ARTICLE

Population Policy Options in the Developing World

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The population of the developing world is currently expanding at the unprecedented rate of more than 800 million per decade, and despite anticipated reductions in growth during the 21st century, its size is expected to increase from 4.3 billion today to 10.2 billion in 2100. Past efforts to curb this growth have almost exclusively focused on the implementation of family planning programs to provide contraceptive information, services, and supplies. These programs have been partially successful in reducing birth rates. Further investments in them will have an additional but limited impact on population growth; therefore, other policy options, in particular measures to reduce high demand for births and limit population momentum, are needed.

The arithmetic of global population growth has become numbingly familiar: 1 billion in 1800, 2.5 billion in 1950, and 5.5 billion today. In the past four decades more people have been added to the globe than in all of history before the middle of this century. And growth continues unabated. The world's population is now expanding at the unprecedented rate of nearly 1 billion per decade, and the United Nations and the World Bank project an additional 6 billion inhabitants by the end of the next century (*1*, *2*). Virtually all of this growth is expected to occur in Africa, Asia, and Latin America; therefore, in this article I focus on the developing world.

Concern about the adverse effects of population growth on human welfare was expressed nearly 200 years ago by Thomas Malthus who concluded that "the power of population is indefinitely greater than the power in the earth to produce subsistence for man" (*3*). The result, he predicted, would be increasing deprivation and starvation as exponentially growing populations outstripped their food supply. Malthus was, of course, not without his critics who believed that increases in human knowledge and technological innovation would enable humankind to provide rising standards of living for growing populations. This debate has continued until today, with the optimists pointing to the notable successes in improving the welfare of much of humankind, whereas the neo-Malthusians emphasize the widespread poverty in the Third World and the many signs of stress in our environment: air, water, and soil pollution; global warming; and depletion of renewable and nonrenewable resources. Despite sharp disagreements about future prospects, there is broad agreement that a reduction in rapid population growth in the developing world will enhance the prospects for improved living standards of additional billions in the decades ahead. As a consequence, in recent decades concerted efforts to curb population growth have been undertaken in much of the developing world. An estimated $4 to $5 billion per year is now spent by the world on population programs in Africa, Asia, and Latin America (*4*).

In this article I review past approaches to population policy and assess alternatives available to governments of the developing countries. Such questions were discussed at the United Nations (U.N.) Conference on Environment and Development (the "Earth Summit") in Rio de Janeiro in 1992 and will be a focus at the U.N. International Conference on Population and Development in September 1994 in Cairo.

Population Policy Since 1950

The potential magnitude of the population problem became clear to demographers and a small group of development planners and activists in the early 1950s. Population had grown slowly over previous centuries, but a large expansion was expected after 1950. Although projections made in 1951 by the newly created Population Division of the U.N. considerably underestimated the actual course of growth (*5*), they led to strong concern about adverse effects of a large expansion of the human population on social and economic development in the developing world.

In response, organizations such as the International Planned Parenthood Federation (to link family planning programs appearing in many countries) and the Population Council (to serve as a scientific resource for the field) were created in 1952. India became the first country to adopt an official policy to reduce population growth by promoting family planning. However, on the whole, progress was slow initially, in part because birth control activists were not respected by the political establishment, and many governments were reluctant to intrude in the sensitive and private matters of human reproduction and sexuality. In addition, religious (mainly Catholic) and conservative groups strongly opposed birth control.

By the 1960s population growth had accelerated to more than 2.5% a year, and rates of growth were greater than 3% in many developing countries (*6*). The main cause was a decline in the death rate as a result of improved nutrition and public health measures such as immunization, antibiotics, and better sanitation. Birth rates remained high in much of the developing world. The threat of food shortages in the mid-1960s caused alarm about the race between food supply and population growth and provided an impetus for stronger government action, increased funding for population programs, and the establishment in 1967 of the U.N. Fund for Population Activities (UNFPA).

