



## Economic and Social Council

Distr.: General  
4 January 1999

Original: English

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### Commission on Population and Development

Thirty-second session

22-24 March 1999

Item 6 of the provisional agenda\*

Programme implementation and future programme of work of  
the Secretariat in the field of population

### World demographic trends

### Report of the Secretary-General

#### *Summary*

Prepared in accordance with resolution 1996/2 of the Economic and Social Council, the present report provides an overview of the latest demographic trends worldwide as assessed in the fifteenth round of the official United Nations population estimates and projections, the *1998 Revision*. It gives information for all countries on the latest trends in population size and growth, fertility, mortality and international migration.

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\* E/CN.9/1999/1.



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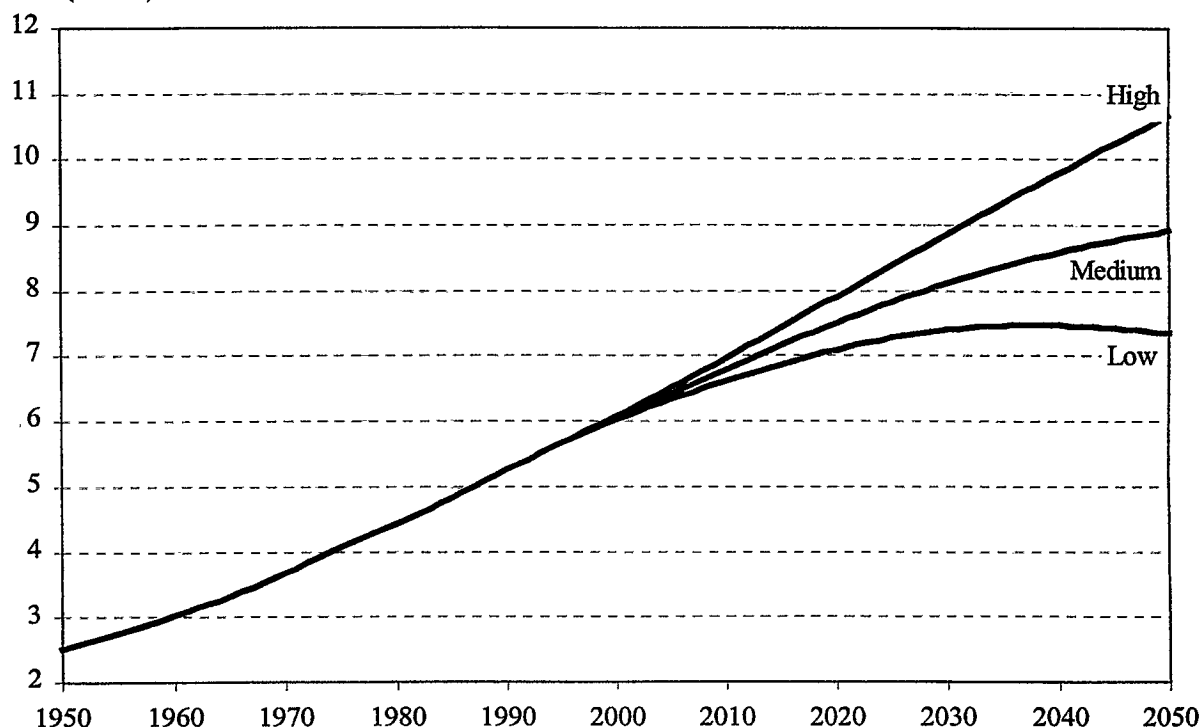
## Introduction

1. The present report examines the size and growth of populations in the world and its regions, along with the demographic components of fertility, mortality and international migration that determine those trends. The report is based on the results of the 1998 Revision of global population estimates and projections, prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat.
2. Population estimates and projections are prepared, as in previous Revisions, for the world, the more developed regions, the less developed regions, the least developed countries, six major areas, 20 regions and 228 countries or areas. The demographic estimates presented are derived from available national data that have been evaluated and, whenever necessary, adjusted for census undercounts and under-recording of vital events. The estimates for the world, major areas, regions and the like are aggregations from the estimates and projections for individual countries.
3. Population estimates are provided at five-year intervals from 1950–1995, and population projections have been prepared at five-year intervals from 1995 to 2050, using the component method. Assumptions are made for each country as to future trends in fertility (three variants) mortality (one variant), and international migration (usually one variant). The three projection variants intend to frame a plausible range of future population trends, with the medium variant depicting the most likely trajectory.
4. The data from the 1998 Revision confirm that demographic settings in the world are undergoing profound changes. While the world population continues to grow, growth rates and annual increments are declining. Fertility levels in most developing countries are declining; many countries, especially in more developed regions, have experienced sustained periods of below-replacement fertility. Progress against mortality is observed in many, but not all, countries. Migration continues to be a significant factor of population change in many countries.

## I. Population size and growth

5. The current world population size is the result of a historically short and unprecedented period of accelerated population growth. Before the twentieth century, world population grew only slowly, if at all. From 1804, when the world passed the 1 billion mark, it took 123 years to reach 2 billion people, 33 years to add another billion people to reach 3 billion people in 1960, 14 years to reach 4 billion and just 13 years to reach 5 billion in 1987. It is estimated that the 6 billion people mark will be passed in 1999, after only 12 years of continued population growth.
6. The mid-year world population in 1998 is estimated to be 5.9 billion, growing at a rate of 1.3 per cent annually. Each year, about 78 million persons are currently added to the world. In the medium-fertility variant, the total world population will grow to 8.9 billion people in 2050, a 51 per cent increase from its 1998 level. During the same period, annual population growth rates will be declining from 1.3 per cent in 1995–2000 to 0.3 per cent in the period 2045–2050. Annual increments to the world population will continue to fall, first at moderate speed to 69 million between 2015–2020, and afterwards they then will decline significantly, to 30 million between 2045 and 2050, less than half the current level. The medium-variant projection shows that world population will reach 7 billion in 2013, 8 billion in 2028, and will stay below 9 billion until the end of the projection horizon in 2050 (figure I).

