

Official Optimism, Journalistic Hype:

## The UN 1996 Population Projections

by Lindsey Grant

*The United Nations a year ago distributed its periodic population projection **World Population Prospects. The 1996 Revision**. The media have belatedly discovered it and distorted it almost beyond recognition. What was a moderate and mildly optimistic adjustment of the 1994 projection has been read as a revolutionary portent of a new population era, to the joy of some but the dismay of other commentators, who display an irrational addiction to continued growth and a visceral fear of its end. A less panicky look is needed at what the UN said, what it may mean, and how much credence can be given to the numbers.*

Last April, a Hollywood reporter began a UPI story with these breathless sentences:

*“What might be the most significant news story of the century will be unveiled April 18 in a PBS documentary. The story... reveals that the planet-threatening human population boom is at an end. It suggests over-population, leading to food shortages, ozone holes, unemployment, acid rain, war, environmental poisoning, ominous climatic changes and other catastrophic assaults on Mother Earth, is in abeyance.”<sup>1</sup>*

Wonderful news, indeed, if it were true. The problem is that the reporter promoted a mildly optimistic UN forecast<sup>2</sup> into a glorious new dawn.

The *Wall Street Journal* and *New York Times* have been similarly misled but hardly ecstatic. A February *Journal* article (built upon a factual error) predicted that much of the world will soon be in a “demographic free fall” and used the occasion to castigate the “population-control crowd.”<sup>3</sup> It “adjusted” the UN tables to predict a peak world population of about 7 billion in 2030 – 170 years sooner and 3.7 billion people less than the UN’s own projection.

The hype seems to be originating primarily with the American Enterprise Institute (AEI), which is funded heavily by business interests, and publicized by the *Journal* and the *Times*. A *Journal* article in October avoided the errors and “adjustments” but had much the same message: that world population growth is about to turn around, and that a turnaround will be catastrophic.<sup>4</sup>

A *New York Times* article in November was distinguished primarily by the tenor of the headlines: “How to Fix a Crowded World: Add More People,” “Problem for a Crowded World: Not

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Enough People” and (in a California paper running the article) “Now the Crisis is Underpopulation.”<sup>5</sup> Ben Wattenberg, another AEI associate, reappeared (see note 1) in another *Times* article titled “The Population Explosion is Over” on November 23rd. This was a bit less hyperbolic than the others, even recognizing some advantages. Like the others, however, he treated a recognized trend as a dramatic discovery. (The UN statisticians, as we shall see, have been very consistent in their projections over the years.) And presumably to sell the article, he pretended that environmentalists have been saying that population will grow forever, when their point in fact has been that it cannot.

It sounds like an orchestrated effort by business, following up on its opposition to immigration reform in 1996, to downplay the population issue and thereby reduce potential opposition to large scale immigration. Am I being too suspicious?



Several themes were more or less constant in these articles:

- They treated the projection as though it were a major change, which it was not.
- They used (or misused) the UN “low” projection as if it were indeed the UN projection. Most of them ignored the others. In fact, the UN statisticians regard the “low” series as a probable lower bound for anticipated future population change and the “medium” projection as the most likely one.
- They were mesmerized by the fear that there will be too few working age people to support the old.
- They justified that concern by focusing on western Europe and Japan – which together constitute less than 10% of the world’s population – and almost ignored trends among the other 90%.
- Except for Wattenberg, they treated the slow-down in fertility as a natural phenomenon. I will make the case later that some credit is due to deliberate efforts to bring it about. This leads to very different conclusions as to what the world should be doing now.
- Except for the Hollywood reporter, they paid little or no attention to the benefits of stopping population growth for environmental sustainability, for living standards and for wages and employment, which should be the central issues in any discussion of population policy.
- Most important, they displayed a visceral attachment to continued growth and a fear of its cessation, despite the mathematical fact that physical growth must end on a finite planet. More people, it is argued, are needed to promote economic growth. Why is more economic growth needed? to provide jobs. For whom? for more people. It is a circularity from which conventional minds apparently cannot escape.

