NRUT). The latter factor includes both the balance of migration between the two types of localities and their re-classification. Frequently, it has been observed that the rates of vegetative growth of rural populations in Latin America are higher than urban rates, thus expressing their higher birth rates. Therefore, if the degree of urbanization of the total population has risen, the explanation for that evolution must mainly be due to the contribution of NRUT. By means of indirect estimations, based on the use of survival ratios, it has been possible to confirm the high incidence which NRUT has had in the increase in the degree of urbanization in most countries, as may be seen in the accompanying Table.

The same estimations show that the growth of national urban populations, on the contrary, has mainly been due to their own vegetative growth. Only a small fraction of the growth in the number of urban dwellers is attributable to NRUT. However, there are exceptions to that generalization. The opposite has occurred in Argentina and Cuba: in both countries, NRUT was the component of greatest growth for the urban populations. Given situations of low rates of demographic increase, that situation seems to be due to the fact that the impact of a transfer, however small in magnitude, acquires great relative weight. It seems logical to expect that something similar would occur in Uruguay; that it has not happened is probably due to the repercussions of the high emigration experienced by that country in the 1970s, which would have canceled the NRUT contribution. As well, in Paraguay between 1972 and 1982, the combined effects of return international migration and the re-classification of localities inflated the effects of NRUT. The effects of re-classification was also notable in Brazil, Ecuador and Honduras.

| Countries            | Percentage of urban population growth attributable (by inter-census periods) |              |              |              |              |              | Proportional NRUT contribution to urbanization (by inter-census periods) |               |               |
|----------------------|--|--------------|--------------|--------------|--------------|--------------|--|---------------|---------------|
|                      | Natural increase   |              |              | NRUT         |              |              | 1950-60  | 1960-70       | 1970-80       |
|                      | 1950-60  | 1960-70      | 1970-80      | 1950-60      | 1960-70      | 1970-80      |  |               |               |
| Argentina            | 35.5   | 45.0         | -            | 64.5         | 55.0         | -            | 1.500  | 1.833         | -             |
| Brazil               | 50.4   | 55.1         | 50.8         | 49.6         | 44.9         | 49.2         | 1.101  | 1.124         | 1.113         |
| Colombia             | 63.4   | -            | 69.4         | 36.6         | -            | 30.6         | 0.958  | -             | 1.220         |
| Costa Rica           | -  | -            | 64.1         | -            | -            | 35.9         | -  | -             | 1.052         |
| Cuba                 | -  | -            | 39.2         | -            | -            | 60.8         | -  | -             | 1.172         |
| Chile                | 63.4   | 62.6         | 70.5         | 36.6         | 37.4         | 29.5         | 1.015  | 0.963         | 1.072         |
| Ecuador              | 62.4   | 70.4         | 50.1         | 37.6         | 29.6         | 49.9         | 0.918  | 1.119         | 1.112         |
| El Salvador          | 76.9   | 77.9         | -            | 23.1         | 22.1         | -            | 1.470  | *             | -             |
| Guatemala            | -  | 66.1         | -            | -            | 33.9         | -            | -  | 1.652         | -             |
| Honduras             | -  | -            | 55.9         | -            | -            | 44.1         | -  | -             | 1.282         |
| Mexico               | -  | 68.3         | 69.5         | -            | 31.7         | 30.5         | -  | 1.023         | 1.116         |
| Nicaragua            | 69.7   | -            | -            | 30.3         | -            | -            | 1.022  | -             | -             |
| Panama               | 68.8   | 59.8         | 70.3         | 31.2         | 40.2         | 29.7         | 1.698  | 1.237         | -             |
| Paraguay             | -  | 65.1         | 49.3         | -            | 34.9         | 50.7         | -  | *             | 1.460         |
| Peru                 | -  | 58.4         | 66.2         | -            | 41.6         | 33.8         | -  | 0.986         | 1.251         |
| Dominican Rep.       | 56.5   | 51.8         | -            | 43.5         | 48.2         | -            | 1.081  | 0.966         | -             |
| Uruguay              | -  | 92.7         | 55.2         | -            | 7.3          | 44.8         | -  | *             | 0.966         |
| Venezuela            | 63.3   | 72.7         | 72.1         | 36.7         | 27.8         | 27.9         | 1.021  | 1.006         | 1.140         |
| Estimate averages e/ | (10)<br>61.0   | (13)<br>65.0 | (13)<br>60.2 | (10)<br>39.0 | (13)<br>35.0 | (13)<br>39.8 | (10)<br>1.178  | (10)<br>1.191 | (12)<br>1.163 |

Source: Annex A-14.

urban increases began to assume greater proportions in total demographic growth. Thus, in the two decades prior to the 1990, nearly the entire increase in the Latin American population was "absorbed" by the urban environment. A different, although complementary, perspective is gained by observing what happened in rural populations. Generally, in spite of having higher rates of natural growth than their urban counterparts, the erosive impact of net migration and re-classification of localities has severely undermined their demographic potential.

Given these trends, the number of Latin American rural inhabitants has grown only slightly: from 70 million, in 1930, they grew to 93 million, in 1950, and to 124 million, in 1990, accounting for only 12% of the total demographic increase of Latin America in the last 40 years. Therefore, at the regional level, the rural population appears to be relatively stable in terms of absolute magnitude. On average, its rate of growth during the two decades prior to 1990 was only 0.4%. Moreover, in all countries, the rhythm of rural demographic growth has been notably lower than that of urban growth. In countries with a high degree of urbanization, rural residents have decreased in absolute terms. However, in countries with relatively low urban percentages and continued rapid demographic growth—Guatemala, Honduras, Nicaragua and Honduras—rural areas have maintained a certain dynamism, in spite of the high rates of growth of the urban population.

When examining the evolution of the rural population of the region, it must be kept in mind that the majority is dependent on farming, a characteristic heightened by the decline of the rural bases of other economic activities. In fact, the degree of urbanization shows a nearly perfect negative correlation with the percentage of the population economically active in farm activities. This productive specialization suggests that the destiny of the rural population is closely linked to the processes occurring in the agricultural structures, which exercise strong influence on work options. A persistent condition of Latin American agriculture is its precariousness, heightened because the rural population does not own land or has little access to that resource. In seven of countries with the largest rural populations, this situation affects more than two thirds of rural families. These restrictions have led to the proliferations of mini-ranch-style exploitations, within which the rural population subsists, lacking real expectations of social mobility and tied to "traditional" cultural norms, reproducing itself rapidly, in spite of high rates of mortality.

Within this context, the absence of organization, the lack of systematic technical assistance and difficulties of access to credit have given rise to continued pressure on the land, with the consequent over-exploitation of basic resources and the existence of relative excess populations, which find their escape valve in territorial movements, either permanent or seasonal. It is an ironic paradox that this type of problem should occur in a region which finds itself in an advantageous position relative to other continents in terms of the availability of arable land, prairies and forests. However, the paradox does not end there: the countries with the lowest levels of rural population are those in which those resources are generally most abundant and which, nevertheless, have been least able to retain their rural populations. These antecedents may lead to the conclusion that rural poverty seems not to have originated from the increase in population density with respect to renewable resources, but rather that it is linked to the lack of distributive equity (Ortega, 1992).

## Box II.4

**RURAL TRAJECTORIES AND LABOUR MARKETS**

Throughout the region, rural populations can be divided into two categories: salaried workers and small farmers with land. The social category which seems to be expanding is that of the rural proletariat dependent on salaried work. In this regard, the rural trajectory is different from that followed in industrialized countries because, in those countries, the segment of landowner farmers grew over time. The demographic trend in this regional trajectory is different because the rootedness arising from land ownership is not the same as that which originates in the labour market, especially if work is seasonal. The characteristics of the profile of rural or agricultural workers derive from situations of anomia and the lack of stability created by the geographic or temporal discontinuity of their work, which make it difficult to create laws for labour relations. This is apparent in family and group relations and, above all, in the possibilities for articulating workers' interests and their possibilities of social representation. Urban workers turn ever more frequently to these labour markets, especially for seasonal work. In counterpoint, an ever growing proportion of farm labourers work in non-agricultural activities, either in the countryside or elsewhere. For example, in Mexico, in 1980, 42.4% of the economically active rural population was engaged in non-agricultural activities, a phenomenon the importance of which can be seen by considering that, in 1970, that percentage was only 23.1%. A similar phenomenon is observed in Costa Rica, Nicaragua and Ecuador.

The dynamics of the rural market have been changing in various ways. In the process of transformation from patronage to business systems, the forms of rootedness of the populations which permanently live and work the land in large units are ever more reduced and recourse is had to the markets of independent labour located in the towns and even in the cities. Increased demand for labour for seasonal tasks (harvests, etc.) has led to the hiring of work squads in the towns and cities beset by serious job opportunity problems. The seasonal nature of the demand for labour has made temporary, rather than for steady, work more prevalent. In some areas, the supply of labour has saturated rural labour markets, to which the small landowner-farmer and landless rural workers turn. These markets are also ever more open and fluid, with ever greater radii of action, given the possibilities available to the urban and rural populations to find transportation to ever more distant places. There are also several modernized areas of production, with crops requiring abundant labour, for which a certain scarcity of labour is beginning to be felt.

In zones which employ labour intensively, allowing families to find work for sufficiently long periods that they are able to elaborate a survival strategy, there is a trend toward the establishment of settlements of populations from areas which have fewer needs for labour or where poverty is greater, spurring, over time, migrations to localities offering better work opportunities. Changes in habits, together with demographic transition toward smaller families and greater acceptance of women at work have created a climate of greater mobility for labour in function of the available work options, even though these are temporary.

Extract from: Ortega, E. (1992), "La trayectoria rural de América Latina y el Caribe", Revista de la CEPAL, N° 47, pp. 140-141.

Most of the rural population is distributed throughout a myriad of small settlements. The resulting demographic dispersion limits the real possibilities of satisfying the basic demands of a population which, given these conditions, is in great need of health care, education and other essential services, such as drinking water, sewage or electricity. Given these patterns of geographic distribution, the provision of the needed services becomes extremely onerous due to the high costs involved. At the same time, deficiencies in rural organizations are an obstacle to participation in civic decision-making processes and hinder adequate social representation of workers, reducing the visibility of the problems which burden them.

In spite of their significant contribution to the production of basic foodstuffs, progress in small-farmer agriculture has been hindered by, among other factors, the limited value assigned to their production functions and by the traditional protagonism conferred on patronage structures. To a large extent, the break-down of the link between the population and renewable natural resources stems from this situation. Sharp inequities in the distribution of land thus become a cardinal element in the restrictions faced by Latin American agriculture in terms of the strategies of productive transformation. Even though the value of agricultural production tripled between 1950 and 1990, more than 60% of the rural population is included in the poor strata of Latin America; around half of the homes of this sector are indigent. All in all, the reproduction of rural culture among small farmers, and especially within indigenous communities, is an important factor in holding the population in place (Ortega, 1992). This factor sheds light on the no-migration of large rural segments, sunk in poverty.

At the same time, the new organizational modalities established in Latin American agriculture have introduced salaried and semi-salaried labour, although only a fraction of that work force has managed organic and stable insertion in the productive process, while the great majority remains subject to hiring modalities segmented over time and characterized by instability and long periods of unemployment. However, the relative dynamism of agriculture, especially during the critical stage of the 1980s, has resulted in the creation of rural labour markets which attract the unemployed urban population. As a result, the declining trend in the contribution of the agricultural sector to the gross domestic product was halted and even reverted between 1981 and 1989. Although an important part of this apparent progress is attributable to the effects of the economic crisis on other sectors, revealing that agriculture has the capacity to absorb macroeconomic disturbances, it is also clear that there has been significant progress with respect to some products in several countries in which it was possible to expand non-traditional exports (tropical and temperate climate fruits, vegetables, flowers, etc.).

Diverse uncertainties make it difficult to perceive the future of the new agro-exporter activities, which have been so important in the generation of seasonal work. Generally, the goods produced in these activities have been vulnerable to fluctuations of demand, while supply has been very sensitive to the emergence of new sources of supply, including the possibility of substitution by the importing countries themselves (Di Girolamo, 1992). Moreover, agricultural "modernization", within which these activities are classified, has been accompanied by serious environmental problems, generated by productive methods which rely heavily on the intensive use of chemical inputs, the use of which, moreover, implies health risks for workers. Highly seasonal work, in turn, originates serious problems for the provision of attention to the basic needs of essentially mobile labourers. Finally, since this type of exploitation involves large scale production, it has created a demand for new land, often obtained at the expense of small landowners. Thus, "modernization" has acquired the characteristics of a factor of de-ruralization. Uprooted from their rural environment, farm labourers have sought "refuge" in urban areas from which they offer their labour in agricultural tasks.



Reflecting Latin American economic and social transformations, there has been a radical change in the modalities of work force distribution between activities based in either rural or urban areas. As late as 1950, more than half of the economically active population lived in the countryside; in contrast, by 1990, less than a third of active persons remained there. At the beginning of the period, only in the 4 most industrialized nations, was the proportion less than half; in 1990, that situation obtained in 14 countries, with estimates that, by century's end, in only 2 countries, Guatemala and Haiti, will the rural economically active population predominate. During the forty years prior to 1990, the Latin American work force grew at an annual average rate of 2.6%, while the fraction linked to agriculture grew at a rhythm of 0.8%. These data illustrate the magnitude of the transfer of active rural persons to urban-based sectors. Moreover, as indicated above, most rural persons live dispersed in a multitude of localities with less than two thousand inhabitants.

In contrast to the modalities of population dispersion observed in the Latin American countryside, the region has been characterized by the emergence of large nuclei of population concentrations. Traditionally, it has been said that this is a clear attribute of Latin American urbanization and that its rhythm of expansion is incessant. Some figures seem to corroborate that statement, although the inspection of the most recent data suggests that it is only partially true. By 1950, there were 7 cities with more than a million inhabitants; twenty years later, there were 18 and, by 1990, there were 38. The population of those centres grew from 17 million to 132 million persons in the last forty years. Moreover, in 1950, only one Latin American city had more than 5 million inhabitants, while, in 1990, there were five, with more than 66 million residents. In other words, in 1990, the residents of the 38 "millionaire" cities were more numerous than the entire rural population of the region (Table II.2).

Now, if the evolution of large localities is examined over time, it can be seen that their demographic dynamism has been losing force, becoming less dynamic than other centres in the national urban systems. Thus, examination of the rhythm of change of the 38 cities with more than one million inhabitants in 1990, reveals that their annual average rate of growth fell from 47 per thousand, between 1950 and 1970, to 33 per thousand, between 1970 and 1990. This behaviour has meant that those cities have maintained the proportion of the urban population they represent at practically constant levels (around 40 or 43%), although it is also true that they have increased their weight within the total population (from 17 to 30%). The deceleration of the growth of the 7 cities which had more than one million inhabitants in 1950 has been even greater; their annual average rate of growth fell from 41 per thousand, between 1950 and 1970, when they were already growing at a slower rate than all cities taken together, to 28 per thousand, between 1970 and 1990. While, in 1950, those 7 cities held 26% of the total Latin American urban population, by 1990, they held only 22%. Overall, in 1990, the group of 38 "millionaire" cities showed a trend toward slower demographic growth than the rest of the urban population of the region; from this, it is possible to infer that the capacity for relative increases of the population of those cities is less than that observed in mid-sized and small cities.

Therefore, in contrast to what was observed during the first years of the second half of the century, in most countries of the region and, presumably, since the 1960s, the largest metropolitan areas (Mexico City, Sao Paulo, Buenos Aires, Rio de Janeiro, Santiago, Caracas) have been losing their relative importance within national urban contexts, a trend which will continue at least until the end of the century. This phenomenon does not seem to be limited to the largest countries; in Bolivia, Ecuador and Honduras, as well, the largest cities have displayed less dynamism than others in the mid demographic range. However, the phenomenon becomes most visible in Cuba where the capital, Havana, has become one of the cities with the slowest growth in the country (and in all of Latin America), by virtue of deliberate policy decisions.

Table 11.2

LATIN AMERICA: CONCENTRATION OF POPULATION IN LARGE CITIES  
1950-1970-1990

|  | Cities with 1 million<br>or more inhabitants in:        |        |         | Cities with 5 million<br>or more inhabitants in:        |        |        |
|--|---|--------|---------|---|--------|--------|
|  | 1950  | 1970   | 1990    | 1950  | 1970   | 1990   |
| Number of cities   | 7   | 18     | 38      | 1   | 4      | 5      |
| Population (thousands<br>of persons)                           | 17 099  | 56 803 | 132 245 | 5 042   | 32 899 | 66 057 |
| Percentage of<br>total population                              | 10.72   | 20.51  | 30.26   | 3.16  | 11.88  | 15.11  |
| Percentage of the<br>urban population                          | 25.77   | 35.63  | 42.61   | 7.60  | 20.64  | 21.28  |
|  | Cities with<br>1 million or more<br>inhabitants in 1990 |        |         | Cities with<br>1 million or more<br>inhabitants in 1950 |        |        |
|  | 1950  | 1970   | 1990    | 1950  | 1970   | 1990   |
| Number of cities   | 38  | 38     | 38      | 7   | 7      | 7      |
| Population (thousands<br>of persons)                           | 26 931  | 69 008 | 132 245 | 17 099  | 38 648 | 67 840 |
| Percentage of the<br>total population                          | 16.88   | 24.91  | 30.26   | 10.72   | 13.95  | 15.52  |
| Percentage of<br>urban population                              | 40.59   | 43.29  | 42.61   | 25.77   | 24.25  | 21.86  |
| Annual average<br>rate of growth<br>(per thousand)             | 47.05   | 32.52  |         | 40.77   | 28.13  |        |
| Index of urban<br>predominance<br>(per thousand) <sup>a/</sup> | 3.22  | -0.79  |         | -3.04   | -5.19  |        |

Source: CELADE (1991).

<sup>a/</sup> Corresponds to the average annual rate of growth of the percentage of the urban population living in cities with more than 1 million inhabitants.

Another process observed together with this reduction in the intensity of metropolitan demographic dynamism is that related to spatial inequality in patterns of intraurban growth. Commonly, central areas have been losing population and the remaining population has been ageing, while the peripheral areas have been growing very quickly, rejuvenating their age structures and generating the need to relocate services. This process, encouraged by certain speculative uses of land, has given rise to serious pressures on public resources and has had important environmental repercussions.

In spite of these trends, everything seems to indicate that the large Latin American metropolis will continue to grow, generating ever more extensive urban or suburban regions. Moreover, several of these cities are reaching unheard of magnitudes and 4 of them are among the 10 most populous cities in the world. This expansion has strained the real possibilities of urban management in every way. Although it is true that such concentration creates a context of possibilities for the generation of economies of scale, both external and by agglomeration, with implications for other than exclusively economic concerns, for instance in diverse social and cultural areas, it is also true that the large cities are beset by serious problems. Among these, the severe limitations on the satisfaction of different types of needs, environmental deterioration and congestion are usually mentioned as outstanding. What is not clear, however, is the causal connection between those problems and the size of the cities. Rather, some of the problems are proper to the limitations of the societies within which those cities came to be. In that sense, concern should be centred, not so much on the demographic size of the city, but rather on the way it can survive in the face of those adversities. In this regard, it has been said that the inhabitants of the large metropolitan areas are, in many respects, among the privileged of the region, although, at the same time, those privileges are very unequally distributed and, in some cases, only obtain on a limited scale (ECLAC, 1992).

From an economic point of view, the large cities contain examples of the squandering of resources, as in the case of the dimensions of certain physical installations, designed in function of moments of peak use, the premature replacement of municipal structures (including entire neighborhoods), or the absence of coordination among projects requiring large investments. As for their environmental effects, large cities imply a series of new relations with their surroundings, altered through the use of technologies which have serious repercussions on quality of life itself and threaten to create future resource deficits, as occurs with the massive consumption of energy, the elimination of waste or the contamination of air and waters. In the larger cities, the forms of social segregation are also heightened by the ways in which space, housing and transportation are managed. However, even in the hypothetical case that these cities were to stop growing, these problems would subsist for a long time, given their intimate relationship with other dimensions of the modalities of development being implemented, one of the most visible manifestations of which are consumption patterns, which correlate very closely with socioeconomic inequities.

It must also be recognized that attention to certain of the requirements of metropolitan areas, such as those related to physical installations, usually involve large amounts of resources, especially because, once certain magnitudes of demand have been passed, it becomes necessary to implement changes of scale which involve the adoption of expensive technologies. One example is related to transportation and roads. Meanwhile, the decision to postpone investments in some areas, at times motivated by momentary economic restrictions, leaves the population of the large cities, especially the groups of the more unfortunate, exposed to serious risks. Deficiencies in the area of supplies of drinking water and sewage treatment became evident during the recent outbreaks of cholera. At any rate, although the efforts required for the satisfaction of the needs of metropolitan inhabitants are great, it is not clear that assigning resources elsewhere will bring greater benefits.

## Box II.5

**METROPOLITAN PROBLEMS**

In part of the specialized literature and in international forums, one frequently comes across apparent consensus on the existence of an "urban crisis", which would be caused by the "excessive" size of the principal cities and by the problems produced by that situation in most countries of the region. This affirmation is seen to be supported by the undeniable fact that the process of urbanization in Latin America and the Caribbean, with its accelerated and high degree of concentration, has undoubtedly been accompanied by serious deficiencies in the satisfaction of every sort of need, in a frankly deteriorated environment, and with severe management problems.

At the same time, a growing number of researchers believe that there are numerous possibilities, including the potential to pass beyond the threshold of underdevelopment, in the large Latin American city. They argue that the causal relation between urban size and urban problems is far from clear. By the same token, they insist that there is no direct and proportional causal association between urban size and poverty nor, moreover, does such a relation exist between size and a number of problems, such as transportation, which can occur even when considerable dimensions have not yet been reached and which seem more linked to technological, urban or cultural variables.

Usually, when the urban crisis is mentioned, problems such as low income, unemployment, housing deficits, lack of services, etc. are also mentioned, which, strictly speaking, bear no relation to the "urban fact", as such, and have an even less apparent relation to the size of cities. These are, in fact, national economic and social problems. They are mentioned among urban problems only because the high degree of demographic concentration determines, in turn, the concentration of those problems in the cities. In this regard, it is often said that the lack of resources, proper to developing countries, is the cause of Latin American urban problems. However, this argument is so general that, obviously, it could account for all of the problems of the region and not only urban problems. Moreover, if attention is paid to the fact that the problems described as being proper to cities reveal appreciable levels of economic inefficiency and waste, that explanation must be called into question: the way resources are used and distributed is as important as their scarcity. In this sense, the economic crisis has had the virtue of exposing the irrationality of the way in which resources are used in the Latin American metropolis, at least from the point of view of the general interest.

In brief, the most important metropolitan problems of the large cities are not necessarily directly related to their size; rather, they are linked to the ways in which growth and the distribution of urbanization costs and benefits are organized. Inefficient economic management, atmospheric contamination, transportation problems and those related to the poverty of the city are more directly related to urban management and the contradiction between the privatization of benefits and the socialization of costs than to the demographic size of the metropolis.

Extract from: ECLAC (1989), La crisis urbana en América Latina. Reflexiones sobre alternativas de solución, Economic Commission for Latin America and the Caribbean, Santiago, Chile (LC/G.1571-P), pp. 81-87.

Serious as the problems which affect metropolitan areas may be, needs observed in other localities, smaller but growing rapidly in terms of demographic growth, are equally severe. Some of these urban centres are "new" in the sense that their growth has been stimulated by the exploitation of fixed resources, the development of large economic projects, the concession of tax incentives or territorial occupation. In some cases, the future is uncertain, given that the very existence of those centres depends on the fluctuations of the principal, sometimes sole, activity in the area. They are also "new" in terms of their inhabitants, a high proportion of whom are recent migrants, who experience the difficulties of insertion into the socioeconomic and cultural context of these localities. In those conditions, attention to the fundamental needs of the population is frequently lacking, producing generalized situations of vulnerability vis-a-vis different risks. At the same time, episodes of abrupt population increases in those localities often involve environmental repercussions. However, together with representing potential alternatives for re-settling the inhabitants of a country, these experiences could also become embryos in a process of decentralization, understood as part of a strategy of productive transformation with equity.

### C. SPATIAL MOBILITY AND INTERNAL MIGRATION IN LATIN AMERICA

The concept of internal migration refers to population movements over time and throughout the territory of a country. Although it is necessary to cover both dimensions, generally valid criteria are lacking for the definition and analysis of the units of reference to be used to achieve this purpose. There is no unequivocal means of defining the time period necessary for a given movement to be classified as a migration; analogously, there is no clear definition of the type of geographic frontier which must be crossed to constitute a migration. In the face of these ambiguities, it has been common practice to consider internal migration as the range of changes of habitual residence among the different territorial divisions of a country. This usage undoubtedly aids in the identification of the object of interest, given that it eliminates simple moves within geographical units. However, it also excludes a wide range of movements which, without involving the abandonment of the previous residence, constitute phenomena which should be analysed from the perspective of the social and economic transformations which have occurred in the region.

