

## POPULATION AND DEMOGRAPHIC CHANGE

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### Summary

Population and demographic change cannot be viewed in isolation from other factors. The impacts of increases in population are hotly debated, with the global population is at an all time high of more than six billion. It is expected to increase for a few decades before stabilizing. While much of the growth will take place in developing nations, the global population shows a trend towards greying. In the next few decades the number of the old will be more than the number of the young and middle aged. It is expected that HIV/AIDS will affect the population growth in Africa.

The global ecosystems are under threat and long-term sustainability is being hampered by the human domination of natural ecosystems. Population does have an impact on the environment but that impact is mediated by technology, consumption patterns etc. Global food production is adequate to meet the needs of the global population but the growth in food production can be affected by climate change, shortage of water, soil degradation, etc. Hunger and malnutrition are affecting more than a billion people and the food security is a distant dream for many millions of people. Yet it is possible to banish hunger and malnutrition and increase food production without sacrificing long-

term sustainability. Although population tends to stabilize over centuries, a rapid decline in birth rates has been achieved in many countries. Access to education, availability of basic services and health facilities assist such a transition and education for women is vital in reducing birth rates. In time, population policies that are sensitive to reproductive rights and needs of women will be acceptable.

## 1. Trends and Projections

### 1.1 Trends

The present day population has exceeded six billion, and at the beginning of the twentieth century it was about 1.5 billion. This century, therefore, has seen the fastest growth in population ever. The population was 5 billion in 1987 and it has taken just 13 years to add another billion. Children and youth (under 25) form half of the population. The population growth rate is slowing but still it will take few decades for the rate to come down considerably. As is evident from the table 1, the population growth and distribution is uneven across continents and countries. Two countries, China and India, put together constitute a significant proportion of the global population. In Europe and in developed nations the population growth is nil or negligible. In the nineteenth century population growth peaked in Europe, North America, Russia and Japan.

Region/Country	1750	1800	1900	1950	2000
World	791	978	1650	2521	6055
More Developed	191 (24)	236 (24%)	539 (33%)	813 (32%)	1188 (20%)
Less Developed	600 (76%)	742 (76%)	1111 (67%)	1709 (68%)	4867 (80%)

More Developed: North America, Europe, Japan, Australia and New Zealand

Less Developed: Asia (excluding Japan), Africa, Latin America and Caribbean

Table 1: Population Growth In World Regions 1750–2000  
(Population in millions)

Population trends undergo dramatic changes due to improvements in living conditions, changes in patterns of marriage and childbearing, and advances in disease detection and control. Demographic Transition Theory postulates that countries go through different phases in population growth and population growth declines with improvements in health, economic development, access to education and increase in quality of life. Developed nations underwent a demographic transition from high birthrates, high death rates to lower birth rates and lower death rates and stabilization of population. For example Europe has almost zero population growth now but its population increased from 203 million in 1800 to 408 million in 1900. Population transitions take decades for completion since decreasing death rates, increasing child survival rates and growth will add to the population. Fertility decline does not typically happen for a few years.

Our understanding of these matters has been sharpened by developments in the last five decades. Life expectancy at birth was 22.6 years for males, and 23.3 years for females

in India in 1900, but in 1990 it was 60.3 years and 60.5 years respectively. In other words, the child born 1990 could be expected to live for four decades more than the child born in 1900. And as the Total Fertility Rate has come down over the years sizes of the families tend to be smaller. But this transition may take many decades, and different countries are in different stages of transition. At the same time developments in Post-1991 Russia and in the East Asian countries after the economic crisis in 1997, indicate that the positive developments may be temporarily reversed, temporarily. For example, between 1991 and 1994, the Russian male life expectancy declined by four years but by late 1990s it was increasing. Child survival has increased significantly in the last five decades. The war against diseases like measles and other infectious diseases that affect adversely or kill children has enjoyed great success. By 1995, 80 percent of children were immunized against the six major diseases. Similarly Oral Rehydration Therapy (ORT), a simple solution, saved the lives of millions of children.

In the last two decades of the last century we have witnessed the rapid spread of HIV/AIDS Epidemic, which has killed 14 million people since the early eighties. And about 40 million people are infected by HIV/AIDS.

HIV/AIDS was an unexpected development, in the context of global trends to declining rates of growth in population, increasing life expectancy, and declining IMR and MMR. As well, the global population will consist of more young people and more old people than ever before.