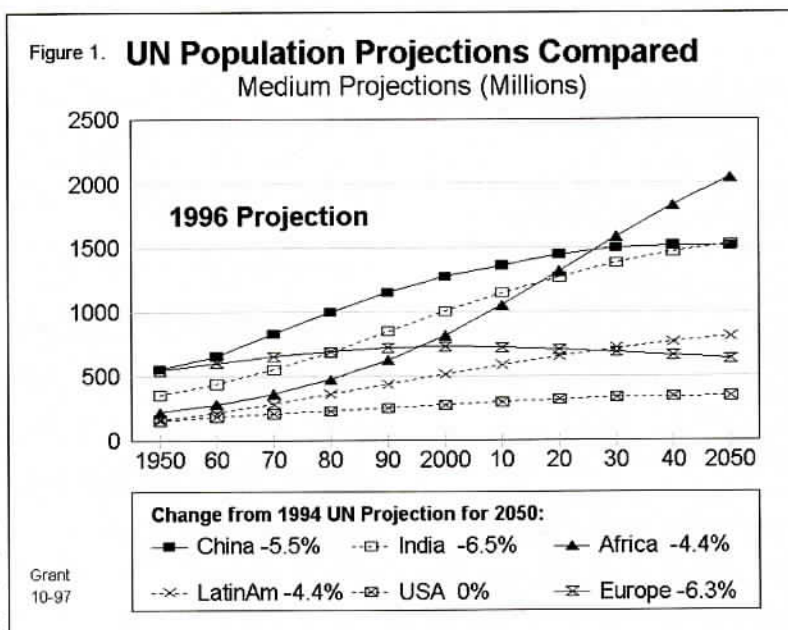
We are confronted with the remarkable scene of a journalistic panic at the prospect that some nations may be on the way to stopping or reversing population growth – although stopping it has been an objective of the United Nations for decades, of most third world leaders<sup>6</sup>, and of all the world’s major national and international multidisciplinary scientific societies, including the U.S. National Academy of Sciences.<sup>7</sup>

Perhaps we should see just what the UN statisticians really said and what the implications are.

## What the UN Statistical Division Said

In fact, the 1996 UN projection was a sober

and rather modest modification of the 1994 projection. Growth in the third world (the UN’s “less developed countries”) is slowing somewhat more quickly than was expected two years before. World population is now about 5.9 billion. The medium projection for 2050 is 9.4 billion, or 64% more than the present



population. This is hardly a “demographic free fall.” It is 4.7% below the 1994 projection (a difference that Wattenberg overstated) – but close to a projection made fifteen years ago.<sup>8</sup> Contrary to the media stories, world population growth is not projected to stop soon. The medium projection, carried forward by the UN, shows growth to a figure of 10.7 billion just after 2200, followed by a slow decline.

A graph may be a useful way to compare the most recent projections for key regions.

Much of the change from the 1994 projection reflects Chinese and Indian success in bringing fertility down – in China’s case despite excoriation from the United States. The changed projection for Europe reflects a reassessment of Russia and Eastern Europe; the projection for western Europe declined only 1.8%.



The signs that led to the optimism can be read in Figure 2, which shows selected historical and projected fertility trends.

The projections necessarily reflect the mindset of the UN statisticians. They project trends as they understand them, anticipating fertility and mortality changes that have not yet happened. By way of comparison, they also run a “constant fertility” projection. If fertility and mortality should stay where they are now, world population would pass 14.9 billion in 2050 – if the ecosystem could support such a staggering number.

## Diverging Futures

The central worldwide demographic reality right now is divergence between the industrial countries and the poorest, complicated by the emergence of some third world countries as industrialized societies.

**The Industrial World.** Fertility is below replacement level in almost the entire industrial world. Left to itself,

present fertility (the “constant fertility” projection cited above) would lead to a population decline of 15% in Europe<sup>9</sup> by 2050, bringing it back down almost to the 1960 level. For Japan, the decline would be 21%, to a level it passed in 1965. However, the medium variant shows declines of just 12% for both, because the authors expect fertility in those regions to rise again.