In Latin America, there is not only internal migration, as such, but also a set of forms of spatial mobility which include itinerant, periodic, seasonal, cyclical and circulatory movements, as well as some which involve short distances. Even though these movements, which do not imply a change of habitual residence, have occurred throughout history, as seen in seasonal worker movements for annual harvests, especially in agro-export areas, their magnitude and diversity seem to have grown in recent decades. In contrast to previous years, it has recently been observed that an important fraction of "temporary" labour has an urban base. However, this seasonal modality is not only linked to activities of the primary sector or to agroindustry. There is evidence that, for a long time, some small farmers and farm workers have been moving periodically to urban areas where they work in construction and certain service jobs and, having acquired some income, return to their rural residences. A somewhat similar phenomenon has been observed with respect to mining centres.

Among the determinant factors for the greater contemporary incidence of temporal mobility, there are, among others, the new conditions for the operation of labour markets, the effects of the economic crisis of the 1980s, the repercussions of structural adjustment policies, the impact of the reorientation of the overall thrust of the economy, the growing incorporation of capital and technology into certain sectors of production, the diversification of exports with emphasis on non-traditional goods and the incorporation of advances in transportation and communications. This complex set of factors makes it possible to suppose that the patterns of social organization of the countries of the region are fully engaged in a process of restructuration, including signs and messages of the reestablishment of democracy, of formulae for reconciliation and consensus, together with cultural "modernization".

In summary, a series of diverse alterations are encouraging forms of population movement throughout regional territories, constituting alternatives to migration, in a strict sense. Those same circumstances are producing a multiplication of residences, requiring, perhaps, a redefinition of the living spaces of an ample segment of the population. From another perspective, the increase of "floating" populations seems to have particularly severe effects on the provision of certain basic services, such as health care, generating pressures which fluctuate over time and in different spatial units. In other words, temporal mobility throughout the territory is accompanied by new expressions of the basic problems affecting the population.

Probably the most striking case of this type of change is that of temporal movements in function of the seasonal nature of agriculture production, the effects of which have been sharpened by the new labour relations being defined in urban and rural contexts. Agricultural "modernization" has implied the more intensive use of basic resources and of temporal salaried labour. Thus, during the critical harvest periods, workers, who do not necessarily live in the countryside and who have a certain level of qualification, are hired or sub-contracted. This style of hiring also occurs in some types of industries, such as agro-industry and in-bond assembly operations, as well as in the mining sector. In the case of mining, a sector in which the seasonal nature of work is linked to the fortunes of discovery and extinction of ore loads, together with the international fluctuations of ore prices, demographic fluidity is very common, as observed in the "garimpeiros" of Brazil, and of the "pirquineros" of the Andean countries.

Movements linked to the advance of population toward areas of colonization on the internal frontiers are one of the most important sociodemographic phenomena of the last 30 or 40 years. As well, there are temporal and cyclical forms of spatial mobility, with departure and return circuits. Current processes are diverse in nature, depending on the population and nature of the spaces involved. Thus, in Brazil, rural dwellers of the impoverished Northeast, profoundly affected by recurring cycles of severe drought, have moved into the lower Amazon basin, managing to reproduce their styles of working the land. Only part of this movement has occurred in response to official policy and programmes, while the greater part of that migration has been "spontaneous". At the same time, in the Gran Pantanal area and the upper Amazon basin, the pioneering action of agricultural workers from the states of Parana and Sao Paulo has been observed, places from which they have been expelled by the introduction of advanced technologies, crop substitution, and the implantation of quasi-industrial modalities of agricultural exploitation. Frequently, after a certain time, these areas of farm worker colonization are replaced by the intervention of companies which displace the initial occupants toward urban centres or to even more remote localities. The repetition of this process creates the impression that internal frontiers have been virtually exhausted.

## Box II.6

**PERCEPTIONS OF TEMPORAL MOBILITY**

On writing about temporary migration in Brazil, I imagined that I could avoid the traps those never-ending journeys laid for me by defining them conceptually, as always: stopping that which moves, making present that which is absent. We ask: how long a period of absence is necessary to define temporary migration? Is it the few days a worker spends in a nearby region harvesting oranges or the many years before a worker returns to his home, after spending his whole life in a factory in São Paulo? If, in demographic terms, duration, "temporality", is essential to the study of internal migration, the notion of absence is vital, in sociological terms. If absence is at the heart of the consciousness of the temporary migrant, it is because he has not completed and closed the migratory process, with its two polar and exclusive moments: dissocialization in the place of origin and resocialization in the place of "adoption".

From a sociological perspective, on returning, the temporary migrant is not the same. And, by leaving in the conditions in which he leaves, he changes the social relations of his group of origin; he alters family organization, the division of domestic labour, each one's place in the family. What he finds on returning is not what he left. Census data are insufficient to render a clear image of temporary migrants. When the census is taken, on September 1 of years ending in zero, thousands of farm workers, called "corumbas", are leaving the Agreste region in the State of Pernambuco to cut sugar cane in the Mata area. They will only return to their homes in March, with the first rains. At that same time, the farm labourers who had left the Jequitinhonha Valley in Minas Gerais to cut cane in the Ribeirao Preto Region of São Paulo are returning to their homes to prepare their own land for planting. These movements do not appear in the censuses, especially when the whole family moves, to return later, or when it is temporarily in a place for a long time, as happens with many workers and technicians who work on dam construction.

From a wide range of situations, three constitute clear modalities of temporary migration. First, there are the cyclical migrations, with clear departure and return times, a defined rhythm, usually combining different agricultural cycles, constituting temporary migrations, properly so-called; they are dominated by the rhythm of the seasons of the year, the planting, growth and harvest of agricultural produce. Second, there is temporary migration regulated by the cultivation calendar of the migrant himself, in his place of origin; at his destination, that is, the large city, industry, or construction site, the work process is dominated by the lineal time of capital, continuous -if one worker goes away, he is replaced by another-, without seasons, without day or night. Finally, there are migrations dominated by the irregular rhythm of large projects, either public or private, such as the construction of dams and highways or other works requiring thousands of labourers, projects which need not obey the cycle of the seasons and which generate many jobs very quickly and, with the same intensity, much unemployment. This is where temporary migration tends most often to become permanent.

Extract from: de Souza-Martins, J. (1986), "El vuelo de las golondrinas: migración temporaria en el Brasil", in PISPAL/CIUDAD/CENEP, Colegio de México, Mexico, pp. 183-205.

The eastern side of the Andes, especially near the rivers which flow to the Amazon and the Orinoco, has also been the site of vigorous, if irregular, settlement in recent decades. Again, farm exploitation has been the cutting edge of this form of penetration into "empty" spaces. At the same time, exploitation of hydrocarbons and forest products has caused semi-permanent population movements, with obvious depredatory effects on the environment. Moreover, in different areas, this penetration has put pressure on the indigenous populations, amounting to their virtual extermination. In more than one instance, the dynamic effects of drug traffic have been observed, for example, in the eastern areas of Bolivia, the jungle of Peru and the Southeast of Colombia. The Paraná basin, in eastern Paraguay, has seen its population grow notoriously in recent years, constituting a significant redistribution of the farm population from the centre of the country toward the frontier with Brazil. In Honduras, Costa Rica and Panama, advances on the Caribbean coast have also been incessant, accompanied by serious disruptions of native ecosystems. All of these cases involve high levels of demographic fluidity.

Many processes of frontier occupation have had to face severe problems, such as relative isolation, difficult access to markets, the lack of technical and credit support and the absence of essential services. These circumstances seem to aggravate the challenges faced by strategies designed to promote productive transformation systematically and, certainly, they reveal the social inequities associated with these movements, which themselves reveal evident instability in population settlement. If the flow of persons into areas of colonization is of great demographic importance, their effects are counteracted by counter-flows of equal importance. This latter phenomenon is not only explained by the intervention of companies replacing colonizers, as mentioned above, but also by the extreme precariousness of daily life in recently occupied areas. Moreover, examination of the generally high indexes of the presence of males in those settlements reveals that the majority are unaccompanied young adult men, without their families, a fact which could be interpreted as indicating the tentative nature of the colonization phenomenon.

The very nature of the highly fragile, hot and rainy inter-tropical ecosystems, together with the absence of appropriate technology for operations in that type of environment, seem to make disastrous episodes common, relevant not only at local levels but in global terms, as well. Instances of massive deforestation, produced by harvesting or burning off vegetation, by the leaching of soils, the high iron content of which oxidizes rapidly, by flooding of rivers, often contaminated with pesticides and other chemical agents, are only a few examples of the complications associated with the opening of frontiers. Naturally, this environmental impact is not only to be associated with periodic movements of workers, but also to the modalities of exploitation of non-renewable resources implemented by large companies.

Another type of "emergent" spatial mobility in Latin America is that observed within large metropolitan areas, the evolution of which is intimately related to ever increasing segregation in patterns of the appropriation and use of urban space. Even though this trend is different from country to country and is not an instance of seasonal movement, it has become ever more prevalent, as the old, traditional "centres" of the cities have been replaced by new commercial and financial nuclei in high income neighborhoods. A case in point is Santiago, Chile, where, since the early 1980s, official policy promoted the massive removal of poor families living in marginal housing ("mushroom settlements"), located in central and high income areas ("high town"). These forced removals, known by the euphemism "transferals", implied relocating groups of poor persons to small units, of solid construction and offered at comparatively advantageous credit conditions, but located far from job sites, in peripheral sectors already occupied by hovels for years.



Transferals such as these have occurred in several of the larger cities of the region, albeit in different contextual conditions. Their effects on patterns of social and spatial stratification have made inequities more acute, clearly revealing the contrast between wealth and poverty. These population movements, motivated by regulatory decisions, have also had their impact on differentiated revaluations of urban space. On the other hand, displacements of low income sectors, the homeless, to vacant land, as occurs in the precarious occupation ("invasions", "seizures") of those areas, constitute a type of intraurban spatial mobility which has taken on special meaning since mid century. An example of this phenomenon are the "young towns" of Lima, where the initial motive for the movements, linked to claiming the right to a roof, has led, in some cases, to novel forms of popular urbanization and styles of self-management.

Coherently with urbanization trends, recent studies of migratory flows for the purpose of changing residence (migration in a strict sense) between urban and rural areas show that, in most countries of the region and at least since the 1970s, the main flow is that in which both origin and destination are urban. For example, in Peru, between 1972 and 1978, inter-urban migration already accounted for 48% of the movements which involve the four types of flow connecting city and countryside.<sup>7</sup> Meanwhile, in Chile, for the 1965-1970 five year period, rural-urban movements accounted for only a quarter of total migration. In countries with longer histories of urbanization and in the more advanced stages of demographic transition, such as Uruguay and Argentina, inter-urban mobility has been prevalent for many years. In Brazil, it has been discovered that, although a significant flow of migrants from the countryside to the cities continues, such a massive rural exodus as occurred between 1950 and 1980, which eventually involved numbers equivalent to a third of the total rural population at the beginning of the period, cannot be expected in the future. However, it must be noted that rural-urban flows will continue to be significant in countries with relatively low levels of urbanization.

Although several of the large cities of the region have had rates of demographic growth lower than those observed in the other national urban systems in recent years, this does not mean that emigration from metropolitan areas is predominant. In fact, this apparently reduced dynamism is, to a large extent, explained by the shift of fertility toward magnitudes clearly lower than those obtained in other localities of the same country. The migratory balances of most large cities continue to be positive, although their contribution to the total population rarely exceeds that of vegetative growth. This net balance is due essentially to urban immigration. At any rate, as noted above, the data available for recent decades make it possible to argue that the metropolitan areas of the region have lost their migratory attraction. However, even though it seems premature to speak of a reversion of what have been common migratory trends, the cases of Buenos Aires, Montevideo and Havana seem to suggest an important change in direction, at times taking the form of return migration, at times of international migration. Intermediate cities are different, given that in several countries they have displayed higher levels of attraction than is frequently suspected.

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<sup>7</sup> The flows of demographic interchange between urban and rural environments are of four kinds, considering both areas, successively, as origin and destination: rural-rural; rural-urban; urban-rural; urban-urban.

Rural-urban migration continued during the 1970s and 1980s in several countries of "tardy" urbanization, such as Paraguay, Guatemala, Haiti and Honduras. However, even in those instances, the relative weight of that flow has often been surpassed by movements between rural contexts, often closely linked to the occupation of "resource frontiers". However, as already noted with respect to temporary mobility, this type of migration seems to be losing force. Factors related to land tenancy, the availability of capital and technology, access to markets, the satisfaction of basic needs and environmental conditions have become serious obstacles to this type of colonization. Those fronts which have involved large human contingents, such as in Rondonia, Brazil, include movements among rural sectors and between those areas and the new urban storage and supply centres which have been springing up.

But the occupation of "empty" spaces has not been limited only to hot and rainy environments. The arid North of Mexico, a traditional sender of population in the past, has been a very attractive zone, especially since the 1950s, when irrigation programmes became more intensive. The syndrome of the economic and sociocultural externalities of the border with the United States, where, together with constituting a long transit corridor, a number of dynamic urban centres have served as sites for the in-bond assembly industry, is another determinant factor for this phenomenon. On the other hand, in the extreme South of the continent, the Argentinean Patagonia has experienced sustained demographic growth, linked to the development of fruit production in the Rio Negro Valley, to the exploitation of diverse sources of energy and the location of industries under cover of protectionist laws. Although these experiences have not had the repercussions of those occurring in hot, rainy inter-tropical zones, they still indicate a certain degree of population instability.

According to censuses taken during the 1980s, migration between large geographic units seems to have decreased or remained stable, as can be observed in Argentina, Colombia, Chile, Honduras and Uruguay. It may be that those shifts were replaced by temporary movements which have not involved changes in residence. In other cases, migration and diverse forms of international mobility have contributed to virtually unobserved movements within national territories. In contrast to the decades immediately following the Second World War, the 1970s initiated the long critical period which has afflicted Latin America. It is highly probable that, under the sway of economic contraction, the factors which stimulated migration in the past have lost their validity. Economic growth rates tended to fall and episodes of massive unemployment became more frequent, especially in some areas of traditional migratory attraction. In some countries, it was also a time during which civil society was displaced, the management of which was taken on by repressive military regimes. Within these conditions, so-called "urban problems" tended to proliferate, together with military "solutions" which led to nearly permanent states of marshal law. These circumstances constituted a sort of inhibition for some migratory patterns.

It seems certain that movements throughout territories are highly sensitive to momentary fluctuations. The adversities of the so-called "lost Decade" seem to be reflected in the migration data yielded by the latest population censuses taken in some countries of the region. That information leads to the inference that those who could have constituted the cohorts of migrants delayed their decision to change their place of habitual residence, a resolution which, eventually, would mean that they would not move later, because that delay was to coincide with their entrance in to those ages in which the impulse to move loses force. For example, in Honduras, the intensity of inter-departmental migration, between 1983 and 1988, was considerably less than what could have been expected in light of the rates of previous periods. Something similar occurred in Costa Rica between 1979 and 1984. At that time, traditional sender regions proved more likely to retain population, while those

which had been attractive receivers of population saw their immigration rates fall. This is still only a hypothesis.

With regard to the specific characteristics of spatial movements of population within each country, certain specially important attributes stand out, such as the age and sex of the migrants. It has already been noted that the tendency to migrate is not a constant by age; most of those who adopt the decision to change their habitual residence from one spatial unit to another are young adults, at the end of their normal schooling, soon to begin their life of work, and who have not yet constituted families apart from those of their progenitors. Although adequate information is not available, current indicators suggest that several of these characteristics are also common among those who participate in many forms of temporary mobility. However, it is necessary to recognize that the presence of family groups is less frequent in the latter modality of movement. Clearly, this migrational selectivity by age produces enduring effects on the populations both in areas of origin and of destination, in terms of marriage rates and reproductive behaviours, as well as in terms of impact on socioeconomic evolution.

Nevertheless, the most striking characteristics of Latin American internal migration and spatial mobility are, perhaps, those related to sex. Since the early 1960s, the clear predominance of women in rural-urban migration has been recognized. This frequent find is even more manifest in movements to large cities, involving low indexes of men which, for the last twenty years, has led to the supposition that women were also the majority among those who changed urban localities of residence. The data from censuses taken during 1980s only confirms that impression. Everything seems to indicate that women form even larger majorities in countries with higher levels of urbanization. In contrast, men have been the majority in movements with rural destinations, as can be deduced from information about colonization zones in Costa Rica, Ecuador and Paraguay. It has also been possible to observe that, in migratory movements from more depressed to more dynamic spatial units, there tend to be more women than men. By virtue of these fairly enduring trends, rural areas in many Latin American countries have relatively high indexes of men, while the opposite obtains for urban areas.

## Box II.7

## COSTA RICA: MIGRATORY RETRACTION IN A CONTEXT OF CRISIS

In Costa Rica, according to the data yielded by the last two national population censuses, internal migration has tended to decrease: between 1969 and 1973, somewhat more than 100 thousand persons changed their residence from one region to another; between 1979 and 1984, only 95 thousand did so. That absolute decrease is reflected in a decrease in the overall rate of inter-regional migration, from 13 to 9 per thousand. While in the first five year period, men predominated among migrants, in the second period, women were the majority. With respect to regional interactions, the Central region, which is the most urbanized, was the destination of 43 and 39% of all inter-regional migrants in their respective five year periods. These proportions were higher for women, suggesting that the capital (San Jose) attracts women preferentially. The situation in Huetar Atlantica and Huetar Norte is quite different, with fairly high immigration rates (the majority, men). Chorotega, Pacifico Central and, less so, Brunca, appear to be population sender regions, especially of women. Comparison of the data for the two five year periods reveals that the three regions preferred as destinations (Huetar Atlantica, Huetar Norte and Central) became less attractive, while the other three retained their condition as senders, although with lower relative magnitudes. These changes make it possible to sustain the hypothesis that, in more backward areas, the depressive effects of the economic crisis of the early 1980s were felt less intensely and, therefore, would have served as eventual "refuges" for the active population. Meanwhile, the activities of the heretofore attractive regions may have been more vulnerable to the depression, as can be seen, for example, in the increased unemployment and drop in salaries in San Jose.

| Regions          | Population         | Population       | Non<br>migrants  | Immi-<br>grants | Emi-<br>grants | Net<br>migration | Rates (per thousand) |               |               |
|------------------|--------------------|------------------|------------------|-----------------|----------------|------------------|----------------------|---------------|---------------|
|                  | 1968               | 1973             |                  |                 |                |                  | 1968-<br>1973        | 1968-<br>1973 | 1968-<br>1973 |
|                  | (5 years and more) |                  |                  |                 |                |                  |                      |               |               |
| Central          | 1 008 481          | 1 025 135        | 981 752          | 43 383          | 26 729         | 16 654           | 8.53                 | 5.25          | 3.28          |
| Chorotega        | 167 272            | 150 129          | 144 242          | 5 887           | 23 030         | -17 143          | 7.42                 | 29.02         | -21.60        |
| Pacif. Central   | 113 362            | 103 612          | 95 426           | 8 186           | 17 936         | -9 750           | 15.09                | 33.07         | -17.97        |
| Brunca           | 146 957            | 144 024          | 130 680          | 13 344          | 16 277         | -2 933           | 18.34                | 22.38         | -4.03         |
| Huetar Norte     | 73 085             | 77 237           | 65 586           | 11 651          | 7 499          | 4 152            | 31.00                | 19.95         | 11.05         |
| Huetar Atlantica | 87 148             | 96 168           | 78 484           | 17 684          | 8 664          | 9 020            | 38.59                | 18.91         | 16.98         |
| <b>Total</b>     | <b>1 596 305</b>   | <b>1 596 305</b> | <b>1 496 170</b> | <b>100 315</b>  | <b>100 135</b> | <b>0</b>         | <b>12.54</b>         | <b>12.54</b>  | <b>-</b>      |

| Regions          | Population         | Population       | Non<br>migrants  | Immi-<br>grants | Emi-<br>grants | Net<br>migration | Rates (per thousand) |               |               |
|------------------|--------------------|------------------|------------------|-----------------|----------------|------------------|----------------------|---------------|---------------|
|                  | 1968               | 1973             |                  |                 |                |                  | 1968-<br>1973        | 1968-<br>1973 | 1968-<br>1973 |
|                  | (5 years and more) |                  |                  |                 |                |                  |                      |               |               |
| Central          | 1 319 212          | 1 325 311        | 1 288 027        | 37 284          | 31 185         | 6 099            | 5.64                 | 4.72          | 0.92          |
| Chorotega        | 177 520            | 166 668          | 159 217          | 7 451           | 18 303         | -10 852          | 8.66                 | 21.27         | -12.61        |
| Pacif. Central   | 120 970            | 117 644          | 109 280          | 8 364           | 11 690         | -3 326           | 14.02                | 19.60         | -5.58         |
| Brunca           | 190 742            | 189 450          | 177 867          | 11 583          | 12 875         | -1 292           | 12.19                | 13.55         | -1.36         |
| Huetar Norte     | 114 155            | 115 168          | 102 835          | 12 333          | 11 320         | 1 013            | 21.51                | 19.75         | 1.77          |
| Huetar Atlantica | 132 995            | 141 353          | 123 037          | 18 316          | 9 958          | 8 358            | 26.70                | 14.52         | 12.19         |
| <b>Total</b>     | <b>2 055 594</b>   | <b>2 055 594</b> | <b>1 960 263</b> | <b>95 331</b>   | <b>95 331</b>  | <b>0</b>         | <b>9.28</b>          | <b>9.28</b>   | <b>-</b>      |

Source: CELADE-UNFPA (1990), *Población y espacio en Costa Rica: exploración de necesidades de cooperación en el marco del Programa de Asistencia del Fondo de Población de las Naciones Unidas al Gobierno de Costa Rica*. CELADE, Santiago, Chile.

## Box II.8

**MIGRATION, MOBILITY AND DEMOGRAPHIC STRATEGIES IN RURAL PERU**

A set of studies of rural families in 4 zones in Peru includes analysis of the demographic strategies implemented in those areas. Two of these zones are poor, with ecological restrictions (Altiplano de Puno and Bajo Piura), while the other two afford better living conditions (Cañete and Tambopata). The demographic strategies developed in these zones seem to be more related to migration and mobility than to control of fertility.

The highest average birth rate was found in Bajo Piura, which also had the lowest ages for marriage and the briefest intervals between pregnancies of the four zones. The couples of this valley, the poorest of the studies' sample, have the greatest number of dependents and do not regulate their fertility. In contrast, the Altiplano families have the lowest birth rates, due to late marriages and prolonged intervals between births; late marriage seems to be related to inheritance customs and not to efforts to reduce fertility. However, an average of 3 years between births suggests birth control and there is evidence that this zone has one of the highest abortion rates in the country. In Cañete and Tambopata, no evidence of birth control was discovered.

In zones affected by economic recession, migration strategies were clearly in use, taking the form of sending dependents away from most Altiplano and Bajo Piura homes permanently: more than 23% of the natives were living away at the time of the study. In Altiplano, more than 81% of homes had at least one emigrant older than 15 years of age. The principal destinations were Lima for the migrants from Bajo Piura and Arequipa; Lima and Tambopata for those from Altiplano. Seasonal mobility was a common strategy in Altiplano: farm workers moved to colonization areas or to rice plantations on the Coast during the inactive period in the Altiplano. Permanent migration and seasonal mobility are combined strategies for balancing availability of and demand for domestic labour, the equilibrium of which is determined by average annual endogenous demand: excesses result in permanent emigration and deficits or temporary surpluses are resolved by hiring temporary labourers or by seasonal emigration. In Bajo Piura, seasonal mobility, consisting only in brief movements during the cotton harvest in cooperative farms, was the strategy used to increase cash income and achieve maximum use of labour.

Both permanent and seasonal migration to developing areas were of less importance. Most household heads in colonization areas were from the Altiplano. In Cañete, most farmers were natives of the valley. Immigration to this zone had been important in the 19960s and 1970s, as farms were collectivized by the Agrarian Reform. Many migrants became workers on the new cooperatives. In Tambopata, seasonal mobility continues on the part of Andean farm labourers who go down to the valley to harvest coffee and, then, return to the Altiplano. In summary, in contrast with the most recessive zones, neither fertility nor migration were decisive strategies for family subsistence in the more developed zones.

Extract from: Aramburú, C. (1990), "Familia y mano de obra en el sector rural del Perú", in Vlassoff, C. and Barkat-e-Kudha, eds., Repercusiones de la modernización sobre el desarrollo y el comportamiento demográfico, CIID, Ottawa, pp. 106-109.



### III. INEQUITIES IN DEMOGRAPHIC BEHAVIOUR

There is ample evidence to indicate a close association between lower levels of development —or situations of poverty, in general— and higher rates of population growth, mainly stemming from high birth rates. Thus, national poverty levels are directly related to the classification of countries within the stages of demographic transition, even though situations of poverty and inequity occur in all countries, even in those with lower growth rates.

In fact, as mentioned above, the average demographic behaviour of the countries of the region, including those in the more advanced stages of the transition process, obscures important differences, both among geographic areas and among the different social sectors of the population. Spatial and social differences are inter-related, given that those sectors with lower incomes usually occupy the most deteriorated land in the countryside and the most unhealthy areas in the cities. In other words, instead of one process of demographic transition in each country, there are rather sectors in different stages of transition, from sub-populations with very high birth and death rates to others which have completed the transition process.