Governments concerned about the prospects of large increases in population typically responded by implementing family planning programs to provide information about and access to contraceptives. Newly available contraceptive methods, such as the birth control pill and the intrauterine device, greatly facilitated the delivery of family planning services. The rationale for this approach was largely provided by research on attitudes toward birth control and on knowledge and use of contraception. Surveys of women of reproductive age in the 1960s found that many women wanted to limit family size or space births but did not practice contraception (*7*, *8*). This information reassured policy-makers of the acceptability of action programs.

By the early 1970s concern about the adverse consequences of population growth had increased to the point that family planning became a worldwide social movement. Several books as well as the extensive media coverage of the first U.N. Conference on the Human Environment held in Stockholm in 1972 raised global awareness of population and environment issues. This led to strong support for action and a large increase in funding from the developed countries, especially the United States (*9*). In addition, the health and human rights rationales for family planning became increasingly important. Numerous governments initiated family planning programs even though this approach remained politically sensitive and was a source of contro-

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versy. However, at the 1974 U.N.-sponsored World Population Conference, governments from the developing world resisted setting targets for lowering population growth and instead argued for a new international economic order to stimulate development. In the decade between the 1974 and 1984 World Population conferences, governments that were initially reluctant came to accept the importance of reducing population growth by implementing family planning programs (*10*). The Chinese government became so concerned about the consequences of population growth that it adopted a controversial one-child policy in 1978.

The implementation of family planning programs has in most countries been a key factor in assisting individuals in changing their reproductive behavior. In the developing world as a whole, the average number of children born per woman has declined from 6.1 in the mid-1960s to 3.8 in 1990, and the proportion of couples using contraception has risen sharply from less than 10% to 50% (*6, 11*). These averages conceal wide variations among regions (Table 1). The most rapid changes have occurred in East Asia where fertility has declined to 2.3 births per woman and contraceptive use is now at 75%—a level usually found in developed countries. In contrast, reproductive behavior has changed little in sub-Saharan Africa, although there are notable exceptions (for example, Botswana, Kenya, South Africa, and Zimbabwe) where fertility declines are now under way. These trends in reproductive behavior are also attributable to rapid social and economic development, which has reduced the motivation for large families. The relative contributions of family planning programs and socioeconomic development to fertility declines vary widely among countries. In a few (for example, China and Bangladesh), the effect of family planning programs predominates, whereas in many others socioeconomic development is more important.

By 1990 most governments of developing countries had adopted policies to reduce population growth, and 85% of the Third World's population now lives in countries in which the government considers the fertility rate too high (*12*). Most of these countries have implemented family planning programs, but the efforts and resources devoted to them vary widely (*13*), and the coverage and quality of services in many family planning programs need to be greatly improved.

Table 1. Estimates of total fertility rate and contraceptive prevalence rate for regions of the developing world, from 1960 to 1965 and in 1990 (*6, 11*).

Country	Total fertility rate (births per woman)		Contraceptive prevalence rate (% of married women)	
	1960 to 1965	1990	1960 to 1965	1990
Africa	6.8	6.1	5	17
East Asia*	5.9	2.3	13	75
South Asia†	6.0	4.3	7	41
Latin America	6.0	3.5	14	61
All developing countries	6.1	3.8	9	50

*Excluding Japan. †Including Southeast and West Asia.

Demographic Projections

Despite rapid changes in reproductive behavior during the past quarter century, population growth in the Third World continues at an unprecedented pace (Fig. 1). The population of the developing world is expected to grow from 4.1 in 1990 to 8.6 billion in 2050 and 10.2 billion in 2100, according to projections made by the World Bank (*2*). In 1990 Asia (excluding Japan, Australia, and New Zealand) had 3 billion inhabitants, nearly three quarters of the total of the developing world, and the population there is projected to more than double to 6.5 billion by 2100. Africa is projected to experience by far the largest relative growth: a nearly fivefold increase from 0.6 billion to 2.8 billion between 1990 and 2100. Latin America is the smallest of the three regions, and although its population size is expected to double to 0.9 billion over the same period, the absolute growth is substantially smaller than in Asia and Africa.