Figure I  
**World population size: past estimates and medium-, high- and low-fertility variants,**  
**1950–2050**  
 (Billions)



Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations, New York, forthcoming).

7. The high-fertility variant, with fertility levels staying above replacement levels, would lead to a world population of about 10.7 billion people for the year 2050, about 1.8 billion more (20 per cent) than is projected in the medium-fertility variant. In the low-fertility variant, the world population will continue to grow to 7.5 billion people in 2040, and then decline to 7.3 billion in 2050, still a 25 per cent increase since 1998, but a figure about 1.6 billion people smaller than that projected for the medium-fertility variant.

*Less developed and more developed regions*

8. In 1998, four out of five people in the world— 4.7 billion — live in the less developed regions, while 20 per cent, 1.2 billion, live in the more developed regions. The contributions of the more and less developed regions to the growth of the world's population differ widely, reflecting the different positions these regions have, on average, in the demographic transition: during 1998, about 96 per cent (74 million), of the total annual population increase originated in the less developed regions of the world; the more developed regions added about 3 million.

9. The population of the less developed regions grew, between 1970 and 1998, from 2.7 billion to 4.7 billion people, an increase of 76 per cent. In the medium-fertility variant, the population of the less developed regions is projected to increase by another 64 per cent, to 7.8 billion people, by 2050. The 1970s marked a significant turning point in the evolution

of demographic growth patterns: before 1970 (between 1950 and 1970), population growth rates still accelerated, peaking at 2.5 per cent per year between 1965 and 1970. Since then, the population growth rate of the less developed regions has been falling; it is expected to be 1.6 per cent between 1995 and 2000, and is projected to fall further to 0.4 per cent by the end of the projection horizon (2045–2050). Average annual population increments exhibited a slightly lagged trend. The highest annual increment has been estimated for the second half of the 1980s with 79 million people, up from about 68 million between 1970 and 1975. Thus, there was a time lag of about two decades between the highest population growth rate and the largest population increment. Annual population increments are projected to be at 75 million between 1995 and 2000, and then fall to 34 million at the end of the projection period (2045–2050).

10. The more developed regions have exhibited since 1970 a combination of almost constantly falling growth rates, and still increasing population size. Between 1970 and 1998, the population of the more developed regions increased from 1.01 billion to about 1.18 billion, or by 17 per cent. Growth rates fell between 1970–1975 and 1995–2000 from 0.8 to 0.3 per cent. For the projection period, growth rates are expected to decline further, becoming negative after 2020 and arriving at -0.3 per cent at the end of the projection horizon (in the medium variant). The population size will continue to increase, at declining speed, until 2020, when it reaches 1.22 billion people, and decline thereafter. In the medium-fertility variant, the population size of the more developed regions in 2050 is projected to be 1.16 billion people, its size in 1992.

11. As a result of the marked differences in growth patterns between more developed and less developed regions (see table 1), the proportions of people living in the more and the less developed regions have changed and will continue to change significantly. While in 1970 more than one out of four persons in the world was living in the more developed regions (27 per cent), in 1998 this has changed to one out of five (20 per cent). In the future, the proportion of people living in more developed regions will continue to fall; in the medium-fertility variant, it is projected that, in 2050, 13 per cent of the world population will reside in regions that are currently classified as more developed.

**Table 1**  
**Population size for the world, more developed regions, less developed regions and least developed countries; estimates for 1950, 1970 and 1998, medium-fertility variant projection for 2050**  
(Millions)

	1950	1970	1998	2050
World	2 521	3 696	5 901	8 909
More developed regions	813	1 008	1 182	1 155
Less developed regions	1 709	2 688	4 719	7 754
Least developed countries	197	308	615	1 495

Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

#### *Population growth among the major areas*

12. Population distribution and population growth differ markedly among the major areas, past and present. Asia, Africa and, to a lesser extent, Latin America and the Caribbean all

increased their shares of the world population between 1970 and 1998: Asia's share of the world population rose from 58 to 61 per cent; Africa's, from 10 to 13 per cent; and that of Latin America and the Caribbean, from 8 to 9 per cent. During the same period, the share of Northern America declined from 6 per cent in 1950 to 5 per cent in 1998, and that of Europe fell from 18 to 12 per cent.

13. Most major areas are currently exhibiting population growth rates well above 1 per cent (table 2): Africa grows annually by 2.4 per cent, followed by Latin America and the Caribbean (1.6 per cent), Asia (1.4 per cent) and Oceania (1.3 per cent). Only Northern America, with a figure of 0.85 per cent, and Europe, with a figure of 0.03 per cent, exhibit moderate or negligible growth. Accordingly, and in combination with their current population size, the contributions of major areas to the global population growth differ widely. The most populous area and the fastest growing major area together are the main contributors to world population growth: of the 78 million persons added each year to the world population during 1995–2000, 63 per cent (49 million) are from Asia and 23 per cent (17 million) from Africa. Latin America and the Caribbean adds currently less than 8 million people to world population (about 10 per cent of the total increment), followed by Northern America, with 2.6 million or 3 per cent of the global increase. Oceania's contribution (about 381,000) and Europe's (about 195,000) are very small.

14. Africa was the fastest growing region between 1970 and 1998 with 2.7 per cent annual increase, and the second largest major area with respect to population size. Its population grew from 357 million in 1970 to 748 million in 1998, a number comparable in size to the number of people living in Europe (728 million). For the projection period until 2050, Africa is expected to remain the region with the largest annual population growth rate, 1.7 per cent, according to the medium-fertility variant projection. As a result, the population of Africa is expected to double its 1998 size by 2035, and is projected to reach 1.78 billion by the year 2050, an overall increase of 136 per cent. Africa is thus the only major area that is projected to have more than twice its current population size in 2050; consequently, its share of the world population will increase to about 20 per cent in 2050, up from about 10 per cent in 1970 and from 13 per cent in 1998.

