

# Nation of Change

## The End of Population Growth

By Sana Altaf

According to the United Nations' Population Division, the world's human population hit seven billion on October 31. As always happens whenever we approach such a milestone, this one has produced a spike in conferences, seminars, and learned articles, including the usual dire Malthusian predictions. After all, the UN forecasts that world population will rise to 9.3 billion in 2050 and surpass 10 billion by the end of this century.

Such forecasts, however, misrepresent underlying demographic dynamics. The future we face is not one of too much population growth, but too little.

Most countries conducted their national population census last year, and the data suggest that fertility rates are plunging in most of them. Birth rates have been low in developed countries for some time, but now they are falling rapidly in the majority of developing countries. Chinese, Russians, and Brazilians are no longer replacing themselves, while Indians are having far fewer children. Indeed, global fertility will fall to the replacement rate in a little more than a decade. Population may keep growing until mid-century, owing to rising longevity, but, reproductively speaking, our species should no longer be expanding.

What demographers call the Total Fertility Rate is the average number of live births per woman over her lifetime. In the long run, a population is said to be stable if the TFR is at the replacement rate, which is a little above 2.3 for the world as a whole, and somewhat lower, at 2.1, for developed countries, reflecting their lower infant-mortality rates.

The TFR for most developed countries now stands well below replacement levels. The OECD average is at around 1.74, but some countries, including Germany and Japan, produce less than 1.4 children per woman. However, the biggest TFR declines in recent years have been in developing countries. The TFR in China and India was 6.1 and 5.9, respectively, in 1950. It now stands at 1.8 in China, owing to the authorities' aggressive one-child policy, while rapid urbanization and changing social attitudes have brought down India's TFR to 2.6.

An additional factor could depress future birth rates in China and India. The Chinese census suggests that there are 118.6 boys being born for every 100 girls. Similarly, India has a gender ratio at birth of around 110 boys for every 100 girls, with large regional variations. Compare this to the natural ratio of 105 boys per 100 girls. The deviation is usually attributed to a cultural preference for boys, which will take an additional toll on both populations, as the future

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scarcity of women implies that both countries' effective reproductive capacity is below what is suggested by the unadjusted TFR.

Indeed, after adjusting for the gender imbalance, China's Effective Fertility Rate (EFR) is around 1.5, and India's is 2.45. In other words, the Chinese are very far from replacing themselves, and the Indians are only slightly above the replacement rate. The EFR stands at around 2.4 for the world as a whole, barely above the replacement rate. Current trends suggest that the human race will no longer be replacing itself by the early 2020's. Population growth after this will be mostly caused by people living longer, a factor that will diminish in significance from mid-century.

These shifts have important implications for global labor supply. China is aging very rapidly, and its working-age population will begin to shrink within a few years. Relaxing the one-child policy might have some positive impact in the very long run, but China is already past the tipping point, pushed there by the combined effect of gender imbalance and a very skewed age structure.

The number of women of child-bearing age (15-49 years) in China will drop 8% between 2010 and 2020, another 10% in the 2020's and, if not corrected, at an even faster pace thereafter. Thus, China will have to withdraw an increasing proportion of its female workforce and deploy it for reproduction and childcare. Even if

China can engineer this, it implies an immediate outflow from the workforce, with the benefits lagging by 25 years.

Meanwhile, the labor force has peaked or is close to peaking in most major economies. Germany, Japan, and Russia already have declining workforces. The United States is one of a handful of advanced countries with a growing workforce, owing to its relative openness to immigration. But this may change as the source countries become richer and undergo rapid declines in birth rates. Thus, many developed countries will have to consider how to keep people working productively well into their seventies.

India, the only large economy whose workforce will grow in sufficient scale over the next three decades, may partly balance the declines expected in other major economies. But, with birth rates declining there, too, current trends suggest that its population will probably stabilize at 1.55 billion in the early 2050's, a full decade ahead of – and 170 million people below – the UN's forecast.

Given this, it is likely that world population will peak at nine billion in the 2050's, a half-century sooner than generally anticipated, followed by a sharp decline. One could argue that this is a good thing, in view of the planet's limited carrying capacity. But, when demographic dynamics turn, the world will have to confront a different set of problems.