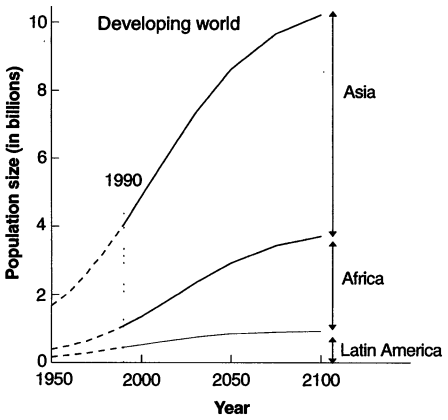

Fig. 1. Projections of population size for regions of the developing world, 1990 to 2100 (*2*).

The projected trend in population growth shown in Fig. 2 indicates that we are now at the climax of an unprecedented period of population expansion (*2*). Overall patterns of change in absolute annual additions to the population of the developing world (Fig. 2A) are similar to those in the rate of growth (Fig. 2B): At the beginning of this century, growth was low and it will again be low at the end of the next century, but there is rapid growth during the intervening years. Absolute annual population increments have been rising throughout this century, and during the 1980s, 774 million people were added to the Third World (6). More importantly, growth will likely exceed this level for the next three decades, adding 830 million in the 1990s and about the same again in the first two decades of the next century, before a decline is expected to occur as fertility reaches low levels.

Although the peak in absolute growth will occur in the next three decades, the rate of growth already reached its maximum in the late 1960s and has been declining since then. A declining growth rate is consistent with a growing absolute increment in population because the base population to which the growth rate applies keeps growing. When the fact that the growth rate had peaked became widely known in the late 1970s, some observers concluded that we had defused the population bomb (*14*). That conclusion is obviously incorrect because population will likely more than double before stabilizing, but the declining growth rate is good news and it is consistent with the claim that efforts to reduce population growth have had an impact.

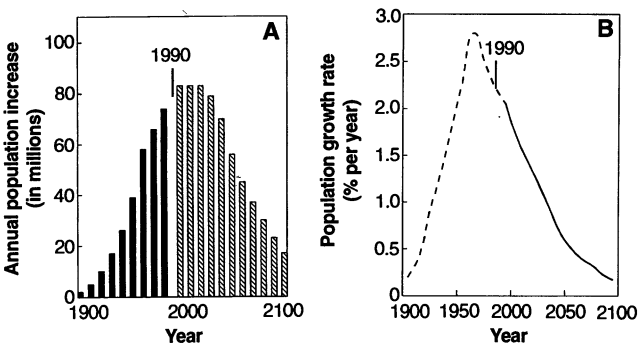

Fig. 2. Estimates and projections of (**A**) annual population increase and (**B**) population growth rate of the developing world (*2, 6*).

Future Policy Options

The already difficult task of reducing poverty and bringing about sustainable development in Africa, Asia, and Latin America will be made even more difficult by the expected addition of 6 billion people over the next century. Increased efforts to slow this population expansion are therefore desirable. Three broad policy options can be pursued.

1) *Reduce unwanted pregnancies by strengthening family planning programs.* The most direct way to bring about significant further fertility declines is by the implementation of comprehensive and high-quality family planning programs in all countries. Although past efforts have been substantial, services are still poor and limited in coverage in many countries. It is therefore not surprising that recent surveys in developing countries have found that many women who wish to delay or stop childbearing are not practicing contraception (*15*). Analysis of these findings suggests that one in six married women in the developing countries outside China has an unmet need for contraception—a total of about 100 million women (*16*). Estimates for unmarried women are not as readily available, but their needs are no doubt also substantial. The unmet need for contraception is highest in countries of sub-Saharan Africa (averaging near 25%), but even in Asia and Latin America, where services are much more accessible, unmet need levels of about 15% are typical in the countries for which data are available. These estimates are conservative because they are limited to women who are currently nonusers. There are, in addition, substantial numbers of contraceptive users who are not satisfied with their current method or who practice relatively ineffective methods that put them at risk of contraceptive failure.

The causes of this unmet need for contraception include (i) lack of knowledge of contraceptive methods or sources of supply; (ii) limited access to and low quality of family planning services; (iii) side effects and inconvenience of contraceptive methods; (iv) disapproval of husbands, family members, and others; and (v) cost of contraceptive commodities and travel.