15. Latin America and the Caribbean has grown, on average, at 2.0 per cent per annum since 1970, increasing its population from 284 million in 1970 to 504 million in 1998. With an average annual growth rate of 0.9 per cent between 1998 and 2050, Latin America and the Caribbean is projected to have a slightly faster growth than Asia. Its population will grow to 809 million, an increase of 61 per cent. Growing at a rate slightly higher than the global average, its share of the world population will remain virtually unchanged at 9 per cent.

16. Asia, the most populous major area, exhibited a large growth rate of 1.83 per cent per annum between 1970 and 1998, increasing its population from 2.1 billion to 3.6 billion people. Between 1998 and 2050, Asia is expected to grow, at 0.7 per cent per year, significantly more slowly than in the past. Yet, by the year 2050, this major area will still have increased its 1998 population size by almost 1.7 billion people or by 47 per cent. Its 2050 population of 5.268 billion people will then constitute 59 per cent of the world population.

17. Oceania, the smallest major area, has exhibited rates of population growth higher than Northern America and Europe. Between 1970 and 1998, its total population grew from 19 million to 30 million, or by 54 per cent. In the future, it is projected that its current growth rate of 1.3 per cent will fall to about half a per cent (0.47 per cent). As a result, its population is expected to reach 46 million by 2050.

**Table 2**  
**Selected demographic indicators, the world, major areas and regions, 1985–1990,**  
**1990–1995 and 1995–2000**

Major area and region	Annual rate of change (percentage)		Total fertility rate (births per woman)		Life expectancy in 1995–2000 (years)			Infant mortality rate in	Net migration (thousands per year)	
	1990- 1995	1995- 2000	1985- 1990	1995- 2000	Both sexes	Male	Female	1995-2000 (per 1,000 live births)	1990- 1995	1995- 2000
World	1.46	1.33	3.3	2.7	65.4	63.3	67.6	57	NA	NA
More developed regions	0.41	0.27	1.8	1.6	74.9	71.1	78.7	9	2 178	1 971
Less developed regions	1.75	1.59	3.8	3.0	63.3	61.8	65.0	63	-2 178	-1 971
Least developed countries	2.47	2.37	6.0	5.1	50.5	49.6	51.5	99	329	-186
Africa	2.51	2.37	6.0	5.1	51.4	50.0	52.8	87	-249	-287
Eastern Africa	2.49	2.57	6.7	5.8	45.4	44.4	46.4	101	-319	205
Middle Africa	3.48	2.66	6.6	6.2	50.1	48.6	51.7	95	286	-247
Northern Africa	2.01	1.96	4.7	3.6	64.8	63.3	66.4	52	-135	-125
Southern Africa	2.03	1.60	4.0	3.4	54.4	51.5	57.5	62	0	0
Western Africa	2.64	2.49	6.5	5.5	49.9	48.6	51.3	90	-80	-120
Asia	1.55	1.38	3.4	2.6	66.3	64.8	67.9	57	-1 312	-1 207
Eastern Asia	1.04	0.87	2.4	1.8	71.0	68.8	73.4	38	-60	-65
South-central Asia	1.94	1.76	4.4	3.4	62.3	61.8	62.9	73	-1 006	-924
South-eastern Asia	1.72	1.53	3.6	2.7	65.7	63.7	67.8	46	-283	-297
Western Asia	2.26	2.21	4.7	3.8	68.0	65.9	70.2	51	38	79
Europe	0.16	0.03	1.8	1.4	73.3	69.2	77.4	12	1 047	950
Eastern Europe	-0.05	-0.20	2.1	1.4	68.5	63.3	73.9	18	265	356
Northern Europe	0.26	0.15	1.8	1.7	76.5	73.5	79.5	8	69	60
Southern Europe	0.05	0.16	1.6	1.3	76.9	73.7	80.1	10	-59	147
Western Europe	0.55	0.28	1.6	1.5	77.6	74.1	80.8	6	772	388
Latin America and the Caribbean	1.72	1.57	3.3	2.7	69.2	66.1	72.6	36	-571	-471
Caribbean	1.24	1.08	3.1	2.5	68.6	66.3	71.0	36	-83	-87
Central America	2.02	1.85	3.9	3.0	71.2	68.4	74.0	33	-367	-349
South America	1.66	1.52	3.2	2.6	68.7	65.3	72.3	37	-121	-34
Northern America	1.02	0.85	1.9	1.9	76.9	73.6	80.2	7	989	930
Oceania*	1.51	1.30	2.5	2.4	73.8	71.4	76.3	24	94	81
Australia/New Zealand	1.31	1.02	1.9	1.8	78.0	75.2	80.9	6	106	90

Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

Note: NA means not applicable.

\* Including Melanesia, Micronesia and Polynesia.

18. Northern America, mainly comprising Canada and the United States of America, has experienced moderate but sustained population growth rates. Between 1970 and 1998, its total population increased from 232 million to 305 million people, thus adding 73 million. For the future, it is projected that its population will reach 392 million in 2050, an increase of 29 per cent. At that time, Northern America will probably have a low growth rate of 0.2 per cent.

19. Europe had the lowest growth rate (0.4 per cent) per annum during the period 1970–1998, increasing its total population size from 656 million in 1970 to 729 million in 1998. It is the only major area that is projected to decline in population size (in the medium variant) over the projection period. With an average annual growth rate of –0.3 per cent between 1998 and 2050, its total population will be 628 million in 2050, thus returning to its 1963 size. Europe's share of the world population will then have further declined, from 18 per cent in 1970 and 12 per cent in 1998 to 7 per cent in 2050.