With regard to geographic contexts, it is necessary to note that the behaviour of each biological reproduction indicator responds to its own socioeconomic and cultural particularities and not to simple taxonomic distinctions among them. Thus, for example, there are cities with demographic indicators which may be dissimilar, due to the fact that their social and economic structures have been historically different. What is important to note is that such heterogeneity, generally, implies situations of inequity in terms of the possibilities of access to the benefits of economic development.

#### A. DIFFERENCES IN DEMOGRAPHIC PATTERNS

Research performed on the basis of census data and surveys has made it possible to observe birth rate trends, measured by the number of children per woman and infant mortality, in countries in different stages of transition and to stratify the population according to selected variables, for example, the degree of urbanization and years of education of the mother.

Overall behaviour indicates that birth rates are higher in rural areas and within the most marginated social sectors. In countries in the early stages of transition, those differences are sharper and tend to become more acute, given that birth rates fall first in urban areas and, in them, probably among those populations with a certain level of education. In contrast, birth rates may rise in rural zones due to eventual improvements in certain aspects of the population's health, unaccompanied as yet by changes in reproductive behaviour, a phenomenon observed in various countries of the region in the 1950s and early 1960s. In countries advancing rapidly in the transition process, with important changes in overall

birth rates, there is a trend toward convergence around a relatively low number of children, although, in all cases analysed, internal differences persist (Graph III.1). Table III.1 presents recent data on birth rate differences, revealing that, in all of the countries analysed, uneducated women, such as those living in rural areas, have an average of 5 or more children, while in 5 of the 8 countries of that group, the overall birth rate among women with secondary educations or higher is around 2 children.

This evidence clearly shows that any population programme which includes maternal-infant health services or which proposes to affect birth rates must necessarily extend its services to rural sectors and to poorly educated women.

As is true for birth rates, estimates for infant mortality by place of residence and the mothers' education, for countries in different stages of transition, reveal important differences. According to the educational level of mothers, children in greatest risk of dying during their first year of life are found in rural sectors and were born to illiterate mothers, whose children are, in some cases, more than three times more likely to die than those of mothers with secondary and university educations (Table III.1).

Sharp contrasts also appear when ethnic origin is considered, given that the death rate among children in indigenous communities is notoriously higher than that among other children, a fact which clearly demonstrates the vulnerability of those populations. For example, research based on census data shows that, in Bolivia (1976), the infant death rate of the Quecha-speaking only population was 218 per thousand live births, while for the Spanish-speakers it was 137 per thousand. In Guatemala (1981), the chances of dying before reaching two years of age was 128 per thousand for indigenous persons and 101 per thousand for the non-indigenous population (OPS, 1990). Recent research in Chile (1988) shows that the infant mortality rate in indigenous communities was 45 per thousand, while, at the same time, the national rate was 17 per thousand and, in the better-off neighborhoods of Santiago, the capital city, it was slightly more than 10 per thousand.

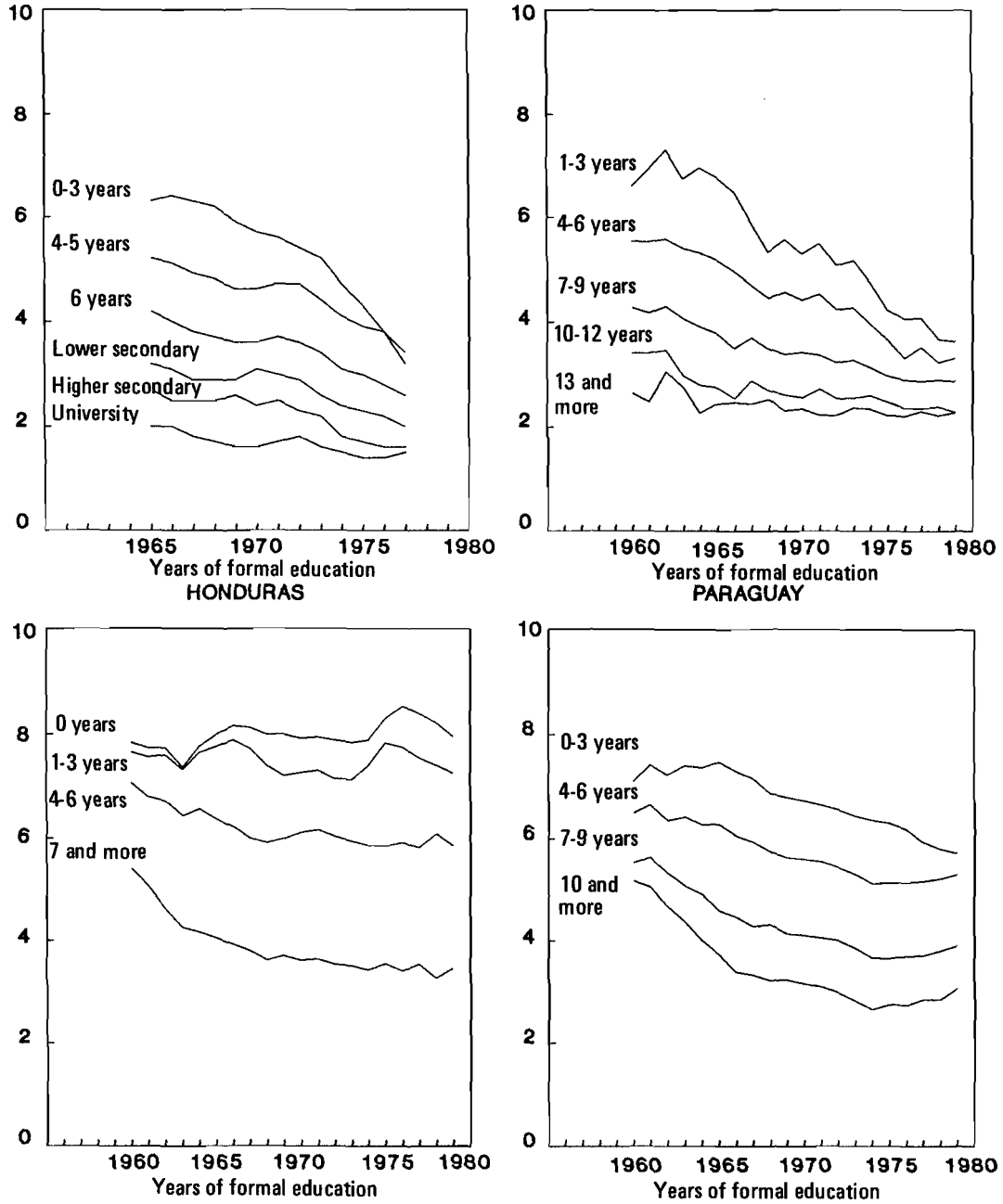
In spite of the process of urbanization, half or more births occur in rural areas in the countries of Groups I and II. Exposed to higher risks of dying, the members of this group generate approximately two thirds of total infant deaths. Moreover, in countries with high mortality rates, most infant deaths (between 60 and 80%) occur in homes of poorly educated women, due to both the backward conditions in which they live and the higher birth rates among them.

The fact that, within the poorest population, more children are born and die produces a dramatic situation in terms of demands for maternal-infant health services, among other considerations. A series of social problems linked to the high frequency of adolescent pregnancies and unwanted children, which in many cases lead to abortions with the consequent risk to the life of the mother, must be added. Although reliable figures are not available, it is possible to suggest that, in Latin America, deaths from causes related to pregnancy and birth are dozens of times higher than in developed countries, when, in most cases, those deaths could be avoided.



Gráfico III.1

**AVERAGE NUMBER OF CHILDREN PER WOMEN BY THE MOTHER'S YEARS OF FORMAL EDUCATION, 1960-1980  
(SELECTED LATIN AMERICAN COUNTRIES)**



Source: CELADE, IFHIPAL Project

Table III.1

LATIN AMERICA: OVERALL BIRTH AND DEATH RATES,  
BY PLACE OF RESIDENCE AND EDUCATIONAL LEVEL OF MOTHERS,  
ACCORDING TO DATA FROM THE NATIONAL DEMOGRAPHIC  
AND HEALTH SURVEYS (DHS). 1980s

| Country                              | Place of residence |       | Educational level of mothers |            |            |              | Total |
|--------------------------------------|--------------------|-------|------------------------------|------------|------------|--------------|-------|
|                                      | Urban              | Rural | None                         | Prim.begun | Prim.comp. | Sec.and more |       |
| Overall birth rate (TGF)             |                    |       |                              |            |            |              |       |
| Guatemala 1983-87                    | 4.1                | 6.5   | 7.0                          | 5.6        | 3.9        | 2.7          | 5.6   |
| Bolivia 1984-89                      | 4.0                | 6.4   | 6.1                          | 5.9        | 4.5        | 2.9          | 4.9   |
| Paraguay 1987-90                     | 3.6                | 6.1   | 6.7                          | 6.2        | 4.5        | 3.2          | 4.7   |
| Peru 1984-86                         | 3.1                | 6.3   | 6.6                          | 5.0        | 3.1        | 1.9          | 4.1   |
| Mexico 1984-86                       | 3.1                | 5.2   | 6.1                          | 5.7        | 3.7        | 2.5          | 3.8   |
| Dom.Rep. 1983-86                     | 3.1                | 4.8   | 5.3                          | 4.3        | 2.9        | 2.1          | 3.7   |
| Brazil 1983-86                       | 3.0                | 5.0   | 6.5                          | 5.1        | 3.1        | 2.5          | 3.5   |
| Colombia 1981-86                     | 2.8                | 4.9   | 5.4                          | 4.2        | 2.5        | 1.5          | 3.3   |
| Infant mortality rate (per thousand) |                    |       |                              |            |            |              |       |
| Bolivia 1979-89                      | 79                 | 112   | 124                          | 108        | 65         | 46           | 96    |
| Brazil 1976-86                       | 76                 | 107   | **                           | **         | **         | **           | 86    |
| Guatemala 1983-87                    | 65                 | 84    | 82                           | 86         | 61         | 41           | 79    |
| Peru 1981-86                         | 54                 | 101   | 124                          | 85         | 42         | 22           | 76    |
| Dom.Rep. 1976-86                     | 72                 | 71    | 102                          | 76         | 57         | 34           | 68    |
| Mexico 1982-87                       | 23                 | 64    | 83                           | 64         | 46         | 27           | 56    |
| Colombia 1976-86                     | 38                 | 41    | 60                           | ----       | 40         | ----         | 28    |
| Paraguay 1980-90                     | 32                 | 38    | 45                           | 42         | 33         | 22           | 35    |

Notes: Educational levels: In Dominican Republic, Colombia and Peru, the educational groups are the following: no education, primary, secondary and university; in Bolivia, the groups are: no education, primary, intermediate, middle and more; in Paraguay, the no education group includes those with 2 years of education or less.

Place of residence: For Mexico, in urban areas, localities with more than 20,000 inhabitants were included here.

\*\* Not available.

Source: National Reports of Demographic and Health Surveys.

## B. DEMOGRAPHIC DYNAMICS BY DEGREE OF POVERTY

Given current patterns of demographic growth by zones (sharp increase in urbanization) and the steady impoverishment of the cities, the poor are now fundamentally urban, although most rural inhabitants continue to be poor (ECLAC, 1990). At the national level, as a result of both the crisis of the 1980s and their own demographic dynamics, the poor have increased more than the rest of the population in several countries.

As observed above in the behaviour of demographic variables by categories which amount to a characterization of poverty, that situation is usually associated with higher birth and death rates in poor homes. This reality is usually reflected in traits such as more numerous families, with higher demographic dependence ratios (resulting from younger age structures), accompanied by lower levels of relative economic participation by family members -concentrated, moreover, in independent sector activities-, and is more prevalent in poorer countries. Due to both the levels and the delayed evolution of the components of natural growth, the main consequence for these groups is higher growth than that of the rest of the population, which in turn produces young age structures within them.

When the poor are the majority in a country, they usually represent its stage in demographic transition. Be that as it may, descriptions of the growth and age structures of poor sectors must be understood in light of the notion that the demographic dimensions of poverty are always correlated to the country and its specific contexts (for example, urban, rural).

In Latin America, very high mortality is, perhaps, the most characteristic demographic dimension of poverty. Since it is commonly recognized that higher death rates are nearly always accompanied by high birth rates, it is possible to affirm that the poor pay a high cost in overall reproduction, that cost being higher in poorer countries. Thus, the task of replacing a country's members falls to the poorest population, as can be observed in its components of growth and age structures.

Two examples serve to characterize the rhythm and weight of natural demographic growth among the poor in terms of its impact on total annual births and deaths in a given country. In poor countries, such as Guatemala,<sup>8</sup> the high demographic growth in the poorest sectors, that is, among the indigent (3.4% annually), is made evident by the fact that the greater part of the net natural increase for the country occurs in those sectors (57% of the total).<sup>9</sup> This increase is obtained at the cost of a high number of deaths, compensated for by an analogously high number of births. Both of these phenomenon are of greater magnitude, proportionally, than that of the poor population within the national total (Table III.2). Births and deaths in the homes of the indigent account for 55% of the national total, and, if those occurring in homes below the poverty line are considered, for 80%. It is to be noted that the incidence of poverty in Guatemala rose from 71% of the population, in 1980, to 73%, in 1987 (poverty line), and, what is worse, came to be constituted mainly by indigents (ECLAC, 1990).

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<sup>8</sup> The examples of demographic dynamics among the poor sectors of Guatemala and Costa Rica presented here are based on the data gathered by the home surveys used by ECLAC to estimate poverty.

<sup>9</sup> In rural areas, however, natural growth may be relatively low due to high mortality rates and the high rate of emigration among women in their child-bearing years.

Table III.2

COSTA RICA AND GUATEMALA: ANNUAL SOCIODEMOGRAPHIC INDICATORS  
BY LEVELS OF POVERTY <sup>a/</sup>

| Country and indicator                              | L E V E L |      |          | Country |
|--|-----------|------|----------|---------|
|  | Indigents | Poor | Non-poor |         |
| <b>COSTA RICA (1988)</b>                           |           |      |          |         |
| % population                                       | 9         | 18   | 73       | 100     |
| Birth rate<br>(per thousand)                       | 30        | 32   | 25       | 27      |
| Death rate<br>(per thousand)                       | 7         | 5    | 4        | 5       |
| Natural growth<br>rate (per thousand)              | 23        | 27   | 21       | 22      |
| Overall birth<br>rate                              | 4.5       | 4.1  | 2.7      | 3.2     |
| Life expectancy<br>at birth (years)                | 71        | 73   | 76       | 75      |
| % annual births                                    | 10        | 21   | 69       | 100     |
| % annual deaths                                    | 14        | 20   | 66       | 100     |
| Age structure (per hundred)                        |           |      |          |         |
| 0-19   | 57        | 55   | 42       | 46      |
| 20-59  | 34        | 38   | 51       | 47      |
| 60 and over  | 9         | 7    | 7        | 7       |
| Total  | 100       | 100  | 100      | 100     |
| Relation of dependance<br>(per hundred)            | 195       | 164  | 97       | 114     |
| Size of home (persons)                             | 5.1       | 5.0  | 4.4      | 4.6     |
| Gross rate of economic participation (per hundred) |           |      |          |         |
|  | 20        | 23   | 41       | 36      |
| Occupational structure (per hundred)               |           |      |          |         |
| Salaried   | 55        | 74   | 71       | 71      |
| Self employed                                      | 25        | 17   | 20       | 19      |
| Unpaid domestic<br>labour                          | 15        | 7    | 4        | 5       |
| Other  | 5         | 2    | 5        | 5       |
| Total  | 100       | 100  | 100      | 100     |

Table III.2 (Cont.)

COSTA RICA AND GUATEMALA: ANNUAL SOCIODEMOGRAPHIC INDICATORS  
BY LEVELS OF POVERTY <sup>a/</sup>

| Country and indicator                              | Indigents | L E V E L<br>Poor | Non-poor | Country |
|--|-----------|-------------------|----------|---------|
| <b>GUATEMALA (1986-1987)</b>                       |           |                   |          |         |
| % population                                       | 48        | 25                | 27       | 100     |
| % indigents by level                               | 55        | 38                | 23       | 42      |
| Birth rate<br>(per thousand)                       | 44        | 34                | 30       | 38      |
| Death rate<br>(per thousand)                       | 10        | 9                 | 7        | 9       |
| Natural growth<br>rate (per thousand)              | 34        | 25                | 23       | 29      |
| Overall birth<br>rate                              | 6.7       | 4.7               | 3.6      | 5.9     |
| Life expectancy<br>at birth (years)                | 60        | 63                | 71       | 62      |
| % annual births                                    | 56        | 22                | 22       | 100     |
| % annual deaths                                    | 55        | 25                | 20       | 100     |
| Age structure (per hundred)                        |           |                   |          |         |
| 0-19   | 62        | 56                | 47       | 56      |
| 20-59  | 34        | 39                | 46       | 39      |
| 60 and over  | 4         | 5                 | 7        | 5       |
| Total  | 100       | 100               | 100      | 100     |
| Relation of dependence<br>(per hundred)            | 196       | 159               | 116      | 160     |
| Size of home (persons)                             | 6.0       | 5.4               | 4.4      | 5.3     |
| Gross rate of economic participation (per hundred) |           |                   |          |         |
| Occupational structure (per hundred)               | 26        | 33                | 43       | 32      |
| Salaried   | 41        | 54                | 53       | 49      |
| Self employed                                      | 35        | 30                | 31       | 32      |
| Unpaid domestic<br>labour                          | 24        | 14                | 11       | 17      |
| Other  | 0         | 2                 | 5        | 2       |
| Total  | 100       | 100               | 100      | 100     |

Source: CELADE, ECLAC.

<sup>a/</sup> Costa Rica, 1988; Guatemala, 1986-1987.

Another example, this time from Costa Rica, a country not as poor as Guatemala, shows that greatest natural growth does not occur among the indigent groups, although higher rhythms of demographic growth continue to be associated with poverty. Moreover, their contribution to annual births and deaths in Costa Rica, even though greater than the weight of poor sectors within the total population, is not the predominant contribution, given the lower incidence of poverty at the national level. At any rate, the population below the poverty line rose from 24%, in 1981, to 27%, in 1988 (ECLAC, 1990).

It is interesting to note that, considering the levels of growth among indigent sectors and comparing that growth with the evolution of the size of those sectors during the 1980s, the reduced social mobility of the population surpassed their demographic contribution. In Guatemala, as in Costa Rica, this means that the evolution of the size of the poorest population group is certainly not caused only by demographic growth. Moreover, given their higher rates, the poor should generally constitute an ever-growing fraction of the population of each country, which is not necessarily the case, due to the influence of economic and social factors.

The consequences of the greater demographic growth of the poor population is reflected in the increase of poverty and indigence among children and youth. In Guatemala, persons younger than 20 years of age in situations of indigence constitute a third of the population, and account for nearly 45%, if the poverty line criterion is used. In Costa Rica, those percentages are 5 and 15%, respectively.

Due to these age structure characteristics, the satisfaction of the demands for health care and education, of that population in particular, are of prime importance and it is clear, therefore, that not satisfying those demands constitutes one of the fundamental elements in the vicious circle of poverty. However, for older age groups, demands are concentrated around work and housing, two of the most basic needs, the frustration of which also contribute to the reproduction of poverty.

Thus, the demographic behaviour of poor sectors tends to reenforce the general situation of poverty. This can be understood if it is realized that their greater fertility and its effects on natural growth have inevitably brought a certain level of pressure to bear on health and educational systems and on the labour market, among other social elements. However, the effect of greater fertility is not direct, because it occurs through certain mechanisms of the intergenerational reproduction of poverty, for instance child labour and early pregnancies. Child labour—as a necessary survival strategy in many homes given their low incomes—seems to contribute to the reproduction of the situation of the previous generation by sacrificing education, that is, the acquisition of those qualifications which would allow younger family members to compete for better paying jobs. Early pregnancies, in significant correlation with single motherhood, establish the foundations of the childrens' future, characterized by the cultural and material deprivations proper to the environment into which they were born (ECLAC, 1988 and 1991).

These reflections indicate, at least at the level of empirical fact, that the reproduction of poverty is closely linked to biological reproduction, to the extent that the poor sectors often account for the greater part of a country's population growth in very disadvantageous conditions. Thus, both social and productive investments are urgently necessary. Among those social investments which would tend to improve those demographic factors which contribute to the reproduction of poverty, responding, as well, to real demands of the lower income sectors, would be the extension of the right to opt for family planning to the whole population.

#### IV. SOCIODEMOGRAPHIC REPERCUSSIONS OF POPULATION DYNAMICS

##### A. IMPLICATIONS OF DEMOGRAPHIC DYNAMICS FOR THE PROVISION OF SOCIAL SERVICES

The analysis of the economic and social repercussions of population dynamics is a very complex matter. Although research into this problem has been going on for some time, most studies focus on the economic effects of demographic growth. In order to quantify those effects, a set of demoeconomic models has been designed to project possible changes in diverse variables, such as the product, savings, investment and employment, within different contexts of demographic change. It has become apparent, however, that the application of those models, based on premises and causal relations not always adequately tested, has produced ambiguous results. As an alternative, less ambitious efforts, with varying degrees of technical elaboration, have been made using population projections and deriving estimates of the demands which will arise from specific sectors, such as those linked to the provision of social services. In spite of their undoubted value as a means of supplying reference elements for resource allocation, it must be recognized that their usefulness is limited. Although many restrictions lie in the lack of appropriate data, it is no less true that the theoretical frameworks used to identify the mechanisms through which those effects are produced are insufficient. This is particularly evident in light of the fact that the implications of population change do not emerge from direct causal relationships, but rather from interactive correlations.

Among the socioeconomic repercussions attributable to population change are those directly related to the determination of demands for social services. For the purpose of discussing diverse aspects of this issue, a series of estimates related to specific sectors are presented below. Strictly speaking, they are numerical exercises limited to the detection of certain orders of magnitude, which will outline the demands in each case. Clearly, the degree of accuracy with which these figures represent real future needs depends on the nature of the premises involved. From the beginning, it will be presumed that demographic dynamics affect demands for social services in, at least, four ways. The first way corresponds to the rhythm of population growth which establishes the most general contours of those demands. The second comes from the evolution of the basic components of demographic increases, the relative intensities of which make those contours more precise. The third way consists in the age structure of the population, the characteristics of which help specify the types of services required. The fourth is the spatial distribution of the population, which conditions the type and location of the demands.

Although the total range of social services is broad, the estimates presented here refer only to education, employment, health care, social security and housing. The general focus of governmental social policy is toward these sectors. Public investment in these areas is usually understood as a means of achieving qualitative improvements in the human resources of the country, which, moreover, is a known prerequisite for strategies of productive transformation with equity. One way of discovering the implications of population change for the provision of social services consists in discovering the possible links between the different moments of demographic transition and the needs in each sector. In spite of its simplicity, an approach such as appears in Box IV.1 makes it possible to focus on the diversity of transition phenomena present in the region, as well as to identify specific aspects of their effects on the spectrum of sector demands.

Thus, in the early stages of transition (Group I), characterized by high rates of demographic growth, the provision of social services will have to expand rapidly. Especially, given current high birth rates and their effects on age structures, social services must also concentrate on attention for children and relatively young adults. Moreover, the patterns of death rates associated with low life expectancy suggest the need for preventive and public health measures in the area of environmental hygiene. If, as is usually the case, these general demographic conditions are accompanied by a low level of urbanization, a considerable proportion of the demands to be met may come from rural areas, at least in the short term. However, given that population rates of growth are now higher in urban areas, the rhythm of increase in the demands for social services will tend to be greater in those areas than in their rural counterparts. Where demographic transition can be characterized as moderate (Group II), it is highly probable that the profile of demands will be similar to those described above, but that the specific location of service responses will vary, depending on the particular manifestations of the process of urbanization.

In situations of full transition (Group III), with drastic reductions of birth rates, the intensity of increases in the number of demands, in areas such as primary education and maternal-infant health care, will tend to diminish only gradually. In contrast, the needs of youth and adults will remain high in areas such as employment, housing, university education and job training. These same transitional conditions reveal the need to broaden preventive and curative health services, through combined efforts. Since the countries which have achieved the category of full demographic transition are characterized by predominantly urban populations, to the point that, in some countries, the number of rural inhabitants has dropped in absolute terms, it will be necessary to concentrate the provision of social services in urban zones. Finally, in situations of advanced transition (Group IV), the weight of the needs of the adult ages will become even more evident, especially in terms of employment, while the demand for services linked to the third age, such as for geriatric health care and pension systems, will gradually grow. At the same time, demands related to infant health care and for children and youth will reach a certain stability. Generally, even as the relative weight of the older generations becomes ever greater, the persistence of lower rates of demographic growth over time will lead to lower rhythms of increase in the demand for certain services. Moreover, the high proportion of urban population observed in countries of advanced transition has obvious repercussions on the placement of the resources allocated for the provision of social services.