Several of these problems can be addressed if family planning programs are strengthened by expanding coverage to unserved or underserved areas, improving service quality, providing more understandable contraceptive information through the media and in one-to-one communication with service providers, and giving ready access to a wider variety of birth control methods including abortion. In addition, existing programs need to reach out to groups such as adolescents and the sexually active unmarried who are now often excluded. With the implementation of these measures, programs can substantially increase the demand for contraception and reduce unmet need.

As a consequence of this unmet need for birth control, many women bear more children than they want. Approximately one in four births in the developing world (excluding China) is unwanted (*17*). In addition, there are approximately 25 million abortions annually, a large proportion of which take place under illegal or unsafe conditions, or both (*18*). Many of these undesirable pregnancies can be prevented if women are given greater control over their sexual and reproductive lives.

The central goal of family planning programs is to provide women and men with the information and means to control fully their fertility and thus eliminate mistimed and unwanted pregnancies. In addition to directly benefiting women and their families, the absence of unwanted childbearing would have a substantial effect on fertility and hence on population growth. I estimated the potential demographic effect of family planning programs by making a hypothetical projection of future population growth in which all unwanted fertility is eliminated after 1995. An estimated 20% of fertility in 1995–2000 will be unwanted (*19*), and I assumed that the trend in wanted fertility in the future is the same as the trend in total fertility projected by the World Bank, that is, a slow decline to replacement fertility in the middle of the next century (*2*). The results (Table 2) imply that the elimination of unwanted births after 1995 would reduce population growth and that the population size of the developing world would reach an estimated 7.5 billion in 2050 and 8.3 billion in 2100. This projection is considerably below the standard projection of the World Bank. The difference between the two projections provides an estimate of the demographic impact of unwanted fertility: 1.1 billion (8.6 minus 7.5) in 2050 and 1.9 billion (10.2 minus 8.3) in 2100. It should be emphasized that these projections are theoretical upper limits on what can be achieved. In practice, resource constraints, imperfect technology, human error, and reluctance of governments to take appropriate action pose limits on the impact of family planning programs. Even in countries with good programs, a significant proportion of women are reluctant to adopt methods because of concerns about their health and other side effects and pressures from spouses and other family members. However, there is no doubt that improvements in the quantity and quality of these programs can bring about substantial future reductions in fertility and population growth. In addition, strengthened support for family planning will bring substantial social and health benefits to women and children.

2) *Reduce the demand for large families through investments in human development.* Although family planning programs now claim the bulk of the attention and resources of population policy-makers, the potential effect of programs that provide supplies, services, and information is limited to reducing the unmet need for contraception. Because such programs are voluntary, they cannot reduce fertility below the level wanted by couples (*20*). As a consequence, this so-called "supply" approach cannot reduce population growth to zero in countries where, on average, desired fertility still exceeds two. This is apparently the case in most developing countries. An extensive survey program conducted in 27 countries in Africa, Asia, and Latin America in the late 1980s found no country with a desired family size at or close to two (*21*). These surveys documented a preference for large numbers of children in sub-Saharan Africa, and the average desired family size was close to six

Table 2. Projections of the population size of the developing world with and without unwanted births.

Projection	Projected population size (billions) in year	
	2050	2100
Standard* (with unwanted births)	8.6	10.2
Without unwanted births	7.5	8.3
Effect of unwanted fertility	1.1	1.9

*World Bank projection as quoted in Bos *et al.* (*2*).

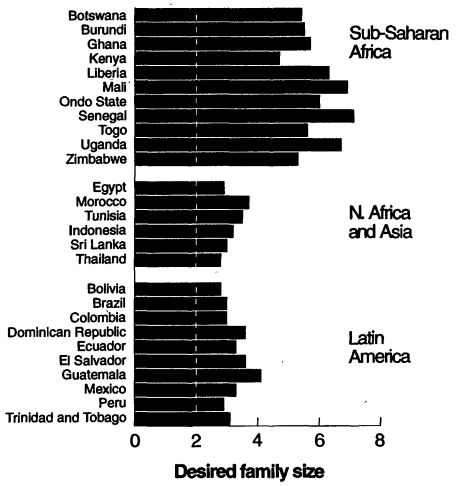

Fig. 3. Average desired family size among ever married women in selected developing countries, 1986 to 1989 (*15*).