#### *Population growth by selected countries*

20. The United Nations prepares population estimates and projections for a total of 228 countries and areas. In 1998, 10 countries had a population of 100 million or more (table 3), and they accounted for 60 per cent of the total world population. Most of the very populous countries are to be found in Asia, including the two largest – China (1.26 billion) and India (982 million) – together totalling 38 per cent of the global population. China and India are followed by the United States of America (274 million), Indonesia (206 million), Brazil (166 million), Pakistan (148 million), the Russian Federation (147 million), Japan (126 million), Bangladesh (125) and Nigeria (106 million). There are 13 countries with a population size between 50 million and 100 million, accounting for 870 million of the world population in 1998, or about 15 per cent of the world population. Twenty-five countries, representing 13 per cent of the world population, have populations between 20 million and 50 million people.

21. Annual population growth rates currently differ widely among countries, from negative growth among some Eastern European countries to very high growth rates among some Asian and African countries. Altogether, there are 24 countries, contributing 1.7 per cent of the world population, that exhibit average annual growth rates of 3.0 per cent or higher. On the other side of the spectrum, 24 countries, with 6.1 per cent of the global population, are exhibiting shrinking populations owing to negative growth rates. The majority of people (about 4 billion people, or 68 per cent of the global population), however, are currently living in the 88 countries that exhibit annual growth rates between 0.5 and 2 per cent.

22. By the year 2050, the ranking of countries according to their population size will have changed significantly. In the medium-fertility variant, India is projected to be the largest country in the world with a population of 1.5 billion, being then slightly larger than China. In 2050, the United States of America will still be the third largest country, with 349 million people, followed by Pakistan, with 345 million persons, and Indonesia, with 312 million people.

23. Between 1970 and 1998, only 9 out of 228 countries or areas, most of them very small in population size, exhibited population losses. Noticeable decreases in population size were recorded only for Hungary (about –222,000 people) and Bulgaria (–104,000). All other countries experienced sustained population growth. The largest absolute increase occurred for Asian countries: China grew by 425 million, India by 427 million, Indonesia by 86 million and Pakistan by 82 million. The largest absolute population increases outside Asia occurred for Brazil (70 million) and the United States of America (64 million).



**Table 3**  
**Distribution of countries by population size and annual rate of population change, major areas, 1998**

	<i>Africa</i>	<i>Asia</i>	<i>Europe</i>	<i>Latin America and the Caribbean</i>	<i>Northern America</i>	<i>Oceania</i>	<i>World total</i>
<b>Population (millions)</b>							
100+	1	6	1	1	1	0	<b>10</b>
50-100	2	5	5	1	0	0	<b>13</b>
20-50	8	9	3	4	1	0	<b>25</b>
1-20	35	23	26	17	0	3	<b>104</b>
<1	10	7	12	23	3	21	<b>76</b>
<b>Annual rate of change (percentage)</b>							
3.5+	4	2	1	4	0	2	<b>13</b>
3.0-3.49	4	4	1	0	0	2	<b>11</b>
2.5-2.99	16	7	0	5	0	1	<b>29</b>
2.0-2.49	17	8	0	5	0	6	<b>36</b>
1.5-1.99	6	14	0	8	0	2	<b>30</b>
1.0-1.49	6	5	5	7	1	5	<b>29</b>
0.5-0.99	3	5	8	9	2	2	<b>29</b>
0.0-0.49	0	2	16	4	2	3	<b>27</b>
<0.0	0	3	16	4	0	1	<b>24</b>
<b>Total</b>	<b>56</b>	<b>50</b>	<b>47</b>	<b>46</b>	<b>5</b>	<b>24</b>	<b>228</b>

*Source:* Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

24. In the medium-fertility variant, there will be 44 countries with smaller populations in 2050 than in 1998, experiencing a combined loss of 127 million people. Seven countries will have a total reduction of 10 million and more by 2050: the Russian Federation (-26 million), Japan (-21 million), Italy (-16 million), Ukraine (-12 million), Spain (-9 million), Germany (-9 million) and Romania (-6 million). On the other side of the spectrum, China and India will continue to have the largest total population increases; but in a reversal of past experience, India is projected to increase more than twice as much as China between 1996 and 2050 (547 million versus 222 million). Following, with increases of 100 million or higher, will be Pakistan (197 million), Nigeria (138 million), the Democratic Republic of the Congo (110 million), Ethiopia (111 million) and Indonesia (106 million).

25. On a relative scale, there are 16 countries or areas that, by 2050, will have increased their population size at least threefold. Not counting small island States, the largest relative changes are expected for Oman and Yemen (population size multiplied by 3.5), Liberia (population size 3.8 times that of 1998) and the Gaza Strip (population size multiplied by 4.6).

## II. Fertility

26. Estimates for the decade 1985–1990 to 1995–2000 suggest that fertility continued to decline in most countries (figure II). As a result, the world average total fertility rate (TFR) fell during the decade by 12 per cent, from 3.3 to 2.7 births per woman. The world average, however, conceals large differences in the fertility levels across and within regions of the world. For instance, current (that is to say, estimated for the period 1995–2000) average TFR for the more developed regions is 1.6 births per woman, as compared with 5.1 births per woman in the group of least developed countries (table 2).

27. During the last decade, fertility decline continued in most countries of the more developed regions where TFR was already low in 1985–1990. The average TFR of the more developed regions decreased from 1.8 in 1985–2000 to 1.6 in 1995–2000, or by 14 per cent. Particularly steep fertility declines took place in Eastern Europe, where TFR fell from 2.1 to 1.4, or by more than one third (table 2). In practically all countries of the more developed regions, fertility is currently significantly below the level necessary for the replacement of generations (TFR of approximately 2.1). In 20 countries, TFR has stayed below replacement level for at least two decades. Moreover, new empirical evidence tends to revise downward the levels of TFR. For instance, TFR in a number of countries (Bulgaria, the Czech Republic, Estonia, Germany, Greece, Italy, Latvia, Romania, Slovenia and Spain) is 1.3 children per woman or lower; a generation ago, this was considered highly improbable. On the other hand, in Northern America and the Nordic countries (in particular Sweden and Norway), fertility substantially increased in the late 1980s and early 1990s before again declining.