**The Blurring Middle.** Low fertility is spreading to the newly industrializing countries, particularly in East and Southeast Asia. Total fertility (TFR; or the number of children expected per woman over a lifetime) is now below the U.S. rate of 1.96 and below replacement level in ten third world nations, including a key one, China.

**The Poor Countries.** In the poorer parts of the third world and in the Middle East, population growth is terrifying. Among the UN’s 48 “least

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developed countries”, with a present population of 600 million, fertility still averages 5.25 children, and population is growing at the rate of 30% per decade. Figure 1 shows the population curve for Africa. The medium projection for Africa in 2050 is over two billion, almost triple the present population.

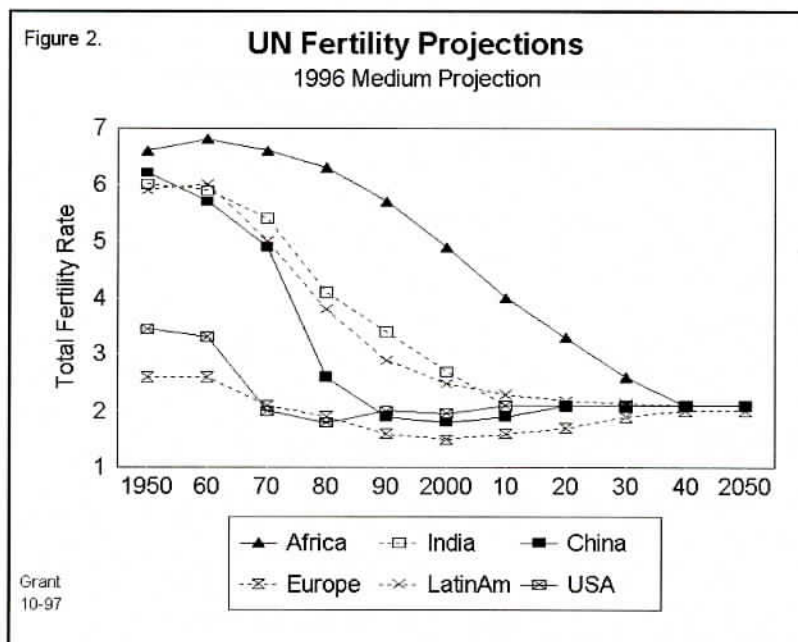
That projection is optimistic. It assumes that fertility decline will accelerate to 60% between now and 2040, in a continent that has experienced a decline of only 20% since the 1950s. Lots of luck. If it could be brought off, it would offer the hope for eventual stabilization late in

the 22nd Century – at a population somewhere around three billion.

I would challenge anybody to make the case that Africa can support two or three billion people, or even the 1.7 billion of the low projection. If it cannot, population growth will slow and stop, indeed, but for the wrong reason: rising mortality.

## Europe and the “Dependency Ratio”

I have mentioned the journalists’ fears about the projected dependency ratios. That ratio is a crude measure of the number of people each worker must support. Mathematically, it is the total population of the old and young expressed as a





percentage of the “working age” (15-64) population. In theory, the lower the ratio, the higher the standard of living, because a worker’s earnings do not have to be shared by so many people. I think that its importance has been exaggerated, but it needs examination.

The changes for Europe are less dramatic than the more lurid press accounts because the journalists ignored the tradeoff: more old dependents but fewer young dependents. Moreover, prosperity and dependency ratios are not closely correlated. Look at the United States in the ‘sixties and ‘seventies, a period of ebullient economic growth – when our dependency ratio was at a peak because of the baby boom.

A drop in fertility first lowers the dependency ratio, because there are fewer children, and then raises it as their parents move out of their working years. (This phenomenon is dramatically illustrated by the projection for Africa, which shows a very good ratio by 2050 – Figure 3 – but the plunge in African fertility – Figure 2 – would lead eventually to crushing dependency levels in the following two generations as smaller cohorts of children enter the labor force and the larger cohorts grow old.)

The speed at which fertility declines, and to what level, determine how far the dependency ratio rises. Figure 3 gives a graphic comparison. Sweden dropped to a TFR of 1.65 in the 1970s (then considered remarkably low) but is now back to about 1.8. Its dependency ratio is expected to stay much more favorable than Italy’s, where fertility has dropped suddenly to 1.19. Italy, indeed, is something of a special case. Worldwide, only Italy, Spain, Greece and Japan are expected to have dependency ratios higher than 80% in 2050. Overall, the curve for Europe in Figure 3 is hardly a cause for concern; it will turn around.