## **1.2 Projections**

Projections of population are at best estimates based on assumptions, analysis of past trends and present conditions. Projections are important for policy makers, governments to anticipate and plan for future needs. According to the most recent projections made by the United Nations world population will be about seven billion in 2013, about eight billion in 2028, about nine billion in 2054 and 10 billion in 2183. By 2050 the world population will be about 8.9 billion, with 60 percent of the world's population in Asia, 20 percent in Africa and nine percent in Latin America. In 1900 the population of Africa was one third of the population of Europe but in 2050 the population of Africa will be three times that of Europe.

There is no single projection of population growth and its components. Five projection scenarios—low, low-medium, medium, high-medium, and high—are prepared based on different assumptions. For example, the medium scenario assumes that fertility in major areas stabilizes at replacement level by 2050. Variations in these assumptions will result in projections with a variance of a few hundred millions. Such exercises are done to evaluate the future path of population growth and the consequent changes in the population structure. Despite differing assumptions, however, all the scenarios project important changes in the geographical distribution of the global population. The proportion in Africa increases from 12 percent in 1995 to 24 percent in 2150, while that in China declines from 22 percent to 14 percent. Such projections tell us from which regions we can expect the increase in population to come and the implications of the increase.

Similarly the age distribution varies significantly over the next decades. All scenarios indicate the greying of the global population. The proportion of older people increases from 10 percent in 1995 to 30 percent in 2150. In particular the proportion of those aged 80 or more will increase dramatically.

In considering these estimates we should also take into account the wide variance between different scenarios. For example, taking the global population in 1999 as six billion, the three projections—high, medium, and low—indicate that by 2050 global population will be 10.7 billion, 8.9 billion, and 7.3 billion respectively. In the very long run the global population is expected to stabilize but when and how this will happen is not easy to predict. The good news is that rate of growth of population is declining all over the world and the current rate is 1.33 percent per annum. In developing nations the fertility has declined by 50 percent from 1969 and women have fewer children than before in these countries. Still, due to better child survival and increase in life expectancy mean, there are more women of childbearing age than ever before in many countries. And annual birth rates are expected to continue at present levels for the next two decades. So longer lives and falling birthrates result in slower population growth but not negative population growth in developing nations.

### **1.3 Implications**

Irrespective of the variations in estimates in different projection scenarios certain trends are obvious. First, the global population will continue to rise for the next several decades to come. Much of this growth will happen in Africa and Asia. Second, the structure of the population will change and the implications of this for the global society are not yet clear. Third, the urbanization process will continue unabated and urban areas will be home to more people than ever before. These three trends pose enormous challenges for humankind.

At present there are more young people than ever before, more than one billion in the 15–24 year old age group. Although this segment of the total population will decline proportionally over the next few decades its absolute numbers will increase. The challenge facing societies is to ensure that youth in the future have sufficient opportunities in terms of employment, health care, and education. In other words, the need to increase spending for social development is inevitable in developing nations. Another challenge is to face the consequences of a greying of population. As both the numbers and share of the elderly in the population increases the societies will have to come to terms with a scenario in which older people depend on the young more than ever before. The potential support ratio—the number of persons aged 15–64 per older person aged 65 and above—is expected to decline in the coming decades. In developed nations between 1999 and 2050 this ratio will decline from 5 to 2, and in developing nations it will decline from 12 to 4. This calls for more investment in old age care, support facilities and pension payments. Social support spending for the old will increase over the years. This has wide-ranging consequences and will have an impact on savings, investment and labor supply. By 2050 it is expected that the proportion of old people in the population will exceed that of children, for the first time in history.

The unabated urbanization process will continue and by 2006 about a half of the global population will be living in urban centers and urban agglomerations. By 2030 about 61 percent of the global population will be urban-based. Today there are 17 megacities that have a population of 10 million and more. By 2015 there will be 26 such cities. This trend has many consequences for housing policy, health, crime control, provision of social services, and employment.

It is estimated that global HIV infections have increased to 34 million people. Globally HIV/AIDS will have little impact in demographic terms but it will have a negative impact on many African countries. In Botswana, where one in four adults is estimated to be infected with HIV/AIDS, life expectancy declined from 61 years in the late 1980s to 47 by 1999, and is expected to fall to 38 by 2005–2010. AIDS has nullified the progress made over the last few decades in child mortality and life expectancy. The population growth will continue but it would have been higher had there been no AIDS epidemic. Thus for African nations there is a double burden—they have to face the consequences of AIDS as well as increases in population. Yet there is some hope, for it has been proven in Uganda and in Thailand that it is possible to bring about a decline in rate of new HIV infections. The scale of the impact of AIDS in Africa can be gauged from the fact that although Africa's proportion of the global population is 13.2 percent, but it accounts for 69.2 percent of the world's HIV/AIDS cases.

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### **Biographical Sketch**

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