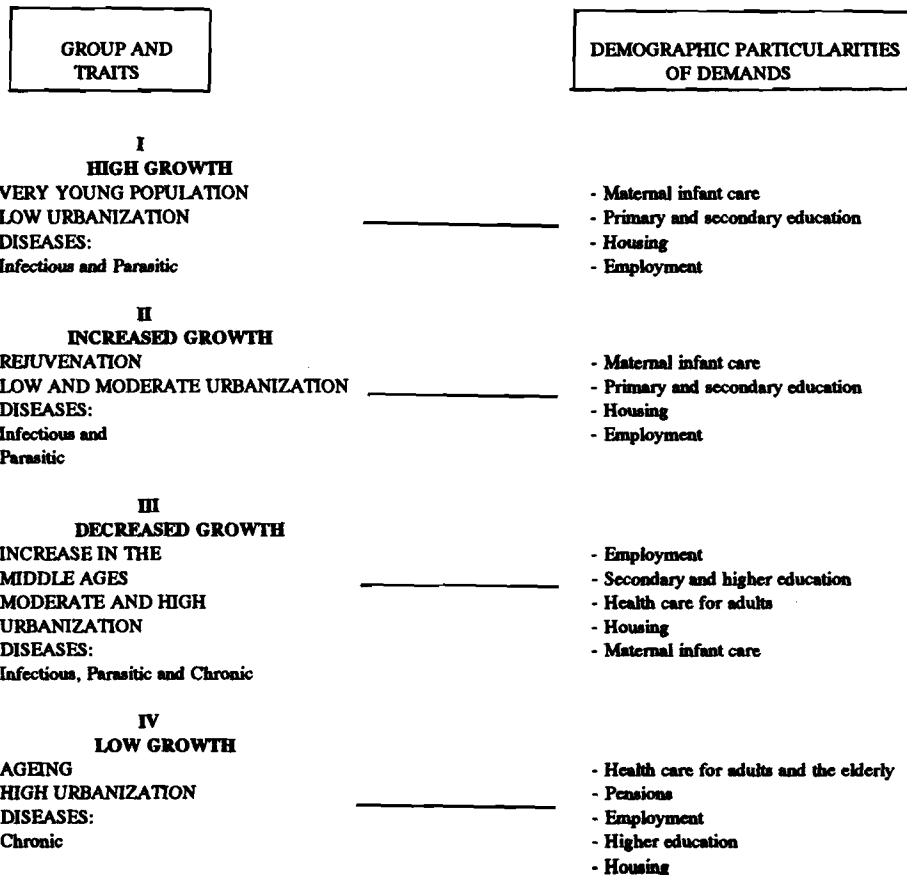


## Box IV.1

**DEMOGRAPHIC PARTICULARITIES OF DEMANDS  
FOR SOCIAL SERVICES**

The identification of demands for social services is often undertaken in function of the characteristics of national populations and the orientation of social policy in each country. National demographic particularities arise from the rhythm of growth of the different population segments which constitute target groups for those services. A first approximation can be made by reference to the anticipated evolution of the age structure of the total population, which results from the net effect of the rate of demographic growth. The diagramme shows how the trajectory of population change (instances of demographic transition), expressed through changes in the relative weight of age groups, makes it possible to focus on certain typical demands. Naturally, emphasis on probable demographic effects does not imply that the importance of the other dimensions of national reality which operate as intermediate variables in the relation established between the two columns of the diagramme ought to be ignored. Therefore, neither direct correspondence nor universal validity are presumed. As well, historical conditioning factors, associated with fluctuations in the economy and decision-making processes, which affect social policy activities and may alter the nature of demands, must also be recognized. In short, the diagramme only highlights a series of effects linked to certain patterns of population change.

DIAGRAMME OF LATIN AMERICAN POPULATION TRAITS AND PRIORITIES ACCORDING TO  
THE STAGES OF DEMOGRAPHIC TRANSITION



On the basis of the elements of reference provided by this approach, a series of estimates was generated with respect to the demands for social services for the last decade of the Twentieth Century (1990-2000). With regard to the provision of those services, it was presumed, in a simplified way, that pertinent coverage levels will remain the same as when the projections were performed (1990). An exception to this general rule was made for the employment sector, for which the projections of the economically active population were used. Given their illustrative purpose, the exercises were performed for only four countries in different stages of demographic transition: Haiti, El Salvador, Mexico and Uruguay. The results reveal significant differences. In the analysis of the results of these exercises, it is important to recall that the data are only indications of what will presumably be the direct effect of the conditions of demographic evolution.

Thus, if the percentage coverage levels of primary or basic school services existing at the end of the 1980s are maintained, the number of students would have to increase 25% in Haiti, while in Mexico, the increase would be 9% and in Uruguay there would be an absolute drop in the population in the corresponding ages. Given that these figures do not presume increased coverage, as noted above, any improvement in the school situation in Haiti and Mexico would involve even greater increases. For its part, institutional attention for births would have to be expanded 22% in El Salvador, maintaining the modest initial coverage, while, in Mexico, the increase in the number of such instances would be only 2% and, in Uruguay, by 2000, the number would remain virtually the same as in 1990. With respect to projections for the economically active population, in Uruguay, the increase in the supply of labour would be relatively low, with an annual rate of growth around 1%, a figure derived from the increase in the population in their working years. In contrast, in the other three countries, the "pressure" for new jobs will remain high for the 1990s: in Mexico, for example, that population will grow at 2.9% annually; the intensity of that increase will be similar to that obtained in cases of incipient and moderate transition. According to these estimates, during the 1990s, the effects of the ageing of the population will only clearly be felt in Uruguay; the most notable implications are for the pension and third age health care systems. Notwithstanding these observations, this type of impact will begin to be felt by countries in full transition in the first half of the Twenty First Century.

These estimates, even with their limitations, provide some indication of the orders of the magnitude of demands social services which can be imputed to the population changes currently occurring within the different modalities of demographic transition in Latin America and the Caribbean. The examination of the results of these exercises could create the impression that, in situations of advanced demographic transition, the number of demands for services will tend to decrease. Although, in the light of these figures, that impression seems justified, it is necessary to bear in mind that, as the effects of sustained decreases in birth rates are combined with relatively high life expectancies, the trend toward an older population is strengthened, which, in the mid and long terms, may introduce additional complications. Among these, there would be the effects of a sustained increase in the burden on the financial situation of the pension system, the need to modify the focus of health programmes in order to give greater weight to expensive medical treatment and probable quantitative and qualitative rigidities in the supply of labour.

## Box IV.2

**DEMANDS FOR SOCIAL SERVICES  
ACCORDING TO DIVERSE DEMOGRAPHIC TRAJECTORIES**

The relative magnitude of the changes anticipated in the demand for social services, in function of population dynamics during the last decade of the Twentieth Century, is illustrated in the following Table, which contains estimates for three countries with different demographic profiles and which represent an important segment of the spectrum of variation within Latin America and the Caribbean.

|                                 | Percent change: 1990-2000 |               |                |
|---------------------------------|---------------------------|---------------|----------------|
|                                 | <u>El Salvador</u>        | <u>Mexico</u> | <u>Uruguay</u> |
| Births with qualified attention | 21.9                      | 2.1           | 0.0            |
| Students in primary education   | 18.6                      | 8.4           | -3.0           |
| Housing units                   | 28.4                      | 21.0          | 5.8            |
| urban                           | n.d.                      | 29.5          | 8.5            |
| rural                           | n.d.                      | -2.6          | -6.2           |
| Labour force                    | 37.8                      | 34.2          | 9.7            |
| Passive sector                  | 44.3                      | 45.0          | 9.6            |
| ratio passive/active            | 6.5                       | 10.8          | -0.1           |

**Source:** Annexes A-16 to A-19. Pertinent coverage and average family size are presumed constant, except with respect to the labour force and passive sector, which are based on projections of rates of labour participation.

These figures reveal significant differences among countries in the anticipated effects of demographic evolution on the demand for social services. In a country long noted for its low indexes of population growth, such as Uruguay, the demands associated with births and children will probably tend to decrease. In contrast, in El Salvador, where demographic transition is still moderate, that type of demand will increase sharply. Mexico is in an intermediate position, in full demographic transition. Even though, in all cases, increased "pressure" for jobs is anticipated, the relative weight of that increase is notably diverse in the countries under consideration. Moreover, changes in demands for housing, together with varying in accordance to the evolution of demographic change, also illustrate how population distribution in urban and rural areas can affect housing needs. The incremental effects of population ageing, built up during the demographic transition process, become evident when the increase in the passive/active ratios for El Salvador and Mexico are compared. However, as a country enters the more advanced stages of transition, the relative weight of the elderly population tends to become stable, as suggested by the case of Uruguay, whose passive/active quotient—currently one of the highest in Latin America and the Caribbean—will not change significantly in the period under consideration.

It is important to analyse the results of these exercises with a degree of caution. First, the magnitude of the population which could become the "target" of each social programme does not always correlate exactly with the resources required. In fact, the operation of each service supposes certain fixed costs which are relatively independent of the eventual number of beneficiaries. Thus, cost functions in some sectors are not always lineal, requiring abrupt increments when certain thresholds are crossed. For example, the apparent reduction in demographic "burdens" associated with lower birth rates may not be reflected in reduced costs. It is also necessary to note that, although the components of a given service have different costs (primary vis-a-vis secondary education, preventive vis-a-vis curative health care), changes in the age structure of the pertinent populations do not have analogous effects at the financial level. As well, certain "inflexibilities" must be recognized, which affect resource allocation and restrict the possibility of realizing intersector transfers.

A second cautionary note concerns the use of average national coverage figures. In some countries, the relevant indexes may be high, but do not reveal "pockets of poverty" which may require additional efforts and, together with entailing fairly specific cost structures, may also imply institutional action of a type different from that required in national-level programmes. Of course, given that the figures generated by the exercises presume stability in coverage deficiencies, in countries where these are fragile the number of requirements would have to increase if progress in the satisfaction of unmet needs is to be made. Finally, since the philosophy of promoting productive transformation with equity entails effecting urgent improvements in several social services, the figures produced by these exercises are clearly insufficient in the face of this challenge.

Given its broad focus, this approach does not allow for identifying the historical specificities of the demographic transition of each country. Although each of the four groups presented in Box IV.1 includes national cases which are similar to a degree, in terms of the rhythms of population increase, it is no less true that they also embrace important differences. A country such as El Salvador, profoundly affected by internal conflict during the 1980s, does not fully fit the conditions of case II. In fact, its modality of demographic transition contains a series of particularities which makes it unique —intense international migration, severe uprooting of the population throughout the territory with impact on the behaviour of couples and increased adult death rates— and which will become more evident during the 1990s through such effects as important fluctuations in the school-age population. Moreover, Mexico and Peru, even though they are in the same group, have had different rhythms of transition, meaning, for example, a substantially greater relative increase in the provision of maternal-infant health care services in the latter. As well, the rapidity with which demographic changes have occurred in Cuba would seem to suggest that there are considerable oscillations in the size of social programme target populations, a trend for which it is difficult to discover a similar case in the other countries of the region; these same specific conditions will, in the future, cause considerably more rapid reductions in the rhythm of growth of the working age population than that foreseen for other countries. Naturally, these particularities, as others which could be mentioned, are not to be explained by demographic parameters, per se, but rather by the characteristics of the respective historical contexts within which the behaviours which gave them validity were defined.

The social, economic and cultural heterogeneity of Latin America and the Caribbean pose special challenges for the analysis of the eventual impact of population change. Of course, by identifying the diverse modalities of demographic transition occurring throughout the region, one is recognizing that that phenomenon is one manifestation of that structural heterogeneity. Each type is defined by its peculiar traits of the process of population change, which may indicate specific socioeconomic effects. In spite of the fact that countries within each group of demographic transition share certain quantitative traits in terms of their current stage in that transition, they also maintain considerable differences among each other with

respect to the historical moment in which they entered into that stage of change. By the same token, both the socioeconomic repercussions implied by diverse styles of demographic evolution over time and the potential of each society to adapt or react to them will be different. Moreover, the distinction established between national units is insufficient; within each country there are obvious differences in demographic phenomena among spatial units and social (and ethnic) groups. By not taking into account the specific requirements of those national population sub-groups, the risk would be run of using aggregate values which, although valid as averages, are not realistic in the area of policy formation. As well, the evaluation of their impact would have to take into account the capacity of the different social groups, spatially dispersed, to face them. Clearly, given the reciprocal relations of causality involved, this type of approximation is very complex.

## B. DEMOGRAPHIC CHANGE AND SOCIOECONOMIC POLICY

Habitually, sociodemographic analysis uses the individual as its unit of study or object of reference, as do many social policies. However, many repercussions of demographic trends take on special meaning when interpreted in terms of groupings of persons, defined in function of family ties, modalities of residence, marriage situation, work activities or other characteristics associated with persons' life cycles. Reference will be made below to several socioeconomic phenomena related to this type of grouping, to the persons belonging to them and their implications for policy.

Most population censuses in Latin America and the Caribbean gather information based on homes rather than on families. However, given that a high percentage of homes have only one family, it is possible to verify that the size of the family has decreased in most countries of the region. As was to be expected, that reduction arises mainly from lower birth rates, although it has also been affected by changes in patterns of co-residence. In countries in the early stages of demographic transition, with birth rates still high, the decrease in family size has been slight, or remains stable, as in Bolivia, where it has remained around 4.5 members for the last 15 years. It has also been possible to observe a diversification of domestic units, characterized by a fairly common decrease in extended and combined homes, an increase in households headed by women without spouses (resulting, to a considerable degree, from an increase in divorces and separations), and an increase in one person households. It is very important to take these trends into account when interpreting estimates of the future housing demands discussed in the previous section, because they can substantially modify both the volume of resources destined to housing programmes and the policy orientations which define the types of homes toward which efforts in this area should be made. It is also important to review the interaction between demographic trends and policy in this area. An example of this is the trend toward an increase of the relative weight of nuclear homes: although in most countries of the region the percentage of those homes is higher in urban areas, in some countries (Bolivia, Peru, Dominican Republic and Cuba) nuclear homes are more frequent in rural areas. However, while in those three countries that higher frequency is indicative of the importance of rural-urban migration and the period of integration into cities, in Cuba, it is the result of housing construction policy for rural areas.

Within the diversity of models of nuclear families, one outstanding trend is the increase of households headed by women. In some countries, the increase is notorious, as in Cuba, where it rose from 18%, in 1970, to 28%, in 1980; in Puerto Rico, where it rose from 19%, in 1970, to 23%, in 1980; or in Brazil, where it rose from 12%, in 1978, to 20%, in 1989. These are usually mono-parent homes, that is, a mother without spouse, who lives with her children, a situation at least partially attributable to increased separations. Different studies have shown that households headed by women are among the poorest, with a high percentage of young children and heads of household with lower educational levels. However, it has also been argued that these homes have lower incomes due to the difficulty encountered by all women in generating income, arising from discrimination in the areas of salary and stable job opportunities, especially when they are less well educated. The identification and characterization of this type of home is relevant for nearly all dimensions of social policy, including actions geared to alleviate poverty, improve work conditions, and broaden opportunities for better social and labour insertion for women.

Some demographic processes and dimensions are so intimately interrelated that it is inadequate, if not simply incorrect, to analyse their repercussions separately and independently of each other. This is the case for the links between pregnancy and adolescent fertility, consensual unions, and illegitimate births. It was indicated above that there are several Latin American countries in which the rates of adolescent fertility drop less slowly than overall rates, even rising in some countries. In Jamaica, Honduras, El Salvador, Guatemala, Dominican Republic and Guadalupe, rates were over 100 births per thousand women between 15 and 19 years of age. However, even in countries with lower adolescent birth rates, such as Puerto Rico, Uruguay, Argentina and Chile, the phenomenon is still a matter of governmental and general social concern. The increase in consensual unions is closely linked to this phenomenon: according to information gathered around 1980 for 24 Latin America and Caribbean countries (United Nations, 1990), most of these unions involve women between 15 and 19 years of age. In this issue, as in others, it is important to distinguish those situations in which this type of union is legitimate within the traditional culture, as in Caribbean countries, from situations in which consensual unions are forms of forced adaptation to adverse economic circumstances, as occurs in the poor strata of many countries, and from situations which can be interpreted as innovative responses to recent economic and sociocultural change. Linked to this, an increase in the number of illegitimate births has been observed which, although it occurs in mothers of all ages, is mainly associated with adolescent and young adult mothers. In Chile, for example, between 1970 and 1988, the percentage of illegitimate births among all births to women less than 20 years of age nearly doubled (from 31%, in 1970, to 60%, in 1988), while in other countries it is also possible to detect a high proportion of illegitimate children among adolescent mothers.

These trends have consequences for the way in which the emphases of family planning programmes are conceived and defined: to the degree to which there is true concern for adolescent pregnancy and birth rates and taking into account the interrelations mentioned above, it is clear that family planning programmes and services must assign greater importance to the components of information, education and communication which will emphasize responsible parenthood, the importance of a family environment favourable for children and the implementation of projects of alternative life styles for young women. It is even possible that the consideration of these factors will lead to the review of current emphasis in the area of the simple provision of contraceptives. The growing use of sterilization instead of reversible methods does not seem the most functional alternative to the needs of younger couples.

Another trend, mentioned above, is that related to the greater relative weight of the elderly population, which is inseparably linked to the more advanced stages of demographic transition. It is worth recalling that this is an aspect of demographic transformation which has a practically universal particularity linked to sex: given that women's death rates are lower than those for men, the elderly population has a majority of women, especially in urban areas where differences in death rates tend to be more significant. The lower birth and death rates which accompany the ageing process may have repercussions both on co-residence and types of home and on intrafamily relations. Children have a growing possibility of knowing one or more grandparent alive; grandfathers and grandmothers, in turn, have ever fewer children and grandchildren, but it will be ever more common that the grandparents may live with their grandchildren during the early years of the generation of their own descendants. This implies that individuals will be raised in direct interaction with fewer members of their own generation, but with greater possibilities of interrelating with relatives of other generations and for interchanging personal knowledge and experience with them.

The economic consequences arising from the ageing of the population depend, in part, on the type of productive contribution made by the elderly population. Studies of the role of the aged within the family indicate that they perform important services, such as to continue working, although only part time, especially in rural areas, and housekeeping and care of grandchildren while their children work. Some elder women adopt an essential role in the raising of their grandchildren, either in rural zones when their children emigrate in search of work or in urban contexts, in order to allow the mother to work outside the home. Information available for Latin American countries reveals that the rate of labour participation of the elderly population is significant, especially in the younger age ranges. The incidence of this phenomenon is greater in relatively less developed countries, in rural areas and among men, a fact due in part to the low coverage of pension benefits and other social security services in many countries of the region. However, given that most elderly persons are not economically active, the overall ageing of the population may also give rise to certain intergenerational conflicts, as financing for current retirement systems organized on the basis of transfers between cohorts becomes more difficult. This may be aggravated by the perception of the cohorts currently in the work force that they are paying a high cost in exchange for uncertain support for their own old age and by the political power which the elderly may come to exercise against changes oriented to improve intergenerational equity. This type of problem is more evident in countries with older populations, but the potential for change is greater in countries in the intermediate stages of demographic transition, such as Mexico and Peru, given that the key index for financing pensions, the passive/active ratio, may change more notably in those countries than in others with practically stable age structures, such as Argentina and Uruguay. That this occurs depends on changes in other factors of the system: for example, if countries in the intermediate stages of the transition manage to broaden coverage of those currently active, they may compensate, to a large extent, for the undesirable effects derived from changes in the demographic structure of their populations.

In general, growth of the population in the working years, as seen in the previous section, produces certain "pressures" on the labour market which can be expressed in terms of the investment required to absorb that growth, but it is also true that demographic trends have had favourable repercussions on relations of dependence (measured as the number of inactive persons for every economically active person) in most countries of the region. In fact, many of them have had important decreases in infant dependence, without as yet experiencing too significant increases in the degree of elderly dependence. In this sense, our countries are in a favourable demographic moment compared with many others in the world in either the very incipient or very advanced stages of transition. As in the case of urbanization

discussed below, this situation is an opportunity for the generation of higher levels of income and savings, as it is also an important challenge in terms of adequately absorbing the large work force and making the investments required to take advantage of this opportunity.

Certain demographic changes generate indirect repercussions on the work force which, however, can be of fundamental economic importance. A case in point is lowered birth rates. To the extent that fertility has come increasingly under the control of the couple, it has become possible to postpone the birth of the first child and to broaden the lapse between births. Although interrelations exist, what is to be noted here is the facilitating role these factors have played, especially in countries in full transition, by making it possible to acquire more education and creating conditions for more intense and more stable labour insertion for women, thus contributing to improved indexes of dependence and improved labour force productivity. Lower death rates have similar effects because they have contributed to increasing the person-years of economic activity over time: while, during the 1950s, persons in Latin America could expect an average of 32 active years, currently, that expectancy is around 40 years, a figure which should rise in the future. Given that lower death rates are associated with improved health conditions, those years will presumably be more productive, as well.

The growing labour insertion of women presents both quantitative and qualitative particularities. The evolution of the rate of participation in the region as a whole has been gradual but sustained, rising from around 13%, in the 1950s, to 20%, in the 1970s, and to around 30%, currently. However, this trend ought to be examined, not only in terms of quantity, but also of quality or the conditions of this incorporation. For some women, the decision to work may be taken mainly in function of the search for favourable income and employment conditions in the formal market, as well as for reasons of personal fulfillment. However, for many women, incorporation has been motivated by low family income and has occurred in unfavourable conditions, such as informal work, low pay and long hours. In many countries of the region, the participation of married women is lower than its potential due to the discrimination implicit in the higher fixed costs of their work (maternity leave, for example), lower pay for the same work as that performed by men, scarcity of support services (day care, extended school hours) and the unavailability of domestic technology which facilitates work outside the home. These are policy areas which must be recognized as factors for the realization of the potential contribution of women, within a context in which the demographic trends are already opening up this type of possibility.

One of the most outstanding manifestations of Latin American demographic dynamics is the process of urbanization, the economic and social repercussions of which are of major importance. Thus, the population trend toward concentrations in cities constitutes a factor of increased demand, insofar as it implies denser goods and service markets and contributes to the configuration of agglomerated economies. These involve, among other elements, a large supply of labour, with diverse degrees of qualification, within geographically concentrated labour markets. In these conditions, economies of scale in the provision of social services are practicable, lowering relevant per unit costs. In contrast, providing those services to dispersed populations is more costly and, in some cases, virtually impossible. Naturally, it must be recognized that taking advantage of those economies requires large investments, as occurs, for example, in the case of physical infrastructure projects (drinking water, sewage, electrical, road and communication systems). In contexts of scarce resources, above all in times of crisis, such as the 1980s, the priority of this type of investment passes to a secondary level, which increases negative externalities (contamination, congestion) and the deterioration of public networks for lack of maintenance. Even though the treatment of these issues involves the consideration of a multiplicity of intervening factors, it is worth noting here that any development strategy must take into account the relatively high degree of urbanization achieved by the population of the countries of the region. In this sense, those strategies

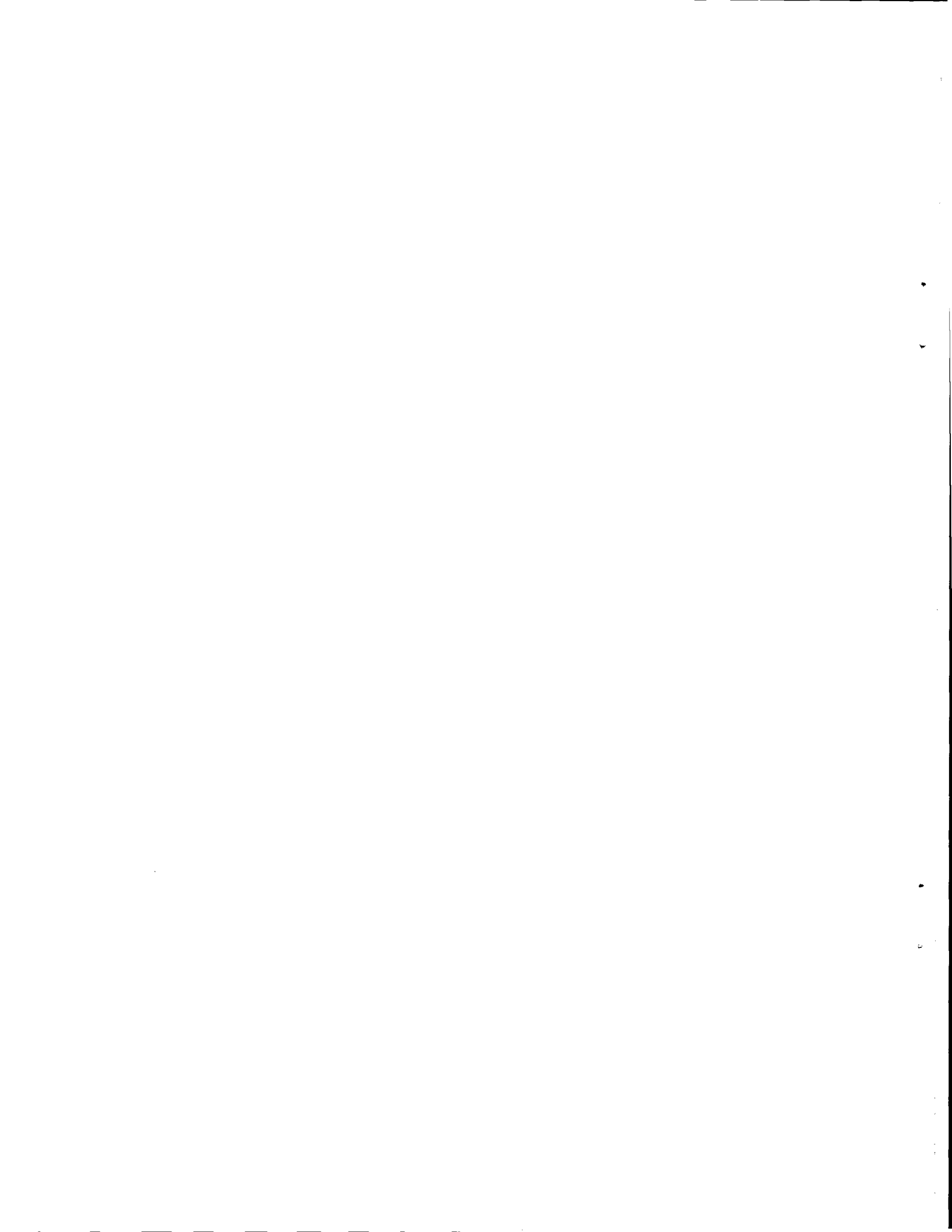


could contemplate taking deliberate advantage of the opportunities offered by the situation, in the attempt to neutralize or compensate for those externalities adverse to the quality of life in cities. Policy action in this sense does not flow from the basic criteria of equity or productive efficiency automatically, for which reason they require particular attention.