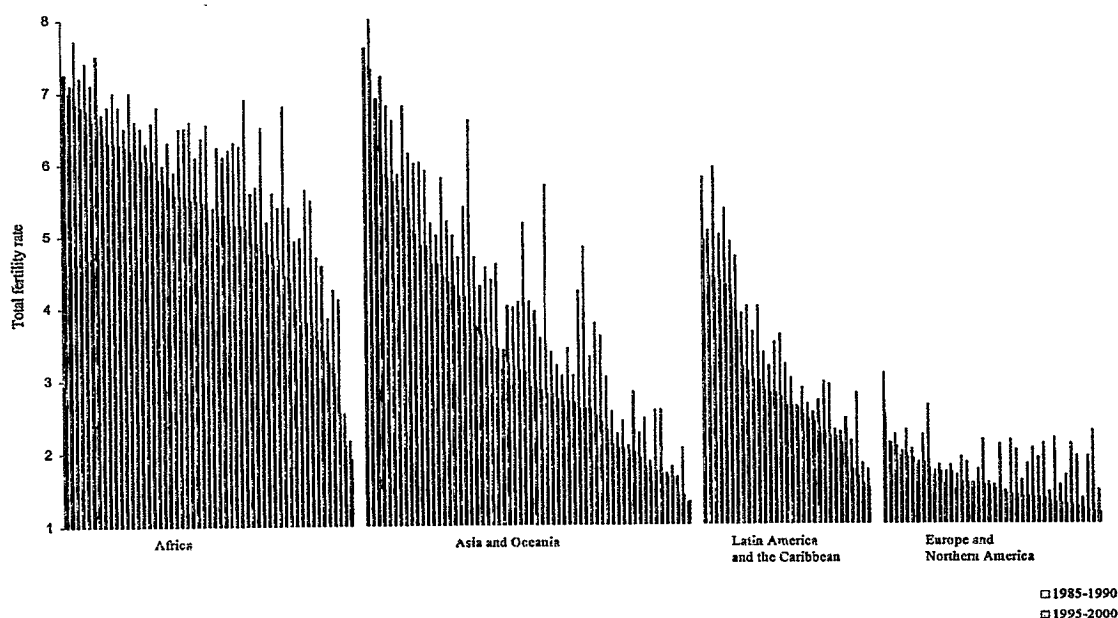
28. During the last decade, fertility has decreased to levels below replacement in 13 countries and areas from the less developed regions, including China. The fertility decline was particularly fast in the populous region of Eastern Asia, where average TFR decreased from 2.4 in 1985–1990 to 1.9 in 1990–1995 and 1.8 in 1995–2000, an overall change of –25 per cent. As a result of those changes, TFR is estimated to be, in 1995–2000, at or below the level of 2.1 children per woman in 61 countries or areas of the world, that is to say, in 10 more countries or areas than in 1990–1995. The combined population of those 61 countries (2.6 billion in 1998) amounts to 44 per cent of the global population.

29. Fertility transition has also reached a fairly advanced stage and continues at a fast pace in South-eastern Asia and Latin America and the Caribbean: their average TFR reached the same level of 2.7 in 1995–2000 after having declined from 3.6 and 3.3, respectively, in 1985–1990. As a result, a large and increasing number of developing countries are approaching the replacement-fertility threshold: currently TFR is below 3 (but higher than 2.1) and decreasing in 32 countries with a combined population of 880 million people.

30. However, the majority of developing countries are in the less advanced stage of the fertility transition. For instance, TFR is at the level of 5 births per woman or higher in 34 African and 10 Asian countries with a combined population of 730 million people; and fertility levels in 47 countries (with a combined population of 1,650 million) of Africa, Asia, Latin America and the Caribbean span the middle range of 3.0–4.9 births per woman.

31. Fertility decline was fast in Northern Africa, South-central Asia and Western Asia. During the last decade, TFR decreased in all countries of Northern Africa by one birth per woman or more, resulting in a regional drop of 24 per cent. The steep (24 per cent) fall of the average fertility in South-central Asia conceals wide differences ranging from the absence of change in Afghanistan (where TFR remains at 6.9 births per woman) to a TFR decrease of 2.9 births per woman (or 55 per cent) in the Islamic Republic of Iran. Fertility trends are also very different in Western Asia: while in Yemen TFR remains stable at 7.6

**Figure II**  
**Total fertility rates, by country ranking and region, 1985–1990 and 1995–2000**



*Source:* Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

births per woman, in the Syrian Arab Republic it fell from 6.6 to 4.0. In Southern Africa, fertility decreased to a lesser extent – by 15 per cent – with TFR decreases ranging from 0.5 birth per woman in Namibia to 1.1 births in Botswana. As a result of those changes, Northern Africa, Southern Africa, South-central Asia and Western Asia have achieved regional average TFR in a narrow 3.4–3.8 range. Fertility levels in Northern Africa and Southern Africa are relatively uniform with differences in TFR not exceeding 1.5 births per woman, while fertility levels in several countries and areas from South-central Asia (Afghanistan, Bhutan and Pakistan) and Western Asia (Yemen, the Gaza Strip, Oman, Saudi Arabia, Iraq and Jordan) exceed that range by one birth per woman or more.

32. Eastern Africa, Middle Africa and Western Africa remain the regions with by far the highest fertility in the world, ranging from 5.5 to 6.2 births per woman. Nevertheless, the fertility transition has begun in most countries from those regions, and in several of them it is proceeding fast: TFR in Kenya fell by 2.3 births per woman; in Côte d'Ivoire, by 1.8 births; and in the Comoros, by 1.7 births. However, in the other countries from those regions fertility decreased much less – typically from 0.4 birth per woman in Middle Africa to 1.0 birth per woman in Western Africa; and Somalia and Uganda have not yet recorded any fertility decline.