(Fig. 3). Although the average desired number of surviving children in countries of Latin America, Asia, and North Africa was much lower, it still exceeded three in most cases. These preferences for high fertility remain one of the fundamental causes of high birth rates and rapid population growth.

A slow decline in fertility preferences is observable in most developing countries, and the expectation is that desired fertility will drop to around two children as these societies proceed through the transition from their traditional agricultural base to modern industrialized economies. Because this transition may take a long time, some policy analysts have advocated measures that reduce the demand for births through affirmative social and economic policies. The general objective is to change the costs and benefits of child rearing so that more parents will recognize the value of smaller families while simultaneously increasing the investment in children. Examples of factors potentially under government control include affecting (i) education levels, (ii) the status of women, and (iii) child mortality.

With regard to education, in traditional societies with largely agricultural economies, children are a valuable source of labor. The provision of educational opportunities, which require school attendance, lowers the labor value of children and raises their costs (for example, for books, uniforms, and school fees) (*22*). Of all the social and economic factors that have been studied for their potential effect on reproductive behavior, the level of education stands out as the most consistent (*23, 24*). This relation is attributable to shifts in the costs and benefits of children but also, and perhaps more importantly, to an acceleration in cultural change and the adoption of new, mostly western values that are facilitated by the introduction of mass schooling (*22*).

Improvements in the economic, social, and legal status of women can reduce desired fertility in several ways. Such improvements raise the cost of children by making nonmaternal roles more important. They also increase the willingness of women to make independent reproductive decisions and encourage them to engage in innovative contraceptive behavior. Empowering women is also likely to lead to reductions in the dominance of husbands (or other household members) over women, the societal preference for male offspring, and the value of (and thus need for) children as insurance against adversity (for example, in old age) and as securers of women's positions in families. Although the precise role of each of these effects varies among and within societies, there is little doubt that the overall effect of increasing gender equality significantly influences reproductive behavior (*25*).

A high death rate among children encourages high fertility for several reasons (*26*): (i) It makes the planning of families difficult because the number and timing of future deaths are unpredictable, thus contributing to fatalism. (ii) It discourages investments in children's health and education. (iii) It requires excess births to ensure that at least the desired number of children will survive to adulthood. All these effects can be counteracted by the implementation of public health measures to reduce infant and child mortality. The potentially important role of this variable is demonstrated empirically in that no population in the developing world has experienced a sustained fertility reduction without first having gone through a major decline in infant and child mortality.

Improving the education system, raising the status of women, and reducing child mortality are policy measures that are desirable in their own right. Indeed, most governments already pursue these socially desirable objectives independent of their potential role in lowering the rate of childbearing. The demographic benefits strengthen the rationale for intensifying these social policies.

Additional steps can be taken to encourage lower fertility. For example, monetary incentives for the adoption of specific birth control methods and disincentives for large families are features of population policies in a few countries (*27–29*). Although these measures can be successful, they raise serious ethical concerns and many governments are reluctant to adopt them (*29*). Another potential option for bringing about change in reproductive behavior is to increase a population's exposure to different life-styles through the media. Modern communication systems (radio, newspaper, and television) are powerful instruments for conveying ideas and messages about different nontraditional behaviors, family roles, and life-styles that are less compatible with large families (*30*). Although this exposure to mostly western ideas is considered a crucial element in ongoing fertility declines, it is rarely considered as a policy option because it would undermine increasingly popular efforts to strengthen national and ethnic identities of countries.