Right now, when the principal economic problem in Europe is unemployment, fears of labor

shortages seem a bit unreal. Nevertheless, the increased proportions of old people in the low fertility countries will require adjustments. Europe and Japan may need to reconsider their retirement and medical aid programs. People can find ways of retiring in their forties in some European countries without a substantial loss of income. Modern societies tend to write a blank check for medical care, in an extremely expensive effort to extend human life if not its pleasures. A more balanced approach, making it more attractive to stay in the labor force and recognizing that death at some point is inevitable, may preserve some social support systems that are already heavily stressed.

To leave the mathematical for the speculative, there will indeed be social and political adjustments as the population grows older. Less risk-taking,

perhaps, and a more conservative electorate. Nevertheless, Florida has a very old population and Utah a very young one, and both seem to function in their fashion.

Most of the other consequences of population decline would be positive:

- fewer young people to

train, and consequently the chance to train them better for more skilled work;

- less abundant labor, with the consequent incentive to substitute capital for labor, leading in turn to higher productivity and higher wages;

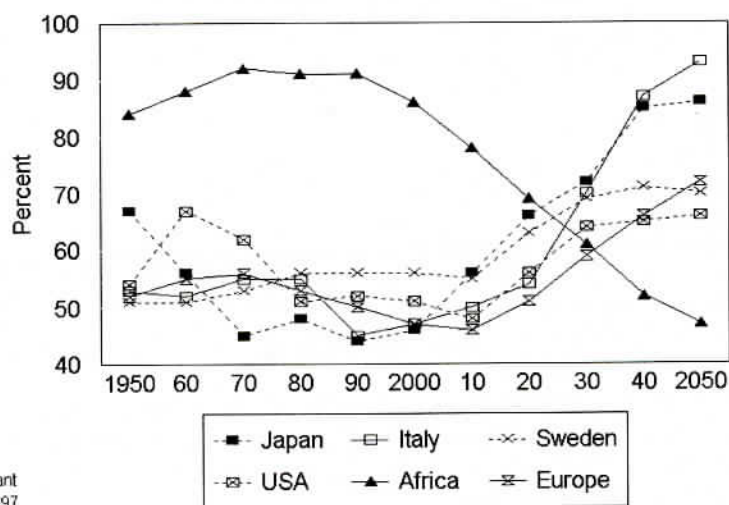
- reduced infrastructure needs, freeing capital for productive investment; Europe will be able to save the best houses, factories, schools and office buildings rather than building for population growth as they have had to do in recent decades.

Most important, a smaller population would make it easier to correct the environmental problems that now trouble Europe, to manage the transition away from fossil fuels, and to participate in the global effort to control global warming. At any level of conservation and pollution-control technology, the level of damage is proportional to

Figure 3.

### Dependency Ratios - Examples

UN 1996 Medium Projection



Grant  
11-97



the number of people being served.<sup>10</sup> Perhaps Europeans and Japanese are groping toward a population level that will lead to a more benign style of industrial and agricultural activity and a less crowded environment.

A transitory rise in the dependency ratio is inevitable, unless population growth is to continue forever, simply as part of the process of ending growth. The phenomenon is temporary. When population stabilizes at a new level, the dependency ratio tends to settle in the 60% range. Even in the extreme case of Italy, the medium projection, extended, suggests a decline in the ratio from 93% in 2050 to 80% in 2100 and 60% in 2150. The higher transitional levels are manageable, given the productivity of labor that has resulted from the technological revolution and the mobility of labor in the European Union; a move to a somewhat less drastic fertility level would of course lower the peak.

The European projection, which assumes a gradual trend back up to replacement level, offers a rather attractive prospect, if they have the resolve and the luck to pursue it. Population would stabilize at about 78% of the present level in 2150 – a

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level it passed forty years ago – and the dependency ratio would settle at 61%. (I should note, however, that this sanguine sketch of the future depends on their ability to control immigration.)