### III. Mortality

33. At the global level, the trend towards healthier, longer life continues. This is revealed in the drop of the average level of infant mortality from 69 per 1,000 live births in

1985–1990 to 57 per 1,000 live births in 1995–2000 and the increase of life expectancy at birth from 63.1 years to 65.4 years over the same period (table 2). In 10 years, males gained 2.1 years of life expectancy and females 2.5 years; and the average differential between the two sexes widened from 4.0 to 4.4 years. The annual number of deaths rose from 48.4 million to 52.3 million because of the continuing increase in the total population size of the world combined with population ageing. As a result, the world average crude death rate decreased to a lesser extent than most other mortality indicators: from 9.6 per 1,000 to 8.9 per 1,000.

34. The world average indicators are the result of very disparate mortality levels experienced by different regions and countries. For instance, life expectancy in all the more developed countries and all countries from Latin America and the Caribbean but one (Haiti) is 60 years or over, but in 49 African and Asian countries, with a combined population of 604 million, life expectancy is still less than 60 years. As a result of uneven mortality trends, international variations in life expectancy are widening: currently, the difference between Japan's life expectancy (of 80.0 years) and Sierra Leone's (of 37.2 years) has attained 42.8 years, or 115 per cent of the lower figure.

35. In the more developed regions, life expectancy currently exceeds 70 years in 35 of the 43 countries with a population of 150,000 or more in 1995; in 24 of them, it is higher than 75 years and the progress continues. While in the first half of the twentieth century, mortality improvements were concentrated in childhood and the main working ages, in the last decades the pace of mortality improvements at older ages has been accelerating in most developed countries with established market economies, followed by a marked increase of the number of persons surviving to very advanced ages. Thus, the number of persons aged 80 years or over rose from 26.0 million in 1985 to 34.6 million in 1995, or by one third, whereas the total population of more developed regions increased by only 5 per cent.

36. In contrast with other countries of the more developed regions, the European countries with economies in transition have mortality levels that are relatively high. These countries have experienced several quinquenniums of stagnation, erratic changes and outright declines in national life expectancies. For example, in the Russian Federation, the mortality crisis of 1989–1994 resulted in an estimated 1.4 million–1.6 million additional deaths, which would not have taken place had the crisis not occurred. In the early-to-mid-1990s, life expectancy in the European countries with economies in transition began again to increase, gaining on average 0.5 year per calendar year. Yet, those improvements are not sufficient to close the gap with other more developed countries.

37. Among the less developed regions, Latin America and the Caribbean as a whole has the highest life expectancy (69.2 years), having experienced an increase of 8.3 years since 1970–1975; life expectancy in 20 countries from that major area exceeds 70 years, and 6 countries have a life expectancy of more than 75 years. However, life expectancy is lower than 70 years in a group of 10 Latin American and Caribbean countries that includes Brazil, the most populous country of the area.

38. Mortality decline was also impressive in Eastern Asia and Western Asia, where the regional average life expectancies are currently 71.0 years and 68.0 years, respectively. The progress was slower in South-eastern Asia (life expectancy of 65.7 years) and South-central Asia (62.3 years). Asian countries that have experienced wars in the recent past or are currently in the midst of hostilities and civil unrest have much higher mortality levels than their neighbours: for instance, life expectancy is only 45.5 years in Afghanistan, and 53 years or less in Cambodia and Yemen.

39. In Africa, mortality is even higher, and the speed of improvements particularly inadequate. Only in Northern Africa did life expectancy increase considerably, to achieve a current level of 64.8 years. In the other four African regions, life expectancy is substantially lower than 60 years: in Southern Africa by 6 years, in Middle Africa and Western Africa by 10 years, and in Eastern Africa by 15 years.

40. The human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic is taking a devastating toll on the population of many sub-Saharan countries. For instance, in the 29 most affected, hardest-hit African countries, the average life expectancy is currently 7 years less than it would have been in the absence of AIDS (figure III). In the nine countries with an adult HIV prevalence of 10 per cent or more (Botswana, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Zambia and Zimbabwe), the impact of AIDS is even more dramatic: more than 10 years of life expectancy have already been lost to AIDS. By 2010–2015, the average life expectancy at birth in these countries could be 16 years shorter than it would have been in the absence of AIDS.

41. In Botswana, the hardest-hit country, one of every four adults is infected by HIV. Life expectancy at birth is dropping from 61 years in 1990–1995 to 47 years in 1995–2000. In the absence of HIV/AIDS, it would have been expected to reach 65 years in 1990–1995 and 67 years in 1995–2000. Owing to the impact of AIDS, life expectancy is projected to further fall to 41 years by 2000–2005; this is 29 years less than expected in the absence of HIV/AIDS. Because of the mortality impact of AIDS, by 2015 Botswana's population is expected to be 20 per cent smaller than it would have been in the absence of AIDS.