The potential demographic effect of additional efforts to implement policies to reduce fertility demand can be assessed by a comparison of population projections with and without such efforts. For this comparison I used the second projection in Table 2 because it assumes that high wanted fertility is the only reason for fertility to exceed the replacement level in the future. I also made a hypothetical new projection to simulate the potential effect of additional demand policies. In this new projection, the successful implementation of such policies is assumed to reduce fertility in all countries to the replacement level of two surviving children per woman after 1995. According to the results from these two projections, substantial further reductions in future population size, up to 0.6 billion in 2050 and 1 billion in 2100, are achievable by stronger measures to lower desired family size (Fig. 4). The relative role of demand for large families as a cause of population growth varies among countries and regions; it would, for example, be much larger in Africa than is the case in the decomposition for all developing countries shown in Fig. 4.

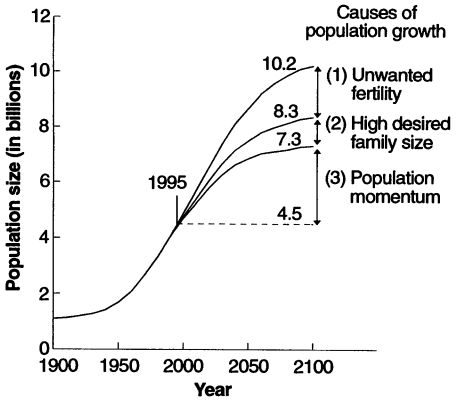

Fig. 4. Alternative projections of the population size for the developing world, 1995 to 2100, and three causes of population growth.

According to the standard projection of the World Bank (top graph in Fig. 4), the population size of the developing world will increase from 4.5 billion in 1995 to 10.2 billion in 2100. Aside from unwanted fertility and high desired family size, population momentum is responsible for the remaining growth over the next century (Fig. 4).

3) *Address population momentum.* Population momentum is the tendency of population size to increase for some time after fertility has reached a level consistent with long-range population stability (*31, 32*). As a result of the momentum, population growth would continue even if fertility could immediately be brought to the replacement level of two children per woman. Population momentum is primarily the consequence of a young population age structure (future mortality decline among adults is another, less important, cause of continued growth). Adjustments in the age structure after a decline in fertility take several decades to be completed, and it is only then that population size growth ceases. Unless efforts are made to reduce this momentum, the population of the developing world will grow to at least 7.3 billion. Attention to this neglected issue is essential because population momentum accounts for nearly half of the projected growth over the next century (Fig. 4).

There are two basic ways to bring about

Table 3. Simulated effect of delayed childbearing on population momentum if replacement fertility was reached in 1995.

Average age at childbearing	Population momentum* (billions)	Population in 2100, momentum only (billions)	Reduction resulting from delay (billions)
No change	2.8	7.3	0
Increase of			
2.5 years	2.2	6.7	0.6
5 years	1.6	6.1	1.2

*Momentum estimates include effect of future mortality decline.

Table 4. Average of median ages at marriage of ever married women ages 30 to 34 in 23 developing countries obtained from demographic and health surveys (*36*).

Level of education	Median age at marriage (years)	Median age at first birth (years)
None	17.6	19.3
Primary	19.1	20.2
Secondary	21.7	22.8

reductions in population momentum. The first involves additional declines in lifetime fertility to below the replacement level. In theory it is even possible to stop population growth completely by reducing fertility to the level needed to balance the number of births and deaths (assuming no migration). This is, of course, an undesirable option to implement because it would leave many women with only one birth, which is substantially fewer than most women want. It is unlikely that desired family size will drop substantially below two in most developing countries even with the demand measures discussed earlier.

A second option that has thus far received little attention is to raise the average age of women at childbearing. Research on the causes of fertility change in the United States has clearly demonstrated that the fertility in a given year is significantly affected by shifts in the timing of births. When successive age cohorts of women start their childbearing earlier and space their births closer together, fertility for that period temporarily rises. For example, Ryder concluded that much of the temporary rise in U.S. fertility in the 1950s (the "baby boom") was caused by changes in the timing of fertility rather than by variation in the desired fertility (*33*). Conversely, a delay in the onset of childbearing and wider spacing of births leads to a temporary decline in period fertility and hence in the population growth rate.