Sub-replacement fertility leads eventually to zero. At some point, Europe will have to bring fertility back to replacement level or tolerate mass immigration, but they have time to consider a question that is now almost never asked: what would be the optimum? They may well be better off with the population levels they left behind two or three generations ago than they are now, or smaller.

Italy, again, represents the extreme case. China talks about the “one child family” but averages about two children; Italy is down almost to one child. Only six other countries, all of them in Europe, have fertilities below 1.4. Because of population momentum, Italy’s population would drift downward to 22 million by 2150 and stabilize there even if Italy returned to replacement level

fertility in 2050. That takes it back to the 19th Century. Perhaps not a bad idea – Italy created the Renaissance with a lot fewer people – but they and the six other countries should be holding national debates now about where they want their population to go, and how to get there.

So should we, but for a very different reason: continuing growth.

### *Is the UN Projection Right?*

Can the diverging futures between the poor and the rich continue to diverge? The UN statisticians expect not. They project a third world getting more like the industrial world, with all converging to a “modern” model of low fertility and low mortality, with less disease and hunger, an end to large scale international migration, and no nasty “surprises.”

An optimistic vision.

Not so fast. A convergence of sorts will indeed occur, in the sense that the third world must stop growing, but that limited convergence could well conceal vast differences in fertility and mortality, or a worldwide deterioration of living conditions.

**Fertility.** The key to the UN projection is the assumption that third world fertility will continue and indeed accelerate its decline. Figure 2 should take some of the mystery, and perhaps the magic, out of demographic projections. In brief, the demographers have simply assumed that all regions will converge to an average total fertility rate (TFR) at or near 2.1 children per woman before 2050. The 2.1 figure is of course that magic figure, beloved of demographers, which would lead eventually to a static population at low levels of mortality.<sup>11</sup>

This mechanical assumption of a stable replacement level fertility rate can be justified by the impossibility of predicting what will actually happen to fertility and mortality, but it is almost certain to be wrong. Reality isn’t that tidy. Fertility may hang up in some countries, fluctuate in others, and plunge far below 2.1 in others, as it has in Europe and Japan.

**Mortality.** The middle projection calls for life expectancy, worldwide, to rise from 66 years now to 77 years in 2045-2050, with the most dramatic gains occurring in the least developed countries.

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Statistics do not always track reality. In some regions, particularly Africa, the reality has probably left the official statistics behind. There has been widespread economic retrogression; the International Labor organization says that the modern

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sector in Kenya has “collapsed” and that real wages have fallen 50% since 1975 in Kenya and 80% in Tanzania. Food availability per capita in sub-Saharan Africa has declined for decades. Nevertheless, the UN believes that African life expectancy has risen throughout that period and it projects a rise from 53 years now to 72 years by 2045-2050. It recognizes that AIDS presently raises mortality in some African countries, but it assumes that AIDS will be brought under control in the next decade and begin to taper off.

There are reasons to question the UN statisticians’ optimism.<sup>12</sup> The two improvements that generated the population explosion are in jeopardy:

- **Health.** If improved medicine and public hygiene started the population explosion, population growth may stop it. Urban slums can generate terrifying epidemics. The urban population of the third world has increased sixfold since 1950, adding 1.4 billion people. It is expected to add another two billion people by 2025. These figures are incomprehensible. The equivalent of two Chinas, nearly 40% of the world’s present population, will be piled upon cities that are already in or approaching breakdown. The highest rates of urban growth are expected in the poorest countries that are least prepared to accommodate it.

City services such as water and sewage cannot handle the influx. Diseases of filth and poverty such as cholera have reappeared. The World Health Organization has pointed out that the conditions that made low mortality possible are being wiped out by population growth.

Into this cauldron, add the increasing resistance of pathogens to medicines. The assumption of a continuing decline in mortality becomes tenuous indeed.

Disease will not stay in the third world. It

crosses borders. The industrial countries are better equipped to handle epidemics, but there is no assurance that third world problems will not affect mortality in the industrial world.