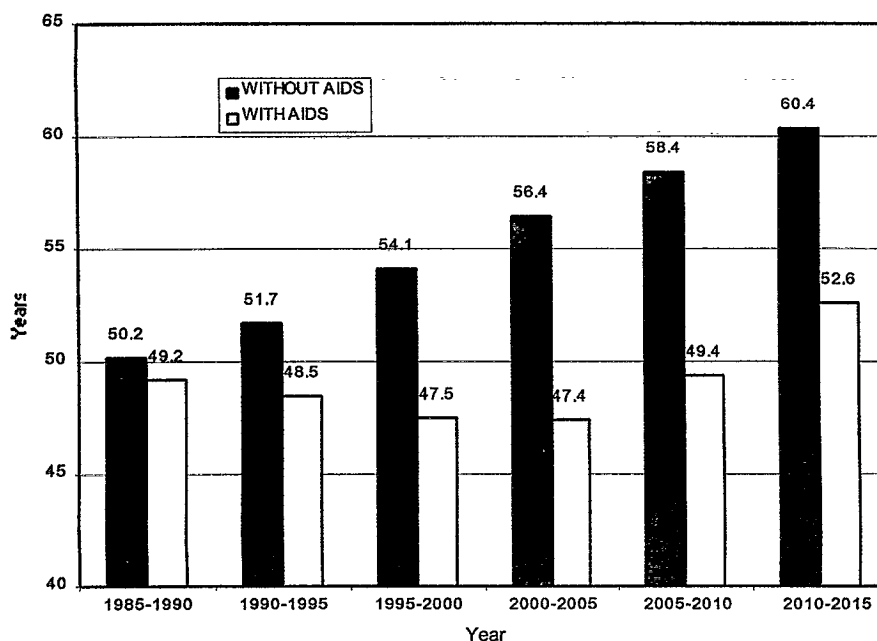
42. In South Africa, one of every eight adults was infected by the virus in 1997. During 1990–1995, life expectancy at birth (estimated at 59 years) was barely affected by HIV/AIDS. However, projections show that by 2005–2010, 21 years of life expectancy at birth will be lost to AIDS: the level of life expectancy is expected to be just 45 years against 66 years in the absence of AIDS.

43. High life expectancy cannot be achieved without improving child survival to the point where deaths at younger ages become rare. In 1995–2000, infant mortality in Eastern Africa, Middle Africa and Western Africa remains by far the highest in the world ranging from 90 per 1,000 live births (Western Africa) to 101 per 1,000 live births per (Eastern Africa); moreover, the absolute decrease over the last 10 years was less than during the previous decade. By contrast, Northern and Southern Africa sustained their rapid progress: infant mortality rates in those regions fell to 52 and 62 infant deaths per 1,000 live births, respectively, which is close to the average for Asia (57 per 1,000) (table 2).

44. Within Asia, infant mortality is lowest in Eastern Asia (38 per 1,000), followed by South-Eastern Asia (46 per 1,000), Western Asia (51 per 1,000) and South-central Asia (73 per 1,000). Child survival varies widely across countries of Asia with 8 to 13-fold differences within every region. For instance, in South-central Asia, infant mortality is lowest (18 per 1,000) in Sri Lanka, and highest (151 per 1,000) in Afghanistan. In Western Asia, the infant mortality rate ranges from 8 per 1,000 in Cyprus and Israel to 80 per 1,000 in Yemen.

45. Latin America and the Caribbean achieved the best child survival among the less developed regions. Its average infant mortality rate is 36 infant deaths per 1,000 live births with a small variation across regions (from 33 per 1,000 in Central America to 37 per 1,000 in South America) but wider differences at the national level (that is to say, 7 per 1,000 in Martinique and 9 per 1,000 in Cuba, for example, as opposed to 68 per 1,000 in Haiti and 66 per thousand in Bolivia).

Figure III  
Life expectancy at birth in 29 African countries with and without acquired immunodeficiency syndrome (AIDS), 1985–1990 to 2010–2015



Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

46. Within the more developed regions, infant mortality in most countries fell during the last 20 years, to single-digit levels and currently ranges from 4 per 1,000 in Japan to 9 per 1,000 in Portugal. However, in most countries with economies in transition (with the notable exception of the Czech Republic), infant mortality historically was and still is substantially higher: in 1995–2000, it ranges from 10 per 1,000 in Hungary to 30 per 1,000 in Albania.

47. While worldwide the deaths occurring before age 60 outnumber the deaths in older ages in a ratio of 2:1, there are large differences in the age structure of mortality between the more developed and less developed regions. As increasing life expectancy is associated with a changing age profile of deaths, the regions and countries of the world have become more diverse in terms of the share of infant and child deaths in all deaths. For instance, levels of life expectancy of 50 years or under, which still prevail in most countries from sub-Saharan Africa, are associated with a share of infant and child deaths typically exceeding 50 per cent, while the proportion of old-age mortality does not exceed 10 per cent of all deaths. At life expectancy of about 65 years or over, further improvements in child survivorship affect little the overall mortality level, while the changes in health status and mortality in the middle of the age range (between ages 15 and 60), and of the elderly, play the crucial role. At current life expectancy of more than 75 years achieved in several more developed regions (Australia/New Zealand, Northern Europe, Japan), the under-five mortality constitutes less than 1 per cent of all deaths, whereas more than 70 per cent of all deaths occur at age 70 or over.

## IV. International migration

48. During the twentieth century, the contribution of net migration to population growth has been of small demographic importance for most countries of the world, especially for the numerous countries where natural increase has been high and where there has been no explicit or implicit policy favouring the inflow or the outflow of international migrants. However, the marked reduction of fertility experienced by many countries over the past three decades implies that the importance of international migration in determining population growth has been increasing. For developed countries in particular, the low levels of fertility that have prevailed over recent periods have meant that moderate or even low levels of international migration have had a significant impact on population growth. Furthermore, the increases in migrant inflows that some of those countries have experienced since 1985 have, in some cases, made major contributions to raising the rate of population growth, and have sometimes been responsible for preventing that rate from becoming negative.

49. It must be noted that the estimates of net international migration for many of the countries considered are of uncertain accuracy. Indeed, since most countries of the world lack adequate statistics on international migration, net migration has to be estimated on the basis of partial information relative to international migration itself or in terms of the residual obtained once changes in total population size and natural increase have been estimated independently of one another.