Another repercussion of current demographic trends worth highlighting, especially when resource allocation options are examined, are the apparent savings derived from reduced demographic growth. Thus, a reduced rhythm of increase in the population younger than 18 years of age is usually considered to constitute a possibility to save education costs. Given the importance attributed to education in current strategies of equity and productive transformation, this argument is incomplete. In fact, the need to raise the qualifications of human resources and close significant service gaps imply the challenge of analysing different investment alternatives in the same sector. Thus, for example, in countries in the incipient or intermediate stages of demographic transition, in which educational coverage is severely deficient, it will be necessary to undertake serious efforts to fill historical voids rapidly, as well as to attend to the new requirements of a vigorously growing population. Moreover, in countries in advanced stages of the transition, the task will be to improve education, achieving equity in the supply of services to different socioeconomic groups located in the diverse areas of the nation's territory.

In the mid term, the progressive ageing of the population, associated with the more advanced stages of demographic transition, will involve greater demands for health care and pensions. The current debate in Latin America and the Caribbean about systems for providing these and other services for the elderly arises from the detection of trends toward ever greater deficiencies in those sectors. That debate does not always take sufficient notice of factors, such as population change, which have impact on those deficiencies. It is clear that, although they evolve more slowly than economic fluctuations, demographic elements do constitute one of the determinants of the mid term financial viability of the systems under consideration. The accumulation of funds, truly destined to cover the costs of retirement and diverse risks (unemployment, infirmity, and other contingencies) would help avoid possible deficits in those systems and, at the same time, would constitute a source of resources for those national savings needed to finance investments in a context of restrictions and uncertainty with respect to external financing. From this point of view, it is important that the role of those funds be considered in Latin American and Caribbean development strategies, not only for their relevance in terms of equity, but also for their potential in productive transformation. This type of opportunity seems greater in countries in the intermediate stages of demographic transition, given their populations with large proportions of persons in their active years and low indexes of dependence.

Finally, it is worth highlighting the important role of population policy and programmes as contributing factors to achieving the objectives of equity. To the extent that resources destined to provide health care are oriented toward the more vulnerable groups of the population and family planning programmes effectively facilitate access to information which allows for regulating fertility according to the desires of the couple —especially where unsatisfied demand is high—, direct progress will be made toward greater equity and, indirectly, toward reducing the rhythm of population growth. This is a policy area in which, as occurs in various of the issues mentioned above, there is no contradiction between the objectives of equity and productive transformation: rather, there exists the possibility of achieving consistency and clear opportunities for reinforcement between both.

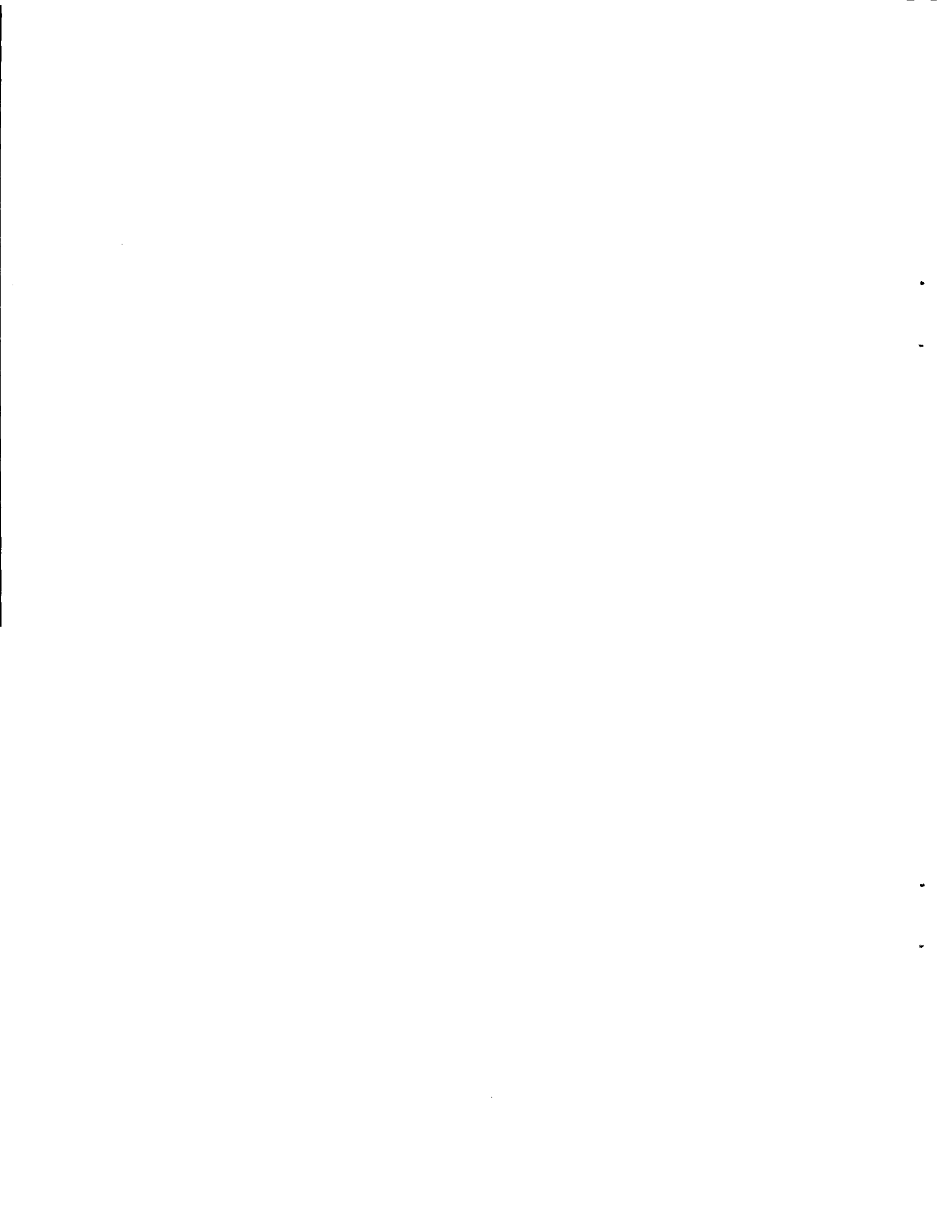


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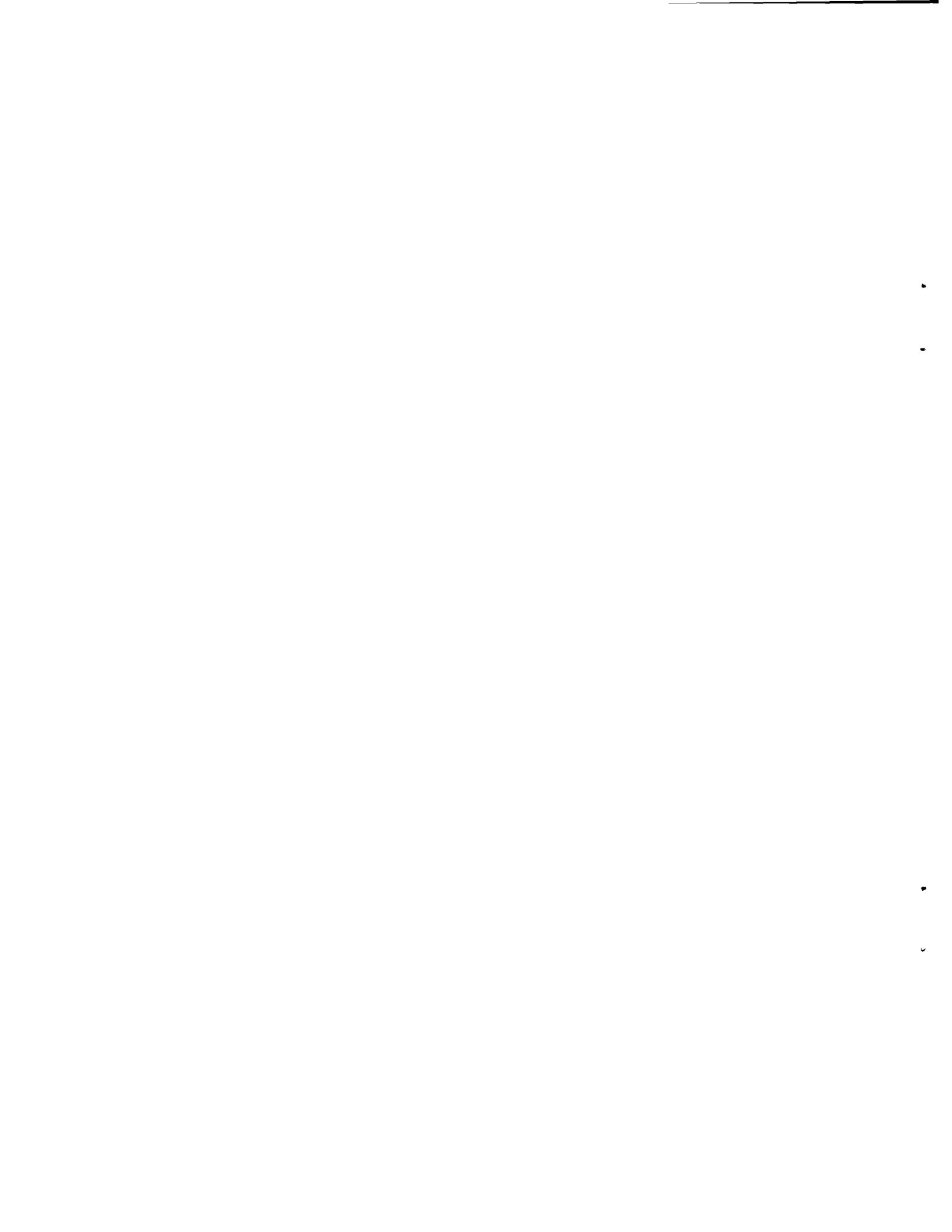
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**ANNEXES**





A-1

## LATIN AMERICA AND THE CARIBBEAN: TOTAL POPULATION, 1950-2000 (THOUSANDS)

| Region and country             | 1950          | 1960          | 1970          | 1980          | 1990          | 2000          |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Regional total</b>          | <b>165121</b> | <b>216615</b> | <b>283198</b> | <b>358925</b> | <b>441063</b> | <b>522961</b> |
| Latin America                  | 158810        | 209211        | 274538        | 349198        | 430182        | 510939        |
| Argentina                      | 17150         | 20616         | 23962         | 28237         | 32322         | 36238         |
| Bolivia                        | 2766          | 3428          | 4325          | 5581          | 7171          | 9038          |
| Brazil                         | 53444         | 72594         | 95847         | 121286        | 149042        | 172777        |
| Colombia                       | 11946         | 15939         | 21360         | 26525         | 32300         | 37822         |
| Costa Rica                     | 862           | 1236          | 1731          | 2284          | 3034          | 3798          |
| Cuba                           | 5850          | 6985          | 8520          | 9679          | 10608         | 11504         |
| Chile                          | 6082          | 7614          | 9504          | 11145         | 13173         | 15272         |
| Ecuador                        | 3310          | 4413          | 6051          | 8123          | 10547         | 13090         |
| El Salvador                    | 1940          | 2570          | 3588          | 4525          | 5172          | 6425          |
| Guatemala                      | 2969          | 3964          | 5246          | 6917          | 9197          | 12222         |
| Haiti                          | 3261          | 3804          | 4520          | 5353          | 6486          | 7959          |
| Honduras                       | 1401          | 1935          | 2627          | 3662          | 5138          | 6846          |
| Mexico                         | 27297         | 36530         | 50328         | 67046         | 84486         | 102555        |
| Nicaragua                      | 1109          | 1502          | 2063          | 2802          | 3676          | 5169          |
| Panama                         | 839           | 1105          | 1487          | 1956          | 2418          | 2893          |
| Paraguay                       | 1351          | 1774          | 2351          | 3147          | 4277          | 5538          |
| Peru                           | 7632          | 9931          | 13193         | 17295         | 21550         | 26276         |
| Dominican Republic             | 2353          | 3231          | 4423          | 5697          | 7170          | 8621          |
| Uruguay                        | 2239          | 2538          | 2808          | 2914          | 3094          | 3274          |
| Venezuela                      | 5009          | 7502          | 10604         | 15024         | 19321         | 23622         |
| The Caribbean and others       | 6311          | 7404          | 8660          | 9727          | 10881         | 12022         |
| Netherlands Antilles           | 116           | 137           | 162           | 171           | 175           | 178           |
| Bahamas                        | 79            | 110           | 170           | 210           | 255           | 295           |
| Barbados                       | 211           | 231           | 239           | 249           | 257           | 268           |
| Belize                         | 67            | 91            | 120           | 146           | 189           | 229           |
| Dominica                       | 51            | 60            | 70            | 75            | 72            | 71            |
| Grenada                        | 76            | 90            | 94            | 89            | 91            | 94            |
| Guadeloupe                     | 210           | 275           | 320           | 327           | 390           | 437           |
| French Guyana                  | 25            | 33            | 49            | 69            | 98            | 130           |
| Guyana                         | 423           | 569           | 709           | 759           | 796           | 883           |
| Jamaica                        | 1403          | 1629          | 1869          | 2133          | 2420          | 2677          |
| Martinique                     | 222           | 282           | 326           | 326           | 360           | 391           |
| Puerto Rico                    | 2219          | 2358          | 2718          | 3206          | 3530          | 3853          |
| Saint Lucia                    | 79            | 86            | 101           | 115           | 133           | 152           |
| Suriname                       | 215           | 290           | 372           | 352           | 422           | 500           |
| Trinidad and Tobago            | 636           | 843           | 971           | 1082          | 1236          | 1365          |
| Other territories              | 279           | 320           | 370           | 418           | 457           | 499           |
| Anguila                        | 5             | 6             | 6             | 7             | 7             | 8             |
| Antigua and Barbuda            | 46            | 55            | 66            | 61            | 65            | 70            |
| Aruba                          | 57            | 59            | 61            | 60            | 61            | 63            |
| Falkland Islands               | 2             | 2             | 2             | 2             | 2             | 2             |
| Cayman Islands                 | 6             | 9             | 10            | 17            | 27            | 40            |
| U.S. Virgin Islands            | 27            | 33            | 64            | 98            | 107           | 109           |
| British Virgin Islands         | 6             | 7             | 10            | 12            | 16            | 21            |
| Montserrat                     | 14            | 12            | 11            | 12            | 11            | 11            |
| Saint Christopher and Nevis    | 44            | 51            | 47            | 44            | 42            | 41            |
| St. Vincent and the Grenadines | 67            | 80            | 87            | 98            | 107           | 117           |
| Turks and Caicos               | 5             | 6             | 6             | 7             | 12            | 17            |

Source: CELADE and United Nations (1992).

A-2

LATIN AMERICA AND THE CARIBBEAN: AVERAGE ANNUAL RATES OF GROWTH, 1950-2000  
(Rates per hundred)

| Region and country          | 1950-60 | 1960-70 | 1970-80 | 1980-90 | 1990-2000 |
|-----------------------------|---------|---------|---------|---------|-----------|
| Regional total              | 2.71    | 2.68    | 2.37    | 2.06    | 1.70      |
| Latin America               | 2.76    | 2.72    | 2.41    | 2.09    | 1.72      |
| Argentina                   | 1.84    | 1.50    | 1.64    | 1.35    | 1.14      |
| Bolivia                     | 2.15    | 2.32    | 2.55    | 2.51    | 2.31      |
| Brazil                      | 3.06    | 2.78    | 2.35    | 2.06    | 1.48      |
| Colombia                    | 2.88    | 2.93    | 2.17    | 1.97    | 1.58      |
| Costa Rica                  | 3.60    | 3.37    | 2.77    | 2.84    | 2.25      |
| Cuba                        | 1.77    | 1.99    | 1.28    | 0.92    | 0.81      |
| Chile                       | 2.25    | 2.22    | 1.59    | 1.67    | 1.48      |
| Ecuador                     | 2.88    | 3.16    | 2.94    | 2.61    | 2.16      |
| El Salvador                 | 2.81    | 3.34    | 2.32    | 1.34    | 2.17      |
| Guatemala                   | 2.89    | 2.80    | 2.77    | 2.85    | 2.84      |
| Haiti                       | 1.54    | 1.72    | 1.69    | 1.92    | 2.05      |
| Honduras                    | 3.23    | 3.06    | 3.32    | 3.39    | 2.87      |
| Mexico                      | 2.91    | 3.20    | 2.87    | 2.31    | 1.94      |
| Nicaragua                   | 3.03    | 3.17    | 3.06    | 2.71    | 3.41      |
| Panama                      | 2.75    | 2.97    | 2.74    | 2.12    | 1.79      |
| Paraguay                    | 2.72    | 2.82    | 2.92    | 3.07    | 2.58      |
| Peru                        | 2.63    | 2.84    | 2.71    | 2.20    | 1.98      |
| Dominican Republic          | 3.17    | 3.14    | 2.53    | 2.30    | 1.84      |
| Uruguay                     | 1.25    | 1.01    | 0.37    | 0.60    | 0.57      |
| Venezuela                   | 4.04    | 3.46    | 3.48    | 2.52    | 2.01      |
| The Caribbean and others    | 1.60    | 1.57    | 1.16    | 1.12    | 1.00      |
| Netherlands Antilles        | 1.66    | 1.68    | 0.54    | 0.23    | 0.17      |
| Bahamas                     | 3.31    | 4.35    | 2.11    | 1.94    | 1.46      |
| Barbados                    | 0.91    | 0.34    | 0.41    | 0.32    | 0.42      |
| Belize                      | 3.06    | 2.77    | 1.96    | 2.58    | 1.92      |
| Dominica                    | 1.63    | 1.54    | 0.69    | -0.41   | -0.14     |
| Grenada                     | 1.69    | 0.43    | -0.55   | 0.22    | 0.32      |
| Guadeloupe                  | 2.70    | 1.52    | 0.22    | 1.76    | 1.14      |
| French Guyana               | 2.78    | 3.95    | 3.42    | 3.51    | 2.83      |
| Guyana                      | 2.97    | 2.20    | 0.68    | 0.48    | 1.04      |
| Jamaica                     | 1.49    | 1.37    | 1.32    | 1.26    | 1.01      |
| Martinique                  | 2.39    | 1.45    | 0.00    | 0.99    | 0.83      |
| Puerto Rico                 | 0.61    | 1.42    | 1.65    | 0.96    | 0.88      |
| Santa Lucia                 | 0.85    | 1.61    | 1.30    | 1.45    | 1.34      |
| Suriname                    | 2.99    | 2.49    | -0.55   | 1.81    | 1.70      |
| Trinidad and Tobago         | 2.82    | 1.41    | 1.08    | 1.33    | 0.99      |
| Other territories           | 1.37    | 1.45    | 1.22    | 0.89    | 0.88      |
| Anguila                     | 1.82    | 0.00    | 1.54    | 0.00    | 1.34      |
| Antigua and Barbuda         | 1.79    | 1.82    | -0.79   | 0.64    | 0.74      |
| Aruba                       | 0.34    | 0.33    | -0.17   | 0.17    | 0.32      |
| Falkland Islands            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00      |
| Cayman Islands              | 4.05    | 1.05    | 5.31    | 4.63    | 3.93      |
| U.S. Virgin Islands         | 2.01    | 6.62    | 4.26    | 0.88    | 0.19      |
| British Virgin Islands      | 1.54    | 3.57    | 1.82    | 2.88    | 2.72      |
| Montserrat                  | -1.54   | -0.87   | 0.87    | -0.87   | 0.00      |
| Saint Christopher and Nevis | 1.48    | -0.82   | -0.66   | -0.47   | -0.24     |
| St. Vincent and the Grenad. | 1.77    | 0.84    | 1.19    | 0.88    | 0.89      |
| Turks and Caicos            | 1.82    | 0.00    | 1.54    | 5.39    | 3.48      |

Source: CELADE and United Nations (1992).

## A-3

LATIN AMERICA AND THE CARIBBEAN: OVERALL BIRTH RATES BY FIVE YEAR PERIODS,  
WITH COUNTRIES GROUPED ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION. 1950-2000

| Countries                             | Five year periods |              |              |              |              |              |              |              |              |              |
|---------------------------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                       | 1950<br>1955      | 1955<br>1960 | 1960<br>1965 | 1965<br>1970 | 1970<br>1975 | 1975<br>1980 | 1980<br>1985 | 1985<br>1990 | 1990<br>1995 | 1995<br>2000 |
| Latin America                         | 5.9               | 5.9          | 6.0          | 5.6          | 5.0          | 4.4          | 3.9          | 3.4          | 3.1          | 2.8          |
| The Caribbean<br>and others <u>a/</u> | 5.2               | 5.1          | 5.5          | 5.0          | 4.4          | 3.5          | 3.2          | 3.0          | 2.8          | 2.8          |
| Group I                               |                   |              |              |              |              |              |              |              |              |              |
| Bolivia                               | 6.8               | 6.7          | 6.6          | 6.6          | 6.5          | 6.2          | 5.5          | 5.0          | 4.6          | 4.1          |
| Haiti                                 | 6.3               | 6.3          | 6.3          | 6.0          | 5.8          | 5.4          | 5.2          | 5.0          | 4.8          | 4.6          |
| Group II                              |                   |              |              |              |              |              |              |              |              |              |
| El Salvador                           | 6.5               | 6.8          | 6.9          | 6.6          | 6.1          | 5.7          | 5.0          | 4.5          | 4.0          | 3.6          |
| Guatemala                             | 7.1               | 6.9          | 6.9          | 6.6          | 6.5          | 6.4          | 6.1          | 5.8          | 5.4          | 4.9          |
| Honduras                              | 7.1               | 7.2          | 7.4          | 7.4          | 7.4          | 6.6          | 6.2          | 5.6          | 4.9          | 4.3          |
| Nicaragua                             | 7.4               | 7.4          | 7.4          | 7.2          | 6.8          | 6.4          | 6.0          | 5.6          | 5.0          | 4.5          |
| Paraguay                              | 6.8               | 6.8          | 6.8          | 6.4          | 5.7          | 5.1          | 4.8          | 4.6          | 4.3          | 4.1          |
| Group III                             |                   |              |              |              |              |              |              |              |              |              |
| Brazil                                | 6.2               | 6.2          | 6.2          | 5.3          | 4.7          | 4.2          | 3.8          | 3.2          | 2.8          | 2.4          |
| Colombia                              | 6.8               | 6.8          | 6.8          | 6.3          | 4.7          | 4.1          | 3.5          | 2.9          | 2.7          | 2.5          |
| Costa Rica                            | 6.7               | 7.1          | 7.0          | 5.8          | 4.3          | 3.9          | 3.5          | 3.4          | 3.1          | 3.0          |
| Ecuador                               | 6.9               | 6.9          | 6.9          | 6.7          | 6.1          | 5.4          | 4.7          | 4.1          | 3.6          | 3.2          |
| Guyana                                | 6.7               | 6.8          | 6.2          | 6.1          | 4.9          | 3.9          | 3.3          | 2.8          | 2.6          | 2.3          |
| Mexico                                | 6.8               | 6.8          | 6.8          | 6.7          | 6.4          | 5.0          | 4.3          | 3.6          | 3.2          | 2.8          |
| Panama                                | 5.7               | 5.9          | 5.9          | 5.6          | 4.9          | 4.1          | 3.5          | 3.1          | 2.9          | 2.7          |
| Peru                                  | 6.9               | 6.9          | 6.9          | 6.6          | 6.0          | 5.4          | 4.7          | 4.0          | 3.6          | 3.2          |
| Dominican Rep.                        | 7.4               | 7.4          | 7.3          | 6.7          | 5.6          | 4.7          | 4.2          | 3.8          | 3.3          | 3.0          |
| Suriname                              | 6.6               | 6.6          | 6.6          | 5.9          | 5.3          | 4.2          | 3.4          | 3.0          | 2.7          | 2.4          |
| Trin. & Tob.                          | 5.3               | 5.3          | 5.0          | 3.8          | 3.5          | 3.4          | 3.2          | 3.0          | 2.7          | 2.5          |
| Venezuela                             | 6.5               | 6.5          | 6.5          | 5.9          | 5.0          | 4.5          | 3.9          | 3.5          | 3.1          | 2.9          |
| Group IV                              |                   |              |              |              |              |              |              |              |              |              |
| Argentina                             | 3.2               | 3.1          | 3.1          | 3.1          | 3.2          | 3.4          | 3.2          | 3.0          | 2.8          | 2.7          |
| Bahamas                               | 4.2               | 3.7          | 3.9          | 3.3          | 3.0          | 2.6          | 2.6          | 2.2          | 2.0          | 1.9          |
| Barbados                              | 4.7               | 4.7          | 4.3          | 3.5          | 2.7          | 2.2          | 1.9          | 1.6          | 1.8          | 1.9          |
| Cuba                                  | 4.1               | 3.7          | 4.7          | 4.3          | 3.5          | 2.1          | 1.9          | 1.8          | 1.9          | 2.0          |
| Chile                                 | 5.1               | 5.3          | 5.3          | 4.4          | 3.6          | 2.9          | 2.8          | 2.7          | 2.7          | 2.6          |
| Guadeloupe                            | 5.6               | 5.6          | 5.6          | 5.2          | 4.5          | 3.1          | 2.6          | 2.5          | 2.2          | 2.0          |
| Jamaica                               | 4.2               | 5.1          | 5.6          | 5.8          | 5.0          | 4.0          | 3.6          | 2.7          | 2.4          | 2.1          |
| Martinique                            | 5.7               | 5.7          | 5.5          | 5.0          | 4.1          | 2.7          | 2.1          | 2.1          | 2.0          | 1.9          |
| Puerto Rico                           | 5.0               | 4.8          | 4.4          | 3.4          | 3.0          | 2.8          | 2.4          | 2.2          | 2.2          | 2.1          |
| Uruguay                               | 2.7               | 2.8          | 2.9          | 2.8          | 3.0          | 2.9          | 2.6          | 2.4          | 2.3          | 2.3          |

Source: CELADE and United Nations (1992).

a/: Includes Anguila, Antigua, Aruba, United States and British Virgin Islands, Cayman Islands, Dominica, Grenada, Montserrat, Netherlands Antilles, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Turks and Caicos.