- **Nutrition.** Trade in food is already a paradox: the industrial world, by and large, provides the food exports to the third world. In the industrial countries, yields have reached a plateau in basic foodstuffs, and there is no “miracle” yet in sight to maintain the growth in yields that was, for about four decades, unprecedented in world history. Even present production levels are under threat from diversion of farmlands and water to other uses, pesticide-resistant pests, erosion and salinization. The ability of exporters to meet rising food demand is in deep question, as is the ability of the importers to pay for rising imports.

Those are the looming costs of past failure to adjust fertility when we changed the demographic imbalance by lowering mortality.

- **Migration.** As disease crosses borders, so do migrants, if there is no food and no work at home. There is a lag of about 15-25 years between changes in birth rates and changes in the number of those seeking employment. The third world working age population is projected to grow by 64% between now and 2025, fueling migratory pressures.

The UN demographers recognize that the poor and rich worlds are mingling, but they don’t expect it to continue. The projections phase out most international migration by 2005 and all of it by 2025. They are betting that the industrial nations (and the more prosperous developing countries that are now drawing migrants from their poorer neighbors) are going to be willing and able to stop immigration. Indeed, immigration is a very hot issue right now, throughout much of the world, but there is little reason to believe that it will stop. In fact, most of the debate has been about whether to enforce controls on illegal immigration, not whether to lower legal immigration. Many third world countries have enforced draconian deportations apparently to the satisfaction of their citizens, but there is no indication they are succeeding in stopping the migration. One wonders whether recipient countries will be ready or indeed able to stop it.

The UN assumes that immigration into the United States will stop in 2025 and projects our population at 348 million in 2050. The U.S. Bureau of the Census, which does not make that assumption, expects that it will be passing 394 million. Quite a difference for 25 years’ migration,



and a measure of the importance of immigration to our national future.

Worldwide, if the UN assumptions about migration turn out wrong — and I think there is overwhelming reason to believe that they will — the error will throw out all the projections. It will, particularly, raise the population figures for the industrial countries, since migration is a much more important demographic variable for them than for the developing world as a whole.

**The Interactions.** These uncertainties can affect the projections in different ways. If the fertility assumptions turn out to have been too low, population growth will outstrip the projection. If the mortality assumptions turn out too optimistic, the population will be lower. If migration does not in fact stop, the industrial nations will be much larger. And nobody can predict exactly how such changes will interact.

Rather than the benign convergence suggested by the projections, there may be a different kind of convergence: population growth slowing and perhaps reversing, everywhere, but under vastly different conditions: rising mortality especially in the third world; a continuing gap in fertility between rich and poor nations, as there is between rich and poor individuals.

## *Testing the Limits*

The Hollywood reporter on page 1 had it partly right. The end of population growth would be good news if it were true. Over the long term, the alternative is unimaginable. We face an intolerable combination: growing populations in the poorest countries, rising consumption levels in industrializing countries, and immigration-induced population growth in the United States. Together, they lead to a rising curve of economic activity that would dwarf the present worldwide pressures on the environment. The “Brundtland Commission” in 1987 concluded that, in fairness, we must anticipate a five- or ten-fold growth in world industrial output to accommodate the modernization of the less developed countries. The International Panel on Climate Change forecasts a seven-fold rise in world gross domestic product (GDP) by 2050 and 25-fold by 2100. The Chinese target is a 70-fold increase by 2050. Those expectations epitomize the problem of trying to relieve poverty for a growing world population. It is inconceivable to me that, even with the best efforts at pollution control and conservation strategies, such

growth would be environmentally tolerable, and there is yet no sign that the emerging countries will make their best efforts. Where are the limits?

I have argued elsewhere (note 12) that the Earth’s ecology and the climate issue suggest that a world population of perhaps two or three billion might be sustainable. The world was at that level fifty years ago. The 1993 long term “low” projection would lead to a world population of 4.3 billion in 2150, which is about where we were in 1980. On the right track, but probably still well above the optimum.

Misquoted as it was, the UN Statistical Division’s 1996 message was simply that the world is making some progress toward solving the population issue in a comparatively humane way, by lowering fertility rather than allowing mortality to rise to close the gap.