To determine the potential demographic effect of a rise in the age at childbearing, I used a simulation based on hypothetical population projections. I assumed that women over their life cycle bear children at the replacement level of two surviving births per woman, but that the mean age at childbearing is raised slowly over a 25-year period, from 1995 to 2020. Two postponements in timing were considered: 2.5 and 5 years (*34*). The results (Table 3) indicate that without changes in timing, the population momentum equals 2.8 billion in population growth between 1995 and 2100, that is, the difference between the 1995 population of 4.5 billion and the 7.3 billion projected for 2100 if fertility is kept at the replacement level (Fig. 4). This momentum would be reduced to 2.2 billion and 1.6 billion for delays of 2.5 and 5 years, respectively. Clearly, this approach to reducing population momentum has the potential for a substantial impact.

Governments that wish to encourage later childbearing have several options at their disposal. Legislation to raise the age at marriage has been moderately effective in a few countries (for example, Tunisia and China in the 1970s). However, legislation of this type has the drawback that it attempts to force rather than encourage changes in social customs. Indirect noncoercive approaches are preferable. An example of such an approach is greater investment in the education of girls, particularly at the secondary level. The longer girls stay in school, the later they marry and the greater the delay in childbearing. For example, in 23 developing countries, the median age of marriage of women with secondary education exceeded that of women with no education by 4 years (Table 4). This educational difference in age at marriage translates into a similar impact on the age at childbearing.

Another potentially effective approach is to address the neglected issues of adolescent sexuality and reproductive behavior. Many adolescents do not use contraception or use it sporadically when they become sexually active. As a result, childbearing often starts earlier than would be the case if young women had better information and services. Governments have been reluctant to address these problems of adolescents for social and political reasons.

Delays in childbearing can also be achieved by an increase in intervals between births. In general, however, the effect of a given increment in birth spacing on the mean age of childbearing (and hence on population momentum) is somewhat smaller than can be obtained by the same increment in the mean age at first birth, because spacing only affects subsequent births. Lengthening birth intervals also provides substantial health benefits for mothers and children; therefore, it should be encouraged for health as well as for demographic reasons.

Outlook

Past debates on alternative population policy approaches have frequently been contentious, with supporters of the supply and demand approaches each emphasizing their particular perspectives. In reality each of these approaches can be effective and neither of them should claim predominance. More importantly, the different approaches complement and reinforce one another. Reductions in demand for children or delays in childbearing that are achieved (for example, by increasing levels of education) do not by themselves reduce fertility. Instead, they raise the demand for contraception, and only if this demand is satisfied (for example, by services provided through family planning programs) will lower fertility be obtained. The fertility impact of the demand and delay strategies, therefore, depends to a significant extent on the availability of contraceptive information and services. Conversely, family planning programs are more successful in meeting couples' needs for contraception in societies with high levels of human development. For example, in a given supply environment, well-educated women satisfy their demand for contraception more effectively than their uneducated counterparts. The reasons for this are not entirely clear, but they presumably relate to the greater ability of educated women to control their lives as well as their superior knowledge of the fertility regulation methods and sources of supply. As a consequence, investments in family planning programs produce larger reductions in unwanted fertility when social conditions such as education and gender equality are favorable.

A comprehensive effort to implement all available policy options is required if humankind is to prevent the potentially severe, adverse consequences of continued rapid population growth. If the broad range of approaches proposed here is vigorously pursued, large reductions in future population growth can be achieved without resorting to the types of coercive measures that are objectionable to the majority of the world community.

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19. For each country the proportion of fertility that is wanted (P) is estimated from the equation $P = 1.22 - 0.231TFR + 0.0252TFR^2$, where TFR is the projected level of the total fertility rate projected by Bos *et al.* for 1995–2000 (*2*). This equation was obtained by fitting a quadratic equation to estimates of TFR and P given in (*17*). Country-specific estimates of wanted fertility are calculated as $P \times TFR$, and their weighted average gives the level of the developing world as a whole. Because China is a special case, I assumed $P = 1.0$. The resulting estimate of 80% for the proportion of wanted births is, as expected, slightly below the 87% estimated for the United States in 1973 (*35*). The age-specific fertility rates in the baseline period (1995–2000) for age groups 15–19 to 45–49 were, respectively, 40, 147, 155, 111, 55, 17, and 2 births per 1000 women per year.
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