## A- 4

**LATIN AMERICA: BIRTH RATES BY AGE, WITH COUNTRIES GROUPED**  
**ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION 1950-55 Y 1985-90**  
**(Rates per thousand)**

| Countries        | Age groups |       |       |       |       |       |       |    | TGF |
|------------------|------------|-------|-------|-------|-------|-------|-------|----|-----|
|                  | 15-19      | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |    |     |
| <b>Group I</b>   |            |       |       |       |       |       |       |    |     |
| Bolivia          | 1950-55    | 100   | 275   | 307   | 281   | 222   | 120   | 46 | 6.8 |
|                  | 1985-90    | 86    | 237   | 247   | 197   | 138   | 73    | 23 | 5.0 |
| Haiti            | 1950-55    | 77    | 207   | 284   | 273   | 217   | 132   | 71 | 6.3 |
|                  | 1985-90    | 55    | 196   | 240   | 214   | 162   | 96    | 36 | 5.0 |
| <b>Group II</b>  |            |       |       |       |       |       |       |    |     |
| El Salvador      | 1950-55    | 142   | 314   | 332   | 263   | 162   | 64    | 15 | 6.5 |
|                  | 1985-90    | 139   | 247   | 210   | 155   | 102   | 48    | 4  | 4.5 |
| Guatemala        | 1950-55    | 174   | 313   | 321   | 280   | 209   | 93    | 27 | 7.1 |
|                  | 1985-90    | 133   | 276   | 277   | 229   | 157   | 70    | 13 | 5.8 |
| Honduras         | 1950-55    | 151   | 305   | 320   | 286   | 212   | 116   | 21 | 7.1 |
|                  | 1985-90    | 118   | 279   | 261   | 204   | 164   | 77    | 7  | 5.6 |
| Nicaragua        | 1950-55    | 170   | 353   | 356   | 273   | 211   | 95    | 29 | 7.4 |
|                  | 1985-90    | 169   | 270   | 260   | 201   | 140   | 56    | 14 | 5.6 |
| Paraguay         | 1950-55    | 95    | 283   | 324   | 293   | 222   | 119   | 24 | 6.8 |
|                  | 1985-90    | 79    | 196   | 216   | 191   | 144   | 74    | 16 | 4.6 |
| <b>Group III</b> |            |       |       |       |       |       |       |    |     |
| Brazil           | 1950-55    | 83    | 264   | 302   | 251   | 189   | 98    | 44 | 6.2 |
|                  | 1985-90    | 48    | 170   | 181   | 131   | 78    | 30    | 3  | 3.2 |
| Colombia         | 1950-55    | 128   | 287   | 323   | 280   | 214   | 92    | 28 | 6.8 |
|                  | 1985-90    | 74    | 159   | 146   | 104   | 63    | 27    | 7  | 2.9 |
| Costa Rica       | 1950-55    | 119   | 334   | 331   | 261   | 203   | 83    | 15 | 6.7 |
|                  | 1985-90    | 98    | 182   | 165   | 123   | 75    | 26    | 3  | 3.4 |
| Ecuador          | 1950-55    | 140   | 294   | 320   | 278   | 213   | 105   | 32 | 6.9 |
|                  | 1985-90    | 83    | 222   | 206   | 153   | 101   | 44    | 11 | 4.1 |
| Mexico           | 1950-55    | 115   | 300   | 322   | 287   | 200   | 100   | 26 | 6.8 |
|                  | 1985-90    | 93    | 209   | 177   | 126   | 82    | 28    | 5  | 3.6 |
| Panama           | 1950-55    | 145   | 283   | 278   | 208   | 136   | 63    | 23 | 5.7 |
|                  | 1985-90    | 91    | 185   | 159   | 105   | 62    | 22    | 5  | 3.1 |
| Peru             | 1950-55    | 130   | 283   | 317   | 278   | 205   | 113   | 45 | 6.9 |
|                  | 1985-90    | 72    | 188   | 203   | 161   | 121   | 45    | 10 | 4.0 |
| Dom. Rep.        | 1950-55    | 166   | 335   | 340   | 300   | 211   | 107   | 22 | 7.4 |
|                  | 1985-90    | 79    | 216   | 195   | 140   | 85    | 28    | 8  | 3.8 |
| Venezuela        | 1950-55    | 155   | 330   | 308   | 239   | 167   | 70    | 24 | 6.5 |
|                  | 1985-90    | 79    | 191   | 177   | 125   | 78    | 34    | 8  | 3.5 |
| <b>Group IV</b>  |            |       |       |       |       |       |       |    |     |
| Argentina        | 1950-55    | 62    | 160   | 172   | 128   | 76    | 26    | 7  | 3.2 |
|                  | 1985-90    | 71    | 158   | 162   | 115   | 63    | 20    | 4  | 3.0 |
| Cuba             | 1950-55    | 67    | 234   | 231   | 158   | 90    | 33    | 7  | 4.1 |
|                  | 1985-90    | 85    | 123   | 93    | 48    | 24    | 8     | 1  | 1.8 |
| Chile            | 1950-55    | 84    | 224   | 255   | 212   | 148   | 77    | 20 | 5.1 |
|                  | 1985-90    | 67    | 158   | 147   | 99    | 54    | 18    | 2  | 2.7 |
| Uruguay          | 1950-55    | 60    | 150   | 148   | 104   | 60    | 20    | 4  | 2.7 |
|                  | 1985-90    | 61    | 135   | 133   | 91    | 49    | 15    | 1  | 2.4 |

Source: CELADE and United Nations (1991).

A-5

LATIN AMERICA AND THE CARIBBEAN: LIFE EXPECTANCY AT BIRTH,  
WITH COUNTRIES GROUPED ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION. 1950-2000

| Region<br>and<br>countries                             | Life expectancy [e(o)]<br>1950-55 | Five year increase |                          |                          | e(o)    |      |
|--|-----------------------------------|--------------------|--------------------------|--------------------------|---------|------|
|  |                                   | 1950-55            | 1970-75<br>to<br>1985-90 | 1970-75<br>to<br>1985-90 | Year    |      |
|  |                                   |                    |                          |                          | 1985-90 | 2000 |
| LATIN AMERICA<br>CARIBBEAN AND<br>OTHERS <sub>a/</sub> | 51.8                              | 61.3               | 66.7                     | 2.4                      | 1.8     | 69.8 |
| GROUP I  |                                   |                    |                          |                          |         |      |
| BOLIVIA  | 40.4                              | 46.7               | 58.8                     | 1.6                      | 4.0     | 64.5 |
| HAITI  | 37.6                              | 48.5               | 54.7                     | 2.7                      | 2.1     | 59.4 |
| GROUP II   |                                   |                    |                          |                          |         |      |
| EL SALVADOR  | 45.3                              | 58.8               | 62.4                     | 3.4                      | 1.2     | 69.1 |
| GUATEMALA  | 42.1                              | 54.0               | 62.0                     | 3.0                      | 2.7     | 68.1 |
| HONDURAS   | 42.3                              | 54.0               | 64.0                     | 2.9                      | 3.3     | 68.2 |
| NICARAGUA  | 42.3                              | 55.2               | 62.4                     | 3.2                      | 2.4     | 69.2 |
| PARAGUAY   | 62.6                              | 65.6               | 66.9                     | 0.7                      | 0.4     | 67.9 |
| GROUP III  |                                   |                    |                          |                          |         |      |
| BRAZIL   | 51.0                              | 59.8               | 64.9                     | 2.2                      | 1.7     | 68.0 |
| COLOMBIA   | 50.6                              | 61.6               | 68.2                     | 2.8                      | 2.2     | 70.7 |
| COSTA RICA   | 57.3                              | 68.1               | 75.3                     | 2.7                      | 2.4     | 77.1 |
| ECUADOR  | 48.4                              | 58.9               | 65.4                     | 2.6                      | 2.2     | 68.2 |
| GUYANA   | 52.3                              | 60.0               | 63.2                     | 1.9                      | 1.1     | 67.7 |
| MEXICO   | 50.8                              | 62.9               | 68.8                     | 3.0                      | 2.0     | 72.0 |
| PANAMA   | 55.3                              | 66.3               | 72.1                     | 2.8                      | 1.9     | 73.5 |
| PERU   | 43.9                              | 55.5               | 61.4                     | 2.9                      | 2.0     | 67.9 |
| DOMINICAN REP.   | 46.0                              | 59.9               | 65.9                     | 3.5                      | 2.0     | 69.7 |
| SURINAME   | 56.0                              | 64.0               | 68.8                     | 2.0                      | 1.6     | 72.1 |
| TRINIDAD AND TOBAGO                                    | 58.2                              | 65.7               | 70.1                     | 1.9                      | 1.5     | 73.1 |
| VENEZUELA  | 55.2                              | 66.2               | 69.7                     | 2.8                      | 1.1     | 71.3 |
| GROUP IV   |                                   |                    |                          |                          |         |      |
| ARGENTINA  | 62.7                              | 67.3               | 70.6                     | 1.1                      | 1.1     | 72.3 |
| BAHAMAS  | 59.8                              | 66.6               | 71.1                     | 1.7                      | 1.5     | 73.9 |
| BARBADOS   | 57.2                              | 69.4               | 74.6                     | 3.1                      | 1.7     | 76.8 |
| CUBA   | 59.5                              | 71.0               | 75.2                     | 2.9                      | 1.4     | 76.3 |
| CHILE  | 53.8                              | 63.6               | 71.5                     | 2.5                      | 2.6     | 72.7 |
| GUADELOUPE   | 56.5                              | 67.8               | 73.6                     | 2.8                      | 1.9     | 75.9 |
| JAMAICA  | 57.2                              | 68.6               | 72.5                     | 2.9                      | 1.3     | 75.1 |
| MARTINIQUE   | 56.5                              | 69.2               | 75.4                     | 3.2                      | 2.1     | 77.3 |
| PUERTO RICO  | 64.8                              | 72.5               | 74.3                     | 1.9                      | 0.6     | 75.9 |
| URUGUAY  | 66.3                              | 68.8               | 72.0                     | 0.6                      | 1.1     | 73.0 |

Source: CELADE and United Nations (1992).

a/: Includes Anguila, Antigua, Aruba, Bahamas, United States and British Virgin Islands, Cayman Islands, Dominica, Grenada, Montserrat, Netherlands Antilles, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Turks and Caicos.

## A-6

LATIN AMERICA AND THE CARIBBEAN: INFANT MORTALITY RATES 1950-55, 1970-75, 1985-90 AND  
 PROJECTIONS FOR 2000, ANNUAL BIRTHS: 1985-90, COUNTRIES GROUPED  
 ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION  
 (Rates per thousand)

| Region and countries   | Mortality rate |           | Five year period decrease |           |           | Rate for year | Annual births 1985-90 | %     |
|------------------------|----------------|-----------|---------------------------|-----------|-----------|---------------|-----------------------|-------|
|                        | 1950-1955      | 1970-1975 | 1985-1990                 | 1950-1970 | 1970-1985 | 2000          | Thousands             |       |
| LATIN AMERICA          | 127            | 81        | 54                        | 11.5      | 9.0       | 40            | 11514                 |       |
| CARIBBEAN AND OTHER a/ | 124            | 73        | 52                        | 12.8      | 7.0       | 41            | 203                   |       |
| Total                  |                |           |                           |           |           |               | 11717                 | 100.0 |
| GROUP I                |                |           |                           |           |           |               |                       |       |
| BOLIVIA                | 176            | 151       | 98                        | 6.3       | 17.7      | 67            | 248                   |       |
| HAITI                  | 220            | 135       | 97                        | 21.3      | 12.7      | 72            | 224                   |       |
| Total                  |                |           |                           |           |           |               | 472                   | 4.0   |
| GROUP II               |                |           |                           |           |           |               |                       |       |
| EL SALVADOR            | 151            | 99        | 59                        | 13.0      | 13.3      | 36            | 172                   |       |
| GUATEMALA              | 141            | 95        | 59                        | 11.5      | 12.0      | 37            | 350                   |       |
| HONDURAS               | 185            | 94        | 63                        | 22.8      | 10.3      | 45            | 189                   |       |
| NICARAGUA              | 167            | 100       | 71                        | 16.8      | 9.7       | 42            | 150                   |       |
| PARAGUAY               | 73             | 55        | 49                        | 4.5       | 2.0       | 44            | 139                   |       |
| Total                  |                |           |                           |           |           |               | 1000                  | 8.5   |
| GROUP III              |                |           |                           |           |           |               |                       |       |
| BRAZIL                 | 135            | 91        | 63                        | 11.0      | 9.3       | 48            | 3801                  |       |
| COLOMBIA               | 123            | 73        | 40                        | 12.5      | 11.0      | 33            | 802                   |       |
| COSTA RICA             | 94             | 53        | 16                        | 10.3      | 12.3      | 12            | 82                    |       |
| ECUADOR                | 140            | 95        | 63                        | 11.3      | 10.7      | 49            | 321                   |       |
| GUYANA                 | 119            | 79        | 56                        | 10.0      | 7.7       | 39            | 21                    |       |
| MEXICO                 | 114            | 68        | 41                        | 11.5      | 9.0       | 28            | 2400                  |       |
| PANAMA                 | 93             | 43        | 23                        | 12.5      | 6.7       | 19            | 62                    |       |
| PERU                   | 159            | 110       | 88                        | 12.3      | 7.3       | 63            | 636                   |       |
| DOMINICAN REPUBLIC     | 149            | 94        | 65                        | 13.8      | 9.7       | 46            | 213                   |       |
| SURINAME               | 89             | 49        | 33                        | 10.0      | 5.3       | 22            | 11                    |       |
| TRINIDAD AND TOBAGO    | 79             | 42        | 24                        | 9.3       | 6.0       | 15            | 32                    |       |
| VENEZUELA              | 106            | 49        | 36                        | 14.3      | 4.3       | 30            | 519                   |       |
| Total                  |                |           |                           |           |           |               | 8900                  | 76.0  |
| GROUP IV               |                |           |                           |           |           |               |                       |       |
| ARGENTINA              | 66             | 49        | 32                        | 4.3       | 5.7       | 25            | 669                   |       |
| BAHAMAS                | 80             | 32        | 26                        | 12.0      | 2.0       | 17            | ...                   |       |
| BARBADOS               | 132            | 33        | 12                        | 25.8      | 7.0       | 9             | 4                     |       |
| CUBA                   | 81             | 39        | 15                        | 10.5      | 8.0       | 13            | 182                   |       |
| CHILE                  | 126            | 70        | 18                        | 14.0      | 17.3      | 15            | 301                   |       |
| GUADELOUPE             | 68             | 42        | 14                        | 6.5       | 9.3       | 11            | 7                     |       |
| JAMAICA                | 85             | 42        | 17                        | 10.8      | 8.3       | 11            | 57                    |       |
| MARTINIQUE             | 65             | 35        | 11                        | 7.5       | 8.0       | 9             | 6                     |       |
| PUERTO RICO            | 63             | 25        | 14                        | 9.5       | 3.7       | 12            | 65                    |       |
| URUGUAY                | 57             | 46        | 24                        | 2.8       | 7.3       | 16            | 54                    |       |
| Total                  |                |           |                           |           |           |               | 1345                  | 11.5  |

Source: CELADE and United Nations (1992).

a/: Includes Anguilla, Antigua, Aruba, Bahamas, United States and British Virgin Islands, Cayman Islands, Dominica, Grenada, Montserrat, Netherlands Antilles, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Turks and Caicos.

## A-7

LATIN AMERICA AND THE CARIBBEAN: RELATIVE POPULATION DISTRIBUTION IN COUNTRIES GROUPED  
ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION, BY LARGE AGE GROUPS. 1950-2000

| Region and countries     | 1950 |       |      | 1990 |       |      | 2000 |       |      |
|--------------------------|------|-------|------|------|-------|------|------|-------|------|
|                          | <15  | 15-64 | 65 + | <15  | 15-64 | 65 + | <15  | 15-64 | 65 + |
| Latin America            | 40.4 | 56.1  | 3.5  | 35.8 | 59.5  | 4.7  | 31.7 | 62.9  | 5.4  |
| The Caribbean and others | 39.5 | 55.9  | 4.6  | 31.2 | 62.3  | 6.5  | 30.2 | 63.0  | 6.8  |
| Group I                  |      |       |      |      |       |      |      |       |      |
| Bolivia                  | 42.0 | 54.9  | 3.1  | 41.4 | 55.0  | 3.6  | 38.1 | 57.7  | 4.2  |
| Haiti                    | 36.8 | 58.0  | 5.2  | 40.2 | 55.7  | 4.1  | 39.9 | 56.3  | 3.8  |
| Group II                 |      |       |      |      |       |      |      |       |      |
| El Salvador              | 42.8 | 54.2  | 3.1  | 43.5 | 52.7  | 3.8  | 38.9 | 56.7  | 4.4  |
| Guatemala                | 44.1 | 53.4  | 2.6  | 45.4 | 51.4  | 3.2  | 42.9 | 53.3  | 3.7  |
| Honduras                 | 44.7 | 53.4  | 1.9  | 44.6 | 52.2  | 3.3  | 41.2 | 55.4  | 3.5  |
| Nicaragua                | 44.0 | 53.0  | 3.0  | 47.9 | 49.1  | 3.0  | 43.6 | 53.2  | 3.2  |
| Paraguay                 | 42.9 | 53.9  | 3.2  | 40.4 | 56.1  | 3.6  | 38.3 | 58.2  | 3.6  |
| Group III                |      |       |      |      |       |      |      |       |      |
| Brazil                   | 42.0 | 55.5  | 2.5  | 34.7 | 60.7  | 4.7  | 29.1 | 65.3  | 5.6  |
| Colombia                 | 42.7 | 53.7  | 3.7  | 35.3 | 60.5  | 4.2  | 30.4 | 64.9  | 4.7  |
| Costa Rica               | 43.3 | 52.9  | 3.7  | 36.5 | 59.3  | 4.2  | 33.1 | 61.8  | 5.1  |
| Ecuador                  | 41.9 | 53.5  | 4.6  | 39.3 | 56.9  | 3.8  | 34.8 | 61.0  | 4.2  |
| Guyana                   | 48.4 | 48.3  | 3.3  | 33.4 | 62.8  | 3.8  | 29.3 | 66.4  | 4.3  |
| Mexico                   | 43.0 | 52.8  | 4.2  | 38.0 | 58.3  | 3.7  | 33.8 | 61.7  | 4.5  |
| Panama                   | 41.0 | 55.1  | 3.9  | 35.0 | 60.3  | 4.8  | 31.5 | 63.1  | 5.4  |
| Peru                     | 41.6 | 55.0  | 3.5  | 37.6 | 58.6  | 3.8  | 33.6 | 61.8  | 4.6  |
| Dominican Republic       | 44.5 | 52.3  | 3.2  | 37.9 | 58.7  | 3.4  | 33.9 | 61.9  | 4.3  |
| Suriname                 | 47.5 | 48.4  | 4.1  | 34.0 | 61.8  | 4.2  | 30.9 | 64.0  | 5.1  |
| Trinidad and Tobago      | 43.0 | 53.0  | 4.0  | 34.0 | 60.5  | 5.5  | 30.5 | 64.0  | 5.5  |
| Venezuela                | 43.6 | 54.6  | 1.8  | 37.2 | 59.1  | 3.7  | 32.4 | 63.1  | 4.5  |
| Group IV                 |      |       |      |      |       |      |      |       |      |
| Argentina                | 30.5 | 65.3  | 4.2  | 29.9 | 61.0  | 9.1  | 27.2 | 62.9  | 9.8  |
| Barbados                 | 38.1 | 55.2  | 6.7  | 24.5 | 63.7  | 11.8 | 22.2 | 66.7  | 11.1 |
| Cuba                     | 35.8 | 59.3  | 4.9  | 22.7 | 68.8  | 8.5  | 23.4 | 67.3  | 9.4  |
| Chile                    | 36.7 | 59.0  | 4.3  | 30.6 | 63.4  | 6.0  | 29.4 | 63.9  | 6.7  |
| Guadeloupe               | 43.1 | 51.8  | 5.1  | 27.0 | 64.1  | 8.9  | 27.4 | 62.8  | 9.8  |
| Jamaica                  | 41.7 | 54.0  | 4.3  | 33.2 | 60.2  | 6.6  | 28.6 | 65.0  | 6.4  |
| Martinique               | 42.4 | 53.1  | 4.5  | 24.1 | 65.9  | 10.0 | 25.3 | 63.4  | 11.3 |
| Puerto Rico              | 42.8 | 52.0  | 5.2  | 26.0 | 63.5  | 10.5 | 24.6 | 64.3  | 11.1 |
| Uruguay                  | 27.9 | 63.9  | 8.2  | 25.8 | 62.6  | 11.6 | 23.9 | 63.5  | 12.7 |

Source: CELADE and United Nations (1991).