Statisticians are supposed to be value-free, but perhaps they will forgive me if I charge them with compassion. The medium projection is in a sense an artifact: the demographers use it to draw a picture of a tolerable future. They recognize, if businessmen and politicians and some journalists do not, that perpetual growth would lead to chaos and collapse. The medium projection can be fitted — with a bit of hope — to present trends.

The problem is that others who don’t want to think about the consequences of growth then pick up the “low” series and interpret it as an assurance that the population problem has gone away. They should listen to the principal architect of the projections, who has said that “unless couples have access to safe contraceptives compatible with their cultural and religious beliefs, they are limited in how they can fulfill their hopes of smaller families, and population declines are much slower.”<sup>13</sup> In other words, “keep up the population programs if you want to see that demographic future.”

Don’t just wait for it. If fertility in many developing countries is moving in the right direction, perhaps the governmental population programs have been doing something right. Not all declines in fertility are simply attributable to modernization. In the U.S. Congress, the endless debates about whether to continue population assistance should give way to a recognition of what those programs have accomplished, in our own direct interest. The question should be changed to “how much more is needed?”





## Notes

1. Vernon Scott, "Scott's World," UPI Hollywood, 4-17-97. Scott was promoting a Public Broadcasting Service (PBS) documentary put together by Ben Wattenberg and scheduled for release the following day.
2. *World Population Prospects. The 1996 Revision* (New York: the United Nations Statistical Division). Projections circulated November 1996. Text to be published in 1998; date uncertain because of editing delays. This Forum is drawn from the tables and press release, in light of the continuing and often erroneous press citations of the report.
3. Article by Steven W. Mosher titled "Too Many People? Not by a Long Shot," 2-20-97. He claimed that 79 countries are already below replacement level fertility – the actual UN figure is 49 – and he arrived at his numbers by "adjusting" the UN "low" series downward by assuming that the developing countries' fertility will drop to the present fertility level of Europe – which he understated. Even the UN "low" projection assumes no such convergence.
4. Nicholas Eberstadt, "The Population Implosion," 10-16-97.
5. Barbara Crossette, *New York Times* and *Orange County Register* 11-2-97. To its credit, the *Christian Science Monitor* on October 22, 1997, carried an article by David R. Francis, "Global Crowd Control Starts to Take Effect," which interviewed several specialists and presented the benefits of halting population growth.
6. See, for instance, the "Statement on Population Stabilization by World Leaders," signed by 75 heads of state or government and presented by Indonesian President Soeharto to the UN Secretary General in October 1995.
7. The U.S. National Academy of Sciences and the British Royal Society of London issued a warning of the dangers of population growth in 1992, which was followed up in 1994 by a declaration signed by 58 national scientific federations, worldwide. The International Council of Scientific Unions issued a comparable warning in 1992, as did 1600 scientists mobilized by the Union of Concerned Scientists in 1992.
8. UN projections have fluctuated slightly over the years. The new "medium" projection for 2050 is 8% below the 1993 long-term projection but very close to the 1982 projection. The 1996 "high" and "low" variants are 6.3% and 3.3% lower, respectively, than in 1994.
9. "Europe" as defined by the UN includes Russia and Siberia, carrying it to our Alaskan border. When I use the common term "western Europe," it includes the UN's Northern, Southern and Western Europe – the European Union plus a few small countries.
10. For a fuller discussion, see Lindsey Grant, "Europe in the Energy Transition: the Case for a Smaller Population," NPG Forum, 1987.
11. The high projections terminate at TFRs of 2.36 to 2.6 for different countries, implying population growth for the indefinite future. The low projections terminate at TFRs of 1.14 to 1.6 for different countries and would lead to world population of 7.75 billion in 2040 and a subsequent decline.
12. The data for this section are taken from my book **Juggernaut. Growth on a Finite Planet** (Santa Ana, Seven Locks Press: 1996), drawn mostly from earlier UN reports.
13. Joseph Chamie, Chief of the UN Population Division, interviewed by Barbara Crossette, reported in "World is Less Crowded than Expected, the U.N. Reports," *New York Times*, 11-17-96.

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