50. The world population increased by 400 million persons between 1990 and 1995 and is projected to grow by 389 million persons between 1995 and 2000. Most of that growth — 749 million during the decade — originated in the less developed regions, whereas the more developed regions contributed only 40 million to the world population growth from 1990 to 2000. Net migration from the less developed regions to the more developed regions reached an estimated 10.9 million during the period 1990–1995 and is expected to be at the level of 9.9 million during the current biennium. Therefore positive net migration accounted for 46 per cent of the population growth in the more developed regions during 1990–1995 and is expected to account for as much as 61 per cent in 1995–2000 (table 4). Correspondingly, negative net migration reduced population growth in the rest of the world by 2.9 per cent in 1990–1995 and is expected to reduce it by 2.6 per cent in 1995–2000.

Table 4

### Contribution of migration to population growth, less developed regions and more developed regions, 1990–1995 and 1995–2000

Region	Net migration rate (percentage)		Growth rate (percentage)		Percentage of population growth due to migration	
	1990–1995	1995–2000	1990–1995	1995–2000	1990–1995	1995–2000
More developed regions	0.19	0.17	0.41	0.28	45.8	60.7
Less developed regions	-0.05	-0.04	1.75	1.59	-2.9	-2.6
Least developed countries	0.06	-0.03	2.48	2.37	2.5	-1.3

Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).

51. While Africa is characterized by having the fastest population growth, the highest rates of negative net migration are found in Latin America and the Caribbean and in some regions

of Oceania. The highest rates of positive net migration are found in Northern America and Australia/New Zealand (figure IV). In Europe, population growth is particularly slow, but rates of positive net migration are relatively moderate.

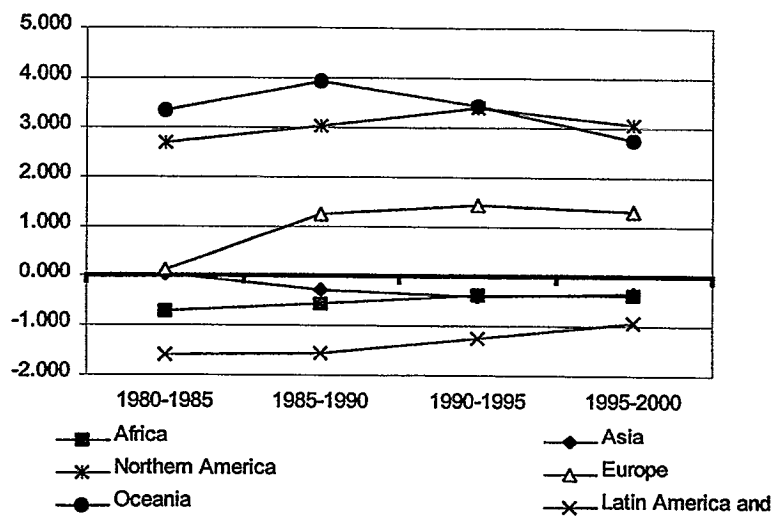
52. The picture is quite different when we analyse the absolute number of net international migrants. In this context, Europe and Northern America lead the world as the primary receiving areas of net migration. Europe experienced 1.1 million net immigrants per year in 1990–1995 (table 2) and an expected 950,000 per year in 1995–2000. Northern America experienced 989,000 net immigrants per year in 1990–1995 and an expected 930,000 per year in 1995–2000. On the sending side, Asia leads the world scene with 1.3 million net emigrants per year in 1990–1995 and an expected 1.2 million per year in 1995–2000. The second major sending area is Latin America and the Caribbean, with 571,000 net emigrants per year in 1990–1995 and an expected 471,000 in 1995–2000, followed by Africa with 249,000 net emigrants per year in 1990–1995 and an expected 287,000 in 1995–2000.

53. Regarding the contribution of net migration to population growth, Europe exhibits the largest impact of net migration on population growth, with net migration accounting for most of its rate of population growth in 1990–1995 and preventing a reduction of its population during the period 1995–2000 (table 2). Eastern Europe experienced a negative rate of population growth at -0.05 per cent in 1990–1995 and -0.20 per cent in 1995–2000; the region would have experienced a much more significant reduction of its population during these periods had it not been for a positive net migration. In Western Europe and Southern Europe, net migration accounted for over 70 per cent of population growth. On the other side of the spectrum, it is in Africa where the contribution of net migration to population growth is the smallest, accounting for only 1.5 per cent of population growth in 1990–1995 and 1.6 per cent in 1995–2000. The same holds true for Asia, where the overall contribution of net international migration on population growth is also quite low. The contribution of net international migration on population growth is sizeable for Northern America, Oceania and some regions of Latin America and the Caribbean. Negative rates of net migration have a significant role in reducing population growth in the Caribbean and Central America. The same is true for Micronesia and Polynesia, whereas in the traditional regions of immigration, Northern America and Australia/New Zealand, positive net international migration accounts for over a third of their population growth.

54. In conclusion, migration has always been an important process leading to the redistribution of population. At the beginning of the twentieth century, it was a major component of the population growth of the relatively sparsely populated countries of overseas European expansion. By the end of the century, international migration has become a key component of the population growth of most of the highly developed market-economy countries of Europe and has remained an important determinant of population growth in Northern America and Australia. Overall, the evidence available indicates that, for the largest part of the world, the impact of international migration on population growth during the period 1990–2000 is small, with net international migration increasing or reducing the growth due to natural increase by moderate amounts (in most cases by figures below 10 per cent). For a number of regions, the contribution of net international migration to population growth is sizeable, with migration raising or decreasing population growth by over 20 per cent and, in some cases, by more than 100 per cent. The regional distribution of the countries concerned seems to validate the view that it is the developed countries of “the North” that are experiencing the major demographic effects of net immigration. Important exceptions are the Caribbean and Central America, where negative rates of international migration play an important role in reducing population growth.



Figure IV  
**Net migration rate by major area, 1980–2000**  
*(per thousand)*



Source: Population Division, Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 1998 Revision* (United Nations publication, forthcoming).