A-8  
 LATIN AMERICA AND THE CARIBBEAN: RATES OF ANNUAL AVERAGE GROWTH IN COUNTRIES GROUPED  
 ACCORDING TO THE STAGES OF DEMOGRAPHIC TRANSITION, BY LARGE GROUPS, 1960-2000  
 (Rates per hundred)

| Region and countries     | 1960-1970 |       |      | 1970-1980 |       |      | 1980-1990 |       |      | 1990-2000 |       |      |
|--------------------------|-----------|-------|------|-----------|-------|------|-----------|-------|------|-----------|-------|------|
|                          | <15       | 15-64 | 65 + | <15       | 15-64 | 65 + | <15       | 15-64 | 65 + | <15       | 15-64 | 65 + |
| Latin America            | 2.7       | 2.7   | 3.5  | 1.7       | 2.9   | 3.3  | 1.1       | 2.6   | 3.0  | 0.5       | 2.3   | 3.1  |
| The Caribbean and others | 1.3       | 1.5   | 3.3  | -0.7      | 2.2   | 3.3  | -0.6      | 1.8   | 2.4  | 0.1       | 1.4   | 1.4  |
| Group I                  |           |       |      |           |       |      |           |       |      |           |       |      |
| Bolivia                  | 2.4       | 2.3   | 2.8  | 2.6       | 2.5   | 2.6  | 2.1       | 2.8   | 3.4  | 1.5       | 2.8   | 3.7  |
| Haiti                    | 2.1       | 1.5   | 1.0  | 1.6       | 1.8   | 1.1  | 1.8       | 2.1   | 1.1  | 2.0       | 2.2   | 1.4  |
| Group II                 |           |       |      |           |       |      |           |       |      |           |       |      |
| El Salvador              | 3.6       | 3.1   | 4.1  | 2.2       | 2.4   | 3.4  | 0.8       | 1.7   | 3.4  | 1.1       | 2.9   | 3.6  |
| Guatemala                | 2.8       | 2.8   | 3.5  | 2.8       | 2.8   | 2.8  | 2.8       | 2.9   | 3.9  | 2.3       | 3.2   | 4.4  |
| Honduras                 | 3.5       | 2.6   | 4.2  | 3.4       | 3.2   | 4.8  | 2.8       | 3.9   | 4.3  | 2.1       | 3.5   | 3.4  |
| Nicaragua                | 3.3       | 3.1   | 2.2  | 2.9       | 3.2   | 3.1  | 2.8       | 2.6   | 4.4  | 2.5       | 4.2   | 4.1  |
| Paraguay                 | 2.6       | 3.1   | 3.1  | 1.9       | 3.7   | 3.1  | 2.7       | 3.4   | 3.4  | 2.0       | 3.0   | 2.6  |
| Group III                |           |       |      |           |       |      |           |       |      |           |       |      |
| Brazil                   | 2.5       | 2.9   | 4.5  | 1.2       | 3.1   | 4.0  | 1.2       | 2.5   | 3.6  | -0.3      | 2.2   | 3.3  |
| Colombia                 | 2.8       | 3.0   | 3.1  | 0.8       | 3.2   | 3.4  | 0.7       | 2.7   | 3.2  | 0.1       | 2.3   | 2.8  |
| Costa Rica               | 3.1       | 3.6   | 3.3  | 1.1       | 4.0   | 3.9  | 2.2       | 3.1   | 4.5  | 1.3       | 2.7   | 4.1  |
| Ecuador                  | 3.3       | 3.1   | 2.5  | 2.5       | 3.4   | 2.7  | 1.6       | 3.3   | 3.1  | 0.9       | 2.9   | 3.2  |
| Guyana                   | 2.0       | 2.3   | 2.8  | -0.8      | 1.9   | 1.8  | -1.5      | 1.8   | 0.2  | -0.2      | 1.7   | 2.4  |
| Mexico                   | 3.4       | 3.1   | 2.3  | 2.4       | 3.4   | 2.4  | 0.8       | 3.4   | 2.8  | 0.8       | 2.5   | 3.9  |
| Panama                   | 3.1       | 2.8   | 3.0  | 1.9       | 3.4   | 2.9  | 0.7       | 3.0   | 3.6  | 0.7       | 2.3   | 3.1  |
| Peru                     | 3.0       | 2.7   | 2.9  | 2.2       | 3.1   | 3.1  | 1.2       | 2.9   | 2.8  | 0.9       | 2.5   | 3.8  |
| Dominican Republic       | 3.3       | 3.0   | 3.0  | 1.4       | 3.5   | 3.0  | 1.2       | 3.0   | 3.0  | 0.7       | 2.4   | 4.2  |
| Suriname                 | 2.7       | 2.4   | 2.0  | -2.5      | 1.0   | 0.9  | 0.2       | 2.9   | 1.1  | 0.7       | 2.0   | 3.6  |
| Trinidad and Tobago      | 1.2       | 1.5   | 2.4  | -1.0      | 2.2   | 3.5  | 1.6       | 1.8   | 1.5  | 0.4       | 2.0   | 1.5  |
| Venezuela                | 3.4       | 3.5   | 5.2  | 2.4       | 4.3   | 4.5  | 1.5       | 3.1   | 4.1  | 0.6       | 2.7   | 3.9  |
| Group IV                 |           |       |      |           |       |      |           |       |      |           |       |      |
| Argentina                | 1.0       | 1.5   | 3.8  | 1.9       | 1.3   | 3.3  | 1.3       | 1.2   | 2.4  | 0.2       | 1.5   | 1.9  |
| Barbados                 | 0.0       | 0.2   | 2.5  | -1.8      | 1.3   | 2.8  | -1.7      | 0.9   | 1.4  | -0.6      | 0.8   | -0.2 |
| Cuba                     | 2.8       | 1.3   | 4.0  | -0.3      | 1.9   | 3.4  | -2.4      | 2.2   | 2.0  | 1.1       | 0.6   | 1.9  |
| Chile                    | 2.1       | 2.2   | 2.9  | 0.0       | 2.5   | 2.6  | 0.8       | 2.1   | 2.4  | 1.1       | 1.6   | 2.6  |
| Guadeloupe               | 1.4       | 1.6   | 0.9  | -2.8      | 1.8   | 4.5  | -1.1      | 1.0   | 2.3  | 0.8       | 0.4   | 1.6  |
| Jamaica                  | 2.5       | 0.1   | 4.0  | -0.2      | 2.4   | 3.1  | -0.5      | 2.7   | 1.3  | -0.4      | 1.8   | 0.8  |
| Martinique               | 1.2       | 1.5   | 2.9  | -3.7      | 1.7   | 4.8  | -1.2      | 0.9   | 2.2  | 1.1       | 0.2   | 1.8  |
| Puerto Rico              | 0.0       | 2.3   | 3.7  | 0.1       | 2.3   | 3.6  | -1.1      | 1.3   | 3.7  | 0.4       | 1.1   | 1.5  |
| Uruguay                  | 1.0       | 0.9   | 1.9  | 0.0       | 0.3   | 2.1  | 0.2       | 0.6   | 1.6  | -0.2      | 0.7   | 1.5  |

Source: CELADE and United Nations (1991).



THE AMERICAS: POPULATION RECORDED BY CENSUS IN COUNTRIES  
OTHER THAN THAT OF BIRTH: AROUND 1970 AND 1980  
(Thousands)

| COUNTRY OF PRESENCE | Census |            | Born abroad |                  | Born in Latin American and Caribbean countries |                  | Born in neighbouring countries |                  |
|---------------------|--------|------------|-------------|------------------|--|------------------|--------------------------------|------------------|
|                     | Date   | Population | Population  | Percentage<br>a/ | Population                                     | Percentage<br>b/ | Population                     | Percentage<br>c/ |
| ARGENTINA           | 1970   | 23390      | 2193        | 9.4              | ...  | ...              | 580                            | ...              |
|                     | 1980   | 27947      | 1858        | 6.7              | 747  | 40.2             | 734                            | 98.3             |
| BOLIVIA             | 1976   | 4613       | 58          | 1.3              | 43   | 74.1             | 37                             | 86.1             |
| BRAZIL              | 1970   | 93139      | 1229        | 1.3              | 72   | 5.9              | 67                             | 93.1             |
|                     | 1980   | 118675     | 1111        | 0.9              | 109  | 9.8              | 86                             | 78.9             |
| COLOMBIA            | 1964   | 19735      | 74          | 0.4              | 38   | 51.4             | 31                             | 81.6             |
| COSTA RICA          | 1973   | 1872       | 46          | 2.5              | 37   | 80.4             | 27                             | 73.0             |
|                     | 1984   | 2415       | 89          | 3.7              | 74   | 83.1             | 51                             | 68.9             |
| CUBA                | 1970   | 8569       | 130         | 1.5              | 32   | 24.6             | 29                             | 90.6             |
| CHILE               | 1970   | 8884       | 89          | 1.0              | 30   | 33.7             | 25                             | 83.3             |
|                     | 1982   | 11330      | 84          | 0.7              | 38   | 45.2             | 30                             | 79.0             |
| ECUADOR             | 1950   | 3203       | 24          | 0.8              | 17   | 70.8             | 17                             | 100.0            |
|                     | 1982   | 8073       | 75          | 0.9              | 54   | 72.0             | 41                             | 75.9             |
| EL SALVADOR         | 1971   | 3554       | 22          | 0.6              | 20   | 90.9             | 17                             | 82.1             |
| GUATEMALA           | 1973   | 5160       | 38          | 0.7              | 28   | 73.7             | 23                             | 85.2             |
|                     | 1981   | 6054       | 40          | 0.7              | 30   | 75.0             | 25                             | 83.3             |

## A-9 (cont.)

| COUNTRY OF PRESENCE | Census |            | Born abroad |                         | Born in Latin American and Caribbean countries |                         | Born in neighbouring countries |                         |
|---------------------|--------|------------|-------------|-------------------------|--|-------------------------|--------------------------------|-------------------------|
|                     | Date   | Population | Population  | Percentage<br><u>a/</u> | Population                                     | Percentage<br><u>b/</u> | Population                     | Percentage<br><u>c/</u> |
| HAITI               | 1971   | 4330       | 6           | 0.1                     | 3  | 50.0                    | 3                              | 100.0                   |
| HONDURAS            | 1961   | 1885       | 51          | 2.7                     | 47   | 92.2                    | 46                             | 97.9                    |
| MEXICO              | 1970   | 48226      | 191         | 0.4                     | 25   | 13.1                    | 7                              | 28.0                    |
|                     | 1980   | 67396      | 269         | 0.4                     | 36   | 13.4                    | 4                              | 11.1                    |
| NICARAGUA           | 1971   | 1878       | 21          | 1.1                     | 16   | 76.2                    | 12                             | 75.0                    |
| PANAMA              | 1970   | 1428       | 57          | 4.0                     | 29   | 50.9                    | 16                             | 55.2                    |
|                     | 1980   | 1825       | 48          | 2.6                     | 32   | 66.7                    | 16                             | 50.0                    |
| PARAGUAY            | 1972   | 2358       | 80          | 3.4                     | 64   | 80.0                    | 61                             | 95.3                    |
|                     | 1982   | 3029       | 169         | 5.6                     | 150  | 88.8                    | 144                            | 96.0                    |
| PERU                | 1972   | 13539      | 67          | 0.5                     | 23   | 34.3                    | 19                             | 82.6                    |
|                     | 1981   | 17005      | 67          | 0.4                     | 24   | 35.8                    | 16                             | 66.7                    |
| DOM. REP.           | 1970   | 4010       | 32          | 0.8                     | 22   | 68.8                    | 20                             | 90.9                    |
| URUGUAY             | 1975   | 2788       | 132         | 4.7                     | 37   | 28.0                    | 33                             | 89.2                    |
|                     | 1985   | 2955       | 103         | 3.5                     | 32   | 31.2                    | 32                             | 100.0                   |

## A-9 (concl.)

| COUNTRY OF PRESENCE | Census |            | Born abroad |                  | Born in Latin American and Caribbean countries |                  | Born in neighbouring countries |                  |
|---------------------|--------|------------|-------------|------------------|--|------------------|--------------------------------|------------------|
|                     | Date   | Population | Population  | Percentage<br>a/ | Population                                     | Percentage<br>b/ | Population                     | Percentage<br>c/ |
| VENEZUELA           | 1971   | 10722      | 583         | 5.4              | 221  | 37.9             | 181                            | 81.9             |
|                     | 1981   | 14517      | 1075        | 7.4              | 651  | 60.6             | 514                            | 79.0             |
| BARBADOS            | 1980   | 249        | 19          | 7.6              | 2  | 10.5             | 2                              | 100.0            |
| GUYANA              | 1980   | 73         | 6           | 8.2              | 1  | 16.4             | 1                              | 100.0            |
| JAMAICA             | 1960   | 1610       | 22          | 1.4              | 7  | 31.8             | 5                              | 71.4             |
| TRINIDAD AND TOBAGO | 1970   | 945        | 61          | 6.5              | 10   | 16.7             | 8                              | 80.0             |
| CANADA              | 1971   | 21568      | ...         | ...              | ...  | ...              | ...                            | ...              |
|                     | 1981   | 24343      | 3843        | 15.8             | 265  | 6.9              | ...                            | ...              |
| UNITED STATES       | 1970   | 203235     | 9619        | 4.7              | 1725   | 17.9             | 760                            | 44.1             |
|                     | 1980   | 226546     | 14080       | 6.2              | 4232   | 30.1             | 2199                           | 52.0             |

Source: CELADE (1989) and (1992)

a/ With respect to total population.

b/ With respect to population born abroad.

c/ With respect to population born in Latin American and Caribbean countries.

## A-10

UNITED STATES: LATIN AMERICAN AND CARIBBEAN PROFESSIONALS,  
TECHNICIANS AND TOTAL IMMIGRANTS IN 1970 AND 1980 CENSUSES  
BY COUNTRY OF BIRTH

| Country of<br>birth    | Professionals and technicians |        |                      | Total Population |         |                      |
|------------------------|-------------------------------|--------|----------------------|------------------|---------|----------------------|
|                        | 1970                          | 1980   | Percentage<br>change | 1970             | 1980    | Percentage<br>change |
| Argentina              | 4882                          | 7766   | 59.1                 | 44803            | 68887   | 53.8                 |
| Brazil                 | 2138                          | 3474   | 62.5                 | 27069            | 40919   | 51.2                 |
| Chile                  | 1984                          | 4045   | 103.9                | 15393            | 35127   | 128.2                |
| Colombia               | 5240                          | 8724   | 66.5                 | 63538            | 143508  | 125.9                |
| Uruguay                | 488                           | 919    | 88.3                 | 5092             | 13278   | 160.8                |
| Venezuela              | 631                           | 1773   | 181.0                | 11348            | 33281   | 193.3                |
| Bolivia                | 999                           | 1809   | 81.1                 | 6872             | 14468   | 110.5                |
| Ecuador                | 1901                          | 3436   | 80.8                 | 36663            | 86128   | 134.9                |
| Peru                   | 2396                          | 4853   | 102.6                | 21663            | 55496   | 156.2                |
| Paraguay               | 276                           | 444    | 60.9                 | 1792             | 2858    | 59.5                 |
| Total                  | 20935                         | 37243  | 77.9                 | 234233           | 493950  | 110.9                |
| MEXICO                 | 12689                         | 34937  | 175.3                | 759711           | 2199221 | 189.5                |
| Costa Rica             | 1110                          | 1773   | 59.7                 | 16691            | 29639   | 77.6                 |
| El Salvador            | 686                           | 2202   | 221.0                | 15717            | 94447   | 500.9                |
| Guatemala              | 1008                          | 2058   | 104.2                | 17356            | 63073   | 263.4                |
| Haiti                  | 2654                          | 5832   | 119.7                | 28026            | 92395   | 229.7                |
| Honduras               | 1816                          | 1487   | -18.1                | 27978            | 39154   | 40.0                 |
| Nicaragua              | 813                           | 1696   | 108.6                | 16125            | 44166   | 173.9                |
| Panama                 | 1859                          | 5335   | 187.0                | 20046            | 60740   | 203.0                |
| Dominican Rep.         | 1520                          | 3373   | 121.9                | 61228            | 169147  | 176.3                |
| Cuba                   | 26705                         | 42066  | 57.5                 | 439048           | 607814  | 38.4                 |
| Jamaica                | 7283                          | 15899  | 118.3                | 68576            | 196811  | 187.0                |
| Trinidad<br>and Tobago | 2004                          | 5372   | 168.1                | 20673            | 65907   | 218.8                |
| Total                  | 47458                         | 87093  | 83.5                 | 731464           | 1463293 | 100.1                |
| TOTAL                  | 81082                         | 159273 | 96.4                 | 1725408          | 4156464 | 140.9                |

Source: CELADE (1989); Martinez (1989) and Pellegrino (1991)

PROFESSIONALS AND TECHNICIANS BORN IN LATIN AMERICA AND THE CARIBBEAN AS RECORDED BY CENSUS IN COUNTRIES OTHER THAN THAT OF BIRTH  
(Censuses around 1980)

| COUNTRY OF BIRTH   | COUNTRY OF RESIDENCE AND CENSUS YEAR |                   |                |                    |                 |               |                 |                   |                |                  |                 | TOTAL  |
|--------------------|--------------------------------------|-------------------|----------------|--------------------|-----------------|---------------|-----------------|-------------------|----------------|------------------|-----------------|--------|
|                    | ARGENTINA<br>1980                    | VENEZUELA<br>1981 | BRAZIL<br>1980 | COSTA RICA<br>1984 | BOLIVIA<br>1976 | CHILE<br>1982 | ECUADOR<br>1982 | GUATEMALA<br>1981 | PANAMA<br>1980 | PARAGUAY<br>1982 | URUGUAY<br>1975 |        |
| ARGENTINA          | —                                    | 1775              | 2907           | 142                | 454             | 797           | 328             | 44                | 82             | 1007             | 1250            | 8786   |
| PARAGUAY           | 4698                                 | 76                | 788            | 8                  | 26              | 20            | 22              | 6                 | 8              | —                | 226             | 5878   |
| CHILE              | 3629                                 | 2894              | 2217           | 267                | 501             | —             | 912             | 56                | 152            | 143              | 101             | 10872  |
| BOLIVIA            | 2602                                 | 445               | 1831           | 29                 | —               | 349           | 67              | 4                 | 17             | 36               | 18              | 5398   |
| URUGUAY            | 4372                                 | 740               | 1596           | 36                 | 19              | 133           | 80              | 10                | 14             | 202              | —               | 7202   |
| BRAZIL             | 613                                  | 261               | —              | 19                 | 163             | 151           | 120             | 16                | 23             | 374              | 423             | 2163   |
| ECUADOR            | 93                                   | 944               | 129            | 39                 | 22              | 112           | —               | 17                | 102            | —                | 7               | 1465   |
| PERU               | 1753                                 | 2367              | 749            | 113                | 276             | 305           | 181             | 26                | 95             | —                | 24              | 5889   |
| VENEZUELA          | 56                                   | —                 | 93             | 60                 | 12              | 24            | 83              | 9                 | 21             | —                | 10              | 368    |
| DOMINICAN REP.     | —                                    | 629               | 11             | 17                 | 4               | 5             | 17              | 8                 | 16             | —                | —               | 707    |
| COLOMBIA           | 280                                  | 12994             | 293            | 217                | 106             | 153           | 2027            | 60                | 428            | —                | 14              | 16572  |
| HONDURAS           | —                                    | 50                | 31             | 120                | 1               | 14            | 14              | 183               | 34             | —                | —               | 447    |
| CUBA               | —                                    | 1416              | 44             | 162                | 3               | 31            | 46              | 39                | 119            | —                | —               | 1860   |
| GUATEMALA          | —                                    | 43                | 83             | 184                | 3               | 10            | 18              | —                 | 42             | —                | —               | 383    |
| MEXICO             | 83                                   | 390               | 112            | 161                | 25              | 65            | 83              | 200               | 100            | 9                | 10              | 1236   |
| NICARAGUA          | —                                    | 208               | 117            | 1069               | 4               | 13            | 13              | 194               | 151            | —                | —               | 1769   |
| EL SALVADOR        | —                                    | 90                | 40             | 404                | 2               | 14            | 32              | 558               | 112            | —                | —               | 1252   |
| PANAMA             | —                                    | 244               | 92             | 260                | 7               | 17            | 41              | 37                | —              | —                | —               | 698    |
| COSTA RICA         | —                                    | 211               | 12             | —                  | 4               | 11            | 29              | 106               | 177            | —                | —               | 550    |
| HAITI              | —                                    | 112               | 12             | 7                  | 1               | 3             | 6               | 4                 | 4              | —                | —               | 149    |
| TOTAL L. AMERICANS | 18179                                | 25777             | 11145          | 3307               | 1632            | 2224          | 4113            | 1573              | 1693           | 1771             | 2083            | 73646  |
| TOTAL FOREIGNERS   | 50721                                | 49101             | 63154          | 4723               | 4692            | 6938          | 8188            | 3121              | 3021           | 3169             | 5161            | 201989 |

Source: CELADE (1989) and Martínez (1989).

## A-12

LATIN AMERICA: TOTAL POPULATION AND DEMOGRAPHIC DENSITY BY COUNTRY  
(1950-1990)

| Country            | Area<br>km <sup>2</sup> | Population (thousands) |        |        |        |        | Demographic density (inhab/km <sup>2</sup> ) |        |        |        |        |
|--------------------|-------------------------|------------------------|--------|--------|--------|--------|--|--------|--------|--------|--------|
|                    |                         | 1950                   | 1960   | 1970   | 1980   | 1990   | 1950   | 1960   | 1970   | 1980   | 1990   |
| Latin America      | 19984.4                 | 158810                 | 209211 | 274538 | 349198 | 430182 | 7.95   | 10.47  | 13.74  | 17.47  | 21.53  |
| Argentina          | 2766.9                  | 17150                  | 20616  | 23962  | 28237  | 32322  | 6.20   | 7.45   | 8.66   | 10.21  | 11.68  |
| Bolivia            | 1098.6                  | 2766                   | 3428   | 4325   | 5581   | 7171   | 2.52   | 3.12   | 3.94   | 5.08   | 6.53   |
| Brazil             | 8512                    | 53444                  | 72594  | 95847  | 121286 | 149042 | 6.28   | 8.53   | 11.26  | 14.25  | 17.51  |
| Colombia           | 1139                    | 11946                  | 15939  | 21360  | 26525  | 32300  | 10.49  | 13.99  | 18.75  | 23.29  | 28.36  |
| Costa Rica         | 51.1                    | 862                    | 1236   | 1731   | 2284   | 3034   | 16.87  | 24.19  | 33.87  | 44.70  | 59.37  |
| Cuba               | 110.9                   | 5850                   | 6985   | 8520   | 9679   | 10608  | 52.75  | 62.98  | 76.83  | 87.28  | 95.65  |
| Chile              | 757                     | 6082                   | 7614   | 9504   | 11145  | 13173  | 8.03   | 10.06  | 12.55  | 14.72  | 17.40  |
| Ecuador            | 283.6                   | 3310                   | 4413   | 6051   | 8123   | 10547  | 11.67  | 15.56  | 21.34  | 28.64  | 37.19  |
| El Salvador        | 21                      | 1940                   | 2570   | 3588   | 4525   | 5172   | 92.38  | 122.38 | 170.86 | 215.48 | 246.29 |
| Guatemala          | 108.9                   | 2969                   | 3964   | 5246   | 6917   | 9197   | 27.26  | 36.40  | 48.17  | 63.52  | 84.45  |
| Haiti              | 27.8                    | 3261                   | 3804   | 4520   | 5353   | 6486   | 117.30                                       | 136.83 | 162.59 | 192.55 | 233.31 |
| Honduras           | 112.1                   | 1401                   | 1935   | 2627   | 3662   | 5138   | 12.50  | 17.26  | 23.43  | 32.67  | 45.83  |
| Mexico             | 1958.2                  | 27297                  | 36530  | 50328  | 67046  | 84486  | 13.94  | 18.65  | 25.70  | 34.24  | 43.14  |
| Nicaragua          | 130                     | 1109                   | 1502   | 2063   | 2802   | 3676   | 8.53   | 11.55  | 15.87  | 21.55  | 28.28  |
| Panama             | 77.1                    | 839                    | 1105   | 1487   | 1956   | 2418   | 10.88  | 14.33  | 19.29  | 25.37  | 31.36  |
| Paraguay           | 406.8                   | 1351                   | 1774   | 2351   | 3147   | 4277   | 3.32   | 4.36   | 5.78   | 7.74   | 10.51  |
| Peru               | 1285.2                  | 7632                   | 9931   | 13193  | 17295  | 21550  | 5.94   | 7.73   | 10.27  | 13.46  | 16.77  |
| Dominican Republic | 48.7                    | 2353                   | 3231   | 4423   | 5697   | 7170   | 48.32  | 66.34  | 90.82  | 116.98 | 147.23 |
| Uruguay            | 177.4                   | 2239                   | 2538   | 2808   | 2914   | 3094   | 12.62  | 14.31  | 15.83  | 16.43  | 17.44  |
| Venezuela          | 912.1                   | 5009                   | 7502   | 10604  | 15024  | 19321  | 5.49   | 8.22   | 11.63  | 16.47  | 21.18  |

Source: CELADE, based on national figures.

## A-13

**LATIN AMERICA (TWENTY COUNTRIES): INDICATORS OF DEGREE AND RATE OF URBANIZATION**  
(Period: 1939-1990)<sup>a/</sup>

| Country        | Degree of urbanization (per hundred) <sup>b/</sup> |      |      |      |      |      |      | Rate of urbanization (per thousand) <sup>c/</sup> |               |               |               |               |              |
|----------------|--|------|------|------|------|------|------|---|---------------|---------------|---------------|---------------|--------------|
|                | 1930   | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 | 1930-<br>1940                                     | 1940-<br>1950 | 1950-<br>1960 | 1960-<br>1970 | 1970-<br>1980 | 1980<br>1990 |
| Argentina      | 57.2   | 60.5 | 65.3 | 72.0 | 78.5 | 83.0 | 85.9 | 5.6   | 7.7           | 9.7           | 8.6           | 5.6           | 3.4          |
| Bolivia        | 24.5   | 27.0 | 30.0 | 33.5 | 38.2 | 44.7 | 52.4 | 9.8   | 10.5          | 11.0          | 13.2          | 15.7          | 16.0         |
| Brazil         | 24.0   | 26.4 | 36.0 | 44.9 | 55.9 | 67.3 | 73.9 | 9.5   | 30.9          | 22.3          | 21.7          | 18.6          | 9.4          |
| Colombia       | 24.5   | 30.6 | 38.1 | 48.5 | 57.4 | 64.2 | 69.5 | 22.2  | 21.9          | 24.1          | 16.9          | 11.2          | 7.8          |
| Costa Rica     | 20.0   | 26.0 | 33.5 | 34.2 | 38.7 | 43.1 | 46.7 | 26.1  | 25.4          | 2.0           | 12.2          | 10.9          | 8.0          |
| Cuba           | 51.0   | 53.7 | 56.3 | 58.5 | 60.2 | 68.0 | 74.8 | 5.2   | 4.7           | 3.8           | 2.8           | 12.3          | 9.5          |
| Chile          | 49.5   | 52.4 | 59.9 | 68.1 | 75.1 | 81.2 | 84.6 | 5.7   | 13.4          | 12.9          | 9.7           | 7.8           | 4.2          |
| Ecuador        | 22.0   | 25.0 | 28.5 | 34.4 | 39.6 | 47.1 | 56.3 | 12.9  | 13.0          | 19.0          | 13.8          | 17.5          | 17.9         |
| El Salvador    | 28.0   | 31.5 | 35.7 | 37.0 | 39.4 | 43.0 | 46.8 | 11.7  | 12.6          | 3.5           | 6.3           | 8.8           | 8.5          |
| Guatemala      | 20.0   | 22.0 | 24.5 | 32.5 | 34.4 | 37.2 | 38.1 | 9.5   | 10.8          | 28.3          | 5.6           | 7.9           | 2.3          |
| Haiti          | 10.0   | 11.3 | 13.0 | 16.0 | 19.7 | 24.5 | 30.6 | 12.2  | 14.1          | 20.9          | 20.9          | 21.6          | 22.4         |
| Honduras       | 12.0   | 14.5 | 17.6 | 22.0 | 28.0 | 34.8 | 40.7 | 18.5  | 19.3          | 22.4          | 24.4          | 21.8          | 15.6         |
| Mexico         | 33.5   | 35.1 | 42.7 | 50.8 | 59.0 | 66.4 | 72.7 | 4.7   | 19.5          | 17.4          | 15.1          | 11.8          | 9.1          |
| Nicaragua      | 25.5   | 30.0 | 35.0 | 39.6 | 47.0 | 51.1 | 55.3 | 16.4  | 15.3          | 12.4          | 17.1          | 8.5           | 7.9          |
| Panama         | 30.0   | 33.5 | 35.9 | 41.4 | 47.2 | 49.6 | 52.9 | 11.3  | 6.7           | 14.2          | 13.2          | 4.9           | 6.4          |
| Paraguay       | 30.0   | 31.8 | 34.6 | 35.6 | 37.0 | 41.5 | 47.4 | 5.7   | 8.5           | 3.0           | 3.8           | 11.5          | 13.3         |
| Peru           | 26.5   | 30.5 | 35.5 | 46.3 | 58.1 | 64.2 | 70.0 | 14.0  | 15.3          | 26.5          | 22.6          | 10.1          | 8.5          |
| Dominican Rep. | 17.5   | 20.0 | 23.8 | 30.2 | 39.3 | 50.1 | 58.6 | 13.1  | 17.5          | 24.1          | 26.1          | 24.3          | 15.8         |
| Uruguay        | 63.0   | 67.0 | 72.5 | 78.0 | 82.0 | 85.1 | 88.8 | 6.1   | 7.9           | 7.3           | 5.0           | 3.7           | 4.2          |
| Venezuela      | 27.0   | 33.5 | 47.0 | 62.0 | 75.0 | 83.0 | 87.5 | 21.5  | 33.9          | 27.7          | 19.0          | 10.1          | 5.3          |
| Latin America  | 32.0   | 34.7 | 41.6 | 49.4 | 57.7 | 65.6 | 71.2 | 8.3   | 18.1          | 17.1          | 15.5          | 12.9          | 8.1          |

Source: Villa (1992).

- <sup>a/</sup> "Urban" population defined according to the criteria used by national statistical organisms. Estimates prior to 1950 are approximate and 1990 figures (with the exception of Venezuela) were projected by CELADE.
- <sup>b/</sup> Determined by the percentage of the total population living in localities defined as "urban" by national statistical organisms.
- <sup>c/</sup> Average annual rate of growth of the degree of urbanization (urban percentage); its value is equal to the difference between rates of growth (calculated exponentially) of the urban population and total population.

A-14  
LATIN AMERICA: ESTIMATE OF THE GROWTH COMPONENTS OF  
URBAN POPULATION AND URBANIZATION<sup>a/</sup> (Inter-census periods)<sup>b/</sup>

| Country                         | Percentage of urban population growth attributable to (by period): |              |              |                    |              |              | NRUT % contribution to urbanization (by periods) <sup>d/</sup> |               |               |
|---------------------------------|--|--------------|--------------|--------------------|--------------|--------------|--|---------------|---------------|
|                                 | Natural increase   |              |              | NRUT <sup>c/</sup> |              |              | (1)  | (2)           | (3)           |
|                                 | (1)  | (2)          | (3)          | (1)                | (2)          | (3)          | (1)  | (2)           | (3)           |
| Argentina                       | 35.5   | 45.0         | -            | 64.5               | 55.0         | -            | 1.500  | 1.833         | -             |
| Brazil                          | 50.4   | 55.1         | 50.8         | 49.6               | 44.9         | 49.2         | 1.101  | 1.124         | 1.113         |
| Colombia                        | 63.4   | -            | 69.4         | 36.6               | -            | 30.6         | 0.958  | -             | 1.220         |
| Costa Rica                      | -  | -            | 64.1         | -                  | -            | 35.9         | -  | -             | 1.052         |
| Cuba                            | -  | -            | 39.2         | -                  | -            | 60.8         | -  | -             | 1.172         |
| Chile                           | 63.4   | 62.6         | 70.5         | 36.6               | 37.4         | 29.5         | 1.015  | 0.963         | 1.072         |
| Ecuador                         | 62.4   | 70.4         | 50.1         | 37.6               | 29.6         | 49.9         | 0.918  | 1.119         | 1.112         |
| El Salvador                     | 76.9   | 77.9         | -            | 23.1               | 22.1         | -            | 1.470  | *             | -             |
| Guatemala                       | -  | 66.1         | -            | -                  | 33.9         | -            | -  | 1.652         | -             |
| Honduras                        | -  | -            | 55.9         | -                  | -            | 44.1         | -  | -             | 1.282         |
| Mexico                          | -  | 68.3         | 69.5         | -                  | 31.7         | 30.5         | -  | 1.023         | 1.116         |
| Nicaragua                       | 69.7   | -            | -            | 30.3               | -            | -            | 1.022  | -             | -             |
| Panama                          | 68.8   | 59.8         | 70.3         | 31.2               | 40.2         | 29.7         | 1.698  | 1.237         | -             |
| Paraguay                        | -  | 65.1         | 49.3         | -                  | 34.9         | 50.7         | -  | *             | 1.460         |
| Peru                            | -  | 58.4         | 66.2         | -                  | 41.6         | 33.8         | -  | 0.986         | 1.251         |
| Dominican Rep.                  | 56.5   | 51.8         | -            | 43.5               | 48.2         | -            | 1.081  | 0.966         | -             |
| Uruguay                         | -  | 92.7         | 55.2         | -                  | 7.3          | 44.8         | -  | *             | 0.966         |
| Venezuela                       | 63.3   | 72.7         | 72.1         | 36.7               | 27.8         | 27.9         | 1.021  | 1.006         | 1.140         |
| Estimate averages <sup>e/</sup> | (10)<br>61.0   | (13)<br>65.0 | (13)<br>60.2 | (10)<br>39.0       | (13)<br>35.0 | (13)<br>39.8 | (10)<br>1.178  | (10)<br>1.191 | (12)<br>1.163 |

Source: Villa (1992).

<sup>a/</sup> Indirect estimate of net rural-urban transfer through census survival ratios; the contribution of natural increases is obtained residually. The symbol - signifies that complete, appropriate census information is not available.

<sup>b/</sup> The inter-census periods were identified, by country, as follows:

- (1) 1950s: Argentina (1947-60); Brazil (1950-60); Colombia (1951-64); Chile (1952-60); Ecuador (1950-62); El Salvador (1950-61); Nicaragua (1950-63); Panama (1950-60); Dominican Rep. (1950-60); Venezuela (1950-61).

- (2) 1960s: Argentina (1960-70); Brazil (1960-70); Chile (1960-70); Ecuador (1962-74); El Salvador (1961-71); Guatemala (1964-73); Mexico (1960-70); Panama (1960-70); Paraguay (1962-72); Peru (1960-72); Dominican Rep. (1960-70); Uruguay (1963-75); Venezuela (1961-71).

- (3) 1970s: Brazil (1970-80); Colombia (1973-85); Costa Rica (1973-84); Cuba (1970-81); Chile (1970-82); Ecuador (1974-82); Honduras (1974-88); Mexico (1970-80); Panama (1970-80); Paraguay (1972-82); Peru (1972-81); Uruguay (1975-85); Venezuela (1971-81).

<sup>c/</sup> The net rural-urban transfer (NRUT) includes the effects of net migration between rural and urban localities and their re-classification.

<sup>d/</sup> Corresponds to the quotient between the average annual rate of net rural-urban transfer and the rate of urbanization. The symbol \* indicates that the rate of urbanization is less than 5 per thousand, which yields an unstable basis for calculating the proportional NRUT contribution to urbanization.

<sup>e/</sup> Simple average for each period.



## A-15

**POPULATION GROUPS AND PRINCIPAL SOCIAL SECTOR REQUIREMENTS TO BE MET  
IN THE FACE OF POPULATION GROWTH BY STAGE  
IN DEMOGRAPHIC TRANSITION (thousands)  
(SELECTED COUNTRIES)**

| HAITI  |      |      |      |
|--|------|------|------|
| POPULATION GROUPS                                    | 1990 | 1995 | 2000 |
| TOTAL PEA (15 years and older)                       | 2988 | 3294 | 3648 |
| YOUTH PEA (15-34 years)                              | 1657 | 1820 | 1988 |
| WOMENS PEA   | 1485 | 1623 | 1781 |
| PASSIVE SECTOR <sup>a/</sup>                         | 177  | 198  | 225  |
| <b>REQUIREMENTS</b>                                  |      |      |      |
| DOCTORS <sup>b/</sup>                                | 1    | 1.1  | 1.2  |
| DOCTORS IN IMPROVED SITUATION <sup>c/</sup>          | 1    | 1.3  | 1.6  |
| HOSPITAL BEDS <sup>d/</sup>                          | 5.5  | 6.0  | 6.6  |
| BIRTHS ATTENDED BY QUALIFIED PERSONNEL <sup>e/</sup> | 85   | 90   | 94   |
| DEATHS, YOUNGER THAN 15 YEARS <sup>f/</sup>          | 165  | 157  | 148  |
| DEATHS, 15-59 AGE GROUP <sup>f/</sup>                | 115  | 118  | 121  |
| DEATHS, 60 YEARS AND OLDER GROUP <sup>f/</sup>       | 125  | 130  | 137  |
| PRIMARY SCHOOL STUDENTS <sup>g/</sup>                | 891  | 996  | 1100 |
| SECONDARY SCHOOL STUDENTS <sup>h/</sup>              | 168  | 183  | 206  |
| PRIMARY SCHOOL TEACHERS <sup>i/</sup>                | 34.3 | 38.3 | 42.3 |
| SECONDARY SCHOOL TEACHERS <sup>i/</sup>              | 6.6  | 7.2  | 8.1  |
| HOUSING UNITS <sup>k/</sup>                          | 1227 | 1349 | 1479 |
| POPULATION WITH DRINKING WATER <sup>l/</sup>         | 2719 | 2988 | 3276 |
| POPULATION WITH TOILETS <sup>m/</sup>                | 1436 | 1578 | 1730 |

Source: CELADE (1991).

- <sup>a/</sup> Passive sector is defined as the population in retirement age (60 years and older) which is not in PEA.
- <sup>b/</sup> A constant ratio of 1.53 doctors per 10,000 inhabitants is presumed.
- <sup>c/</sup> The doctor per inhabitant ratio is presumed to rise to 1.82 per 10,000 inhabitants by 1995, and to 2.04 per 10,000 inhabitants by 2000.
- <sup>d/</sup> A constant ratio of 8.5 hospital beds per 10,000 inhabitants is presumed.
- <sup>e/</sup> Constant coverage of 40% is presumed.
- <sup>f/</sup> The figures are projected deaths for the 1985-1990 (low year=1990), 1990-1995 (low year=1995) and the 1995-2000 (low year=2000) five year periods.
- <sup>g/</sup> A Gross Enrollment Rate (denominator = 6-11 year old age group) of 89.5% is presumed.
- <sup>h/</sup> A Gross Enrollment Rate (denominator = 12-17 year old age group) of 19.2% is presumed.
- <sup>i/</sup> A constant ratio of 26 students per teacher is presumed.
- <sup>j/</sup> A constant ratio of 25.5 students per teacher is presumed.
- <sup>k/</sup> A constant ratio of 5.3 persons per housing unit at the national level is presumed.
- <sup>l/</sup> Includes population with connections and easy access. Coverage of 41.8 is maintained constant.
- <sup>m/</sup> Includes connections to sewers and septic tanks. Coverage of 22.07 is maintained constant.

POPULATION GROUPS AND PRINCIPAL SOCIAL SECTOR REQUIREMENTS  
TO BE MET IN THE FACE OF POPULATION GROWTH  
BY STAGE IN DEMOGRAPHIC TRANSITION (thousands)  
(SELECTED COUNTRIES)

| EL SALVADOR  |      |      |      |
|--|------|------|------|
| POPULATION GROUPS                                    | 1990 | 1995 | 2000 |
| TOTAL PEA (15 years and older)                       | 1639 | 1931 | 2259 |
| YOUTH PEA (15-34 years)                              | 975  | 1186 | 1410 |
| WOMENS PEA   | 450  | 554  | 671  |
| PASSIVE SECTOR <sup>a/</sup>                         | 169  | 204  | 244  |
|  |      |      |      |
| DOCTORS <sup>b/</sup>                                | 3.4  | 3.8  | 4.4  |
| DOCTORS IN IMPROVED SITUATION <sup>c/</sup>          | 3.4  | 4.0  | 4.7  |
| HOSPITAL BEDS <sup>d/</sup>                          | 7.9  | 8.9  | 10.1 |
| BIRTHS ATTENDED BY QUALIFIED PERSONNEL <sup>e/</sup> | 64   | 71   | 78   |
| DEATHS, YOUNGER THAN 15 YEARS <sup>f/</sup>          | 82   | 67   | 65   |
| DEATHS, 15-59 AGE GROUP <sup>f/</sup>                | 67   | 56   | 58   |
| DEATHS, 60 YEARS AND OLDER GROUP <sup>f/</sup>       | 58   | 64   | 75   |
| PRIMARY SCHOOL STUDENTS <sup>g/</sup>                | 1008 | 1062 | 1195 |
| SECONDARY SCHOOL STUDENTS <sup>h/</sup>              | 102  | 109  | 115  |
| PRIMARY SCHOOL TEACHERS <sup>i/</sup>                | 22.4 | 23.6 | 26.5 |
| SECONDARY SCHOOL TEACHERS <sup>j/</sup>              | 4.4  | 4.7  | 5.0  |
| HOUSING UNITS <sup>k/</sup>                          | 972  | 1101 | 1248 |
| POPULATION WITH DRINKING WATER <sup>l/</sup>         | 2140 | 2422 | 2746 |
| POPULATION WITH TOILETS <sup>m/</sup>                | 3177 | 3596 | 4077 |

Source: CELADE (1991).

- <sup>a/</sup> Passive sector is defined as the population in retirement age (60 years and older) which is not in PEA.
- <sup>b/</sup> A constant ratio of 6.47 doctors per 10,000 inhabitants is presumed.
- <sup>c/</sup> The doctor per inhabitant ratio is presumed to rise to 6.73 per 10,000 inhabitants by 1995, and to 6.97 per 10,000 inhabitants by 2000.
- <sup>d/</sup> A constant ratio of 15 hospital beds per 10,000 inhabitants is presumed.
- <sup>e/</sup> Constant coverage of 35.2% is presumed.
- <sup>f/</sup> The figures are projected deaths for the 1985-1990 (low year=1990), 1990-1995 (low year=1995) and the 1995-2000 (low year=2000) five year periods.
- <sup>g/</sup> A Gross Enrollment Rate (denominator = 6-11 year old age group) of 111% is presumed.
- <sup>h/</sup> A Gross Enrollment Rate (denominator = 12-17 year old age group) of 12.4% is presumed.
- <sup>i/</sup> A constant ratio of 45 students per teacher is presumed.
- <sup>j/</sup> A constant ratio of 23.2 students per teacher is presumed.
- <sup>k/</sup> A constant ratio of 5.4 persons per housing unit at the national level is presumed.
- <sup>l/</sup> Includes population with connections and easy access. Coverage of 40.75 is maintained constant.
- <sup>m/</sup> Includes connections to sewers and septic tanks. Coverage of 60.5 is maintained constant.

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**POPULATION GROUPS AND PRINCIPAL SOCIAL SECTOR REQUIREMENTS  
TO BE MET IN THE FACE OF POPULATION GROWTH  
BY STAGE IN DEMOGRAPHIC TRANSITION (thousands)  
(SELECTED COUNTRIES)**

| MEXICO   |       |       |       |
|--|-------|-------|-------|
| POPULATION GROUPS                                    | 1990  | 1995  | 2000  |
| TOTAL PEA (15 years and older)                       | 27739 | 32447 | 37213 |
| YOUTH PEA (15-34 years)                              | 16804 | 19173 | 21031 |
| WOMENS PEA   | 6241  | 7448  | 8693  |
| PASSIVE SECTOR <sup>a/</sup>                         | 4262  | 5117  | 6179  |
| <b>REQUIREMENTS</b>                                  |       |       |       |
| DOCTORS <sup>b/</sup>                                | 86    | 95    | 104   |
| HOSPITAL BEDS <sup>c/</sup>                          | 85    | 94    | 103   |
| BIRTHS ATTENDED BY QUALIFIED PERSONNEL <sup>d/</sup> | 2291  | 2336  | 2340  |
| DEATHS, YOUNGER THAN 15 YEARS <sup>e/</sup>          | 710   | 611   | 523   |
| DEATHS, 15-59 AGE GROUP <sup>e/</sup>                | 758   | 97    | 839   |
| DEATHS, 60 YEARS AND OLDER GROUP <sup>e/</sup>       | 950   | 1097  | 1271  |
| PRIMARY SCHOOL STUDENTS <sup>f/</sup>                | 15196 | 15967 | 16480 |
| SECONDARY SCHOOL STUDENTS <sup>g/</sup>              | 4436  | 4395  | 4654  |
| PRIMARY SCHOOL TEACHERS <sup>h/</sup>                | 447   | 470   | 485   |
| SECONDARY SCHOOL TEACHERS <sup>i/</sup>              | 233   | 231   | 245   |
| HOUSING UNITS <sup>j/</sup>                          | 15252 | 16861 | 18457 |
| POPULATION WITH DRINKING WATER <sup>k/</sup>         | 60875 | 67312 | 73679 |
| POPULATION WITH TOILETS <sup>l/</sup>                | 40029 | 44262 | 48448 |

Source: CELADE (1991).

- <sup>a/</sup> Passive sector is defined as the population in retirement age (60 years and older) which is not in PEA.
- <sup>b/</sup> A constant ratio of 9.7 doctors per 10,000 inhabitants is presumed.
- <sup>c/</sup> A constant ratio of 9.6 hospital beds per 10,000 inhabitants is presumed.
- <sup>d/</sup> Constant coverage of 94% is presumed.
- <sup>e/</sup> The figures are projected deaths for the 1985-1990 (low year=1990), 1990-1995 (low year=1995) and the 1995-2000 (low year=2000) five year periods.
- <sup>f/</sup> A Gross Enrollment Rate (denominator = 6-11 year old age group) of 117.57% is presumed.
- <sup>g/</sup> A Gross Enrollment Rate (denominator = 12-17 year old age group) of 34.84% is presumed.
- <sup>h/</sup> A constant ratio of 34 students per teacher is presumed.
- <sup>i/</sup> A constant ratio of 19 students per teacher is presumed.
- <sup>j/</sup> A constant ratio of 5.81 persons per housing unit at the national level is presumed.
- <sup>k/</sup> Includes population with connections and easy access. Coverage of 68.7 is maintained constant.
- <sup>l/</sup> Includes connections to sewers and septic tanks. Coverage of 45.18 is maintained constant.

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POPULATION GROUPS AND PRINCIPAL SOCIAL SECTOR REQUIREMENTS  
TO BE MET IN THE FACE OF POPULATION GROWTH  
BY STAGE IN DEMOGRAPHIC TRANSITION (thousands)  
(SELECTED COUNTRIES)

| URUGUAY  |      |      |      |
|--|------|------|------|
| POPULATION GROUPS                                    | 1990 | 1995 | 2000 |
| TOTAL PEA (15 years and older)                       | 1355 | 1423 | 1487 |
| YOUTH PEA (15-34 years)                              | 637  | 666  | 693  |
| WOMENS PEA   | 526  | 556  | 580  |
| PASSIVE SECTOR <sup>a/</sup>                         | 411  | 435  | 451  |
| <b>REQUIREMENTS</b>                                  |      |      |      |
| DOCTORS <sup>b/</sup>                                | 5.9  | 6.1  | 6.3  |
| HOSPITAL BEDS <sup>c/</sup>                          | 14.2 | 14.6 | 15.1 |
| BIRTHS ATTENDED BY QUALIFIED PERSONNEL <sup>d/</sup> | 52   | 52   | 52   |
| DEATHS, YOUNGER THAN 15 YEARS <sup>e/</sup>          | 8    | 7    | 6    |
| DEATHS, 15-59 AGE GROUP <sup>e/</sup>                | 29   | 28   | 28   |
| DEATHS, 60 YEARS AND OLDER GROUP <sup>e/</sup>       | 108  | 119  | 128  |
| PRIMARY SCHOOL STUDENTS <sup>f/</sup>                | 303  | 292  | 294  |
| SECONDARY SCHOOL STUDENTS <sup>g/</sup>              | 236  | 233  | 223  |
| PRIMARY SCHOOL TEACHERS <sup>h/</sup>                | 14.4 | 13.9 | 14   |
| SECONDARY SCHOOL TEACHERS <sup>i/</sup>              | 23.6 | 23.3 | 22.3 |
| HOUSING UNITS <sup>j/</sup>                          | 910  | 940  | 963  |
| POPULATION WITH DRINKING WATER <sup>k/</sup>         | 2628 | 2705 | 2781 |
| POPULATION WITH TOILETS <sup>l/</sup>                | 1869 | 1924 | 1978 |

Source: CELADE (1991).

- <sup>a/</sup> Passive sector is defined as the population in retirement age (60 years and older) which is not in PEA.
- <sup>b/</sup> A constant ratio of 19.07 doctors per 10,000 inhabitants is presumed.
- <sup>c/</sup> A constant ratio of 45.9 hospital beds per 10,000 inhabitants is presumed.
- <sup>d/</sup> Constant coverage of 96.3% is presumed.
- <sup>e/</sup> The figures are projected deaths for the 1985-1990 (low year=1990), 1990-1995 (low year=1995) and the 1995-2000 (low year=2000) five year periods.
- <sup>f/</sup> A Gross Enrollment Rate (denominator = 6-11 year old age group) of 94.7% is presumed.
- <sup>g/</sup> A Gross Enrollment Rate (denominator = 12-17 year old age group) of 71.95% is presumed.
- <sup>h/</sup> A constant ratio of 21 students per teacher is presumed.
- <sup>i/</sup> A constant ratio of 10 students per teacher is presumed.
- <sup>j/</sup> A constant ratio of 3.4 persons per housing unit at the national level is presumed.
- <sup>k/</sup> Includes population with connections and easy access. Coverage of 81.9 is maintained constant.
- <sup>l/</sup> Includes connections to sewers and septic tanks. Coverage of 60.4 is maintained constant.

REQUIREMENTS AND POPULATION GROUPS IN SEVERAL SOCIAL SECTORS  
 IN TERMS OF POPULATION GROWTH  
 SELECTED COUNTRIES. 1990-2000 (thousands) a/

| REQUIREMENTS                | HAITI |      | MEXICO |       | URUGUAY |      |
|-----------------------------|-------|------|--------|-------|---------|------|
|                             | 1990  | 2000 | 1990   | 2000  | 1990    | 2000 |
| URBAN HOUSING <sup>b/</sup> | 426   | 647  | 11261  | 14586 | 833     | 904  |
| RURAL HOUSING <sup>b/</sup> | 1024  | 1128 | 3991   | 3926  | 99      | 83   |
| URBAN PEA                   | 884   | 1340 | 21228  | 30380 | 1085    | 1240 |
| RURAL PEA                   | 2330  | 2540 | 7068   | 7368  | 154     | 130  |

Source: CELADE (1991).

a/ 1990 coverage or ratios of persons over existing resources are maintained constant. For housing, the ratio used is from the last Population Census.

b/ For Uruguay and Haiti, figures refer to homes.

