Family Planning Programs in the Twenty-first Century

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Special issue based on a conference of the International Union for the Scientific Study of Population
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# Introduction

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ACKNOWLEDGMENTS

Earlier versions of nine of the ten articles in this special issue were presented at a conference on Family Planning Programmes in the Twenty-first Century held in Dhaka, Bangladesh, 17–20 January 2000. The conference was organized by the Committee on Fertility and Family Planning of the International Union for the Scientific Study of Population, with funding from the Rockefeller Foundation, the United States Agency for International Development, and the United Nations Population Fund. It was hosted by the International Centre for Diarrhoeal Disease Research, Bangladesh. Publication of this special issue of Studies in Family Planning was made possible by additional funds from the Woodcock Foundation.
The Future of Family Planning Programs

John C. Caldwell, James F. Phillips, and Barkat-e-Khuda

National family planning programs have been an important instrument in accelerating global fertility decline and in restricting ultimate world population to a level probably below ten billion. They began to come into being after 1950 and will probably go out of existence in most of the world’s regions by 2050. The archetypal programs were instituted in Asia and North Africa. The end of the twentieth century is an appropriate half-way mark at which to evaluate the twentieth-century programs and to assess what changes in them will be needed for the twenty-first century. Some changes are necessary because dramatic events have occurred: (1) long-term replacement-level fertility has been attained in most of East Asia and some of Southeast Asia, and accordingly, some programs there are being phased out; (2) mainland South Asian fertility has been slower to decline; (3) international donor funding is diminishing and may not be significant during much of the twenty-first century; (4) the 1994 International Conference on Population and Development held in Cairo called for a radical change in programs away from demographic aims and toward reproductive health and the improvement of the situation of women; and (5) the future family planning frontier will be sub-Saharan Africa, for which radically new types of programs may have to be developed. These issues were discussed in January 2000 at a conference held in Dhaka, Bangladesh. A selection of contributions to the conference is published here. This article provides an overview of the issues based partly on this selection and partly on the discussions that took place at the conference. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 1–10)

Family planning programs, like the fertility transition that they have helped to drive, will be a transient phenomenon. In the most economically developed countries, fertility decline did not become general until the last part of the nineteenth century and in developing countries, not until the last third of the twentieth century. Even now fertility decline is not universal. Nevertheless, the most recent United Nations (1999a and 2000) medium population projection shows global fertility falling to replacement level by 2050 and the world population growth rate decreasing to 0.04 percent or close to stationary by the end of the twenty-first century.

Although transient, these events will be seen in retrospect to have been momentous. They are the demographic—and, to a large extent, the social—side of the Industrial Revolution. The world population has grown from little more than one billion in 1850 to six billion by the end of the twentieth century and will increase to nearly 10 billion (if the projection proves to be correct) by the end of the twenty-first century. This phenomenon will be unique, never previously witnessed and never recurring. This growth brought family planning programs into existence; they helped confine the global population to six billion by 2000 and could, with increased efficiency, confine it to fewer than ten billion (perhaps nine billion, just possibly eight billion) by 2100.

The span of family planning programs will be even shorter than that of the fertility transition. The first birth-control clinics opened in the United States and Britain date back only to 1916 and 1921, respectively, and the first government family planning programs were implemented in the 1950s in India and Pakistan. Where they have been most successful, in places like Singapore and South Korea, they are already being phased out as fertility levels plummet well below replacement level (Jones and Leete1), and most likely they will have disappeared.
by the middle of the twenty-first century, except possibly in parts of sub-Saharan Africa.

This issue of *Studies in Family Planning* aims to examine this brief span, by summarizing the situation at the end of the twentieth century to suggest what might and should be done in the critical first decades of the next century. It assumes that national family planning programs have played a significant role in reducing the levels of fertility in the developing world from an average of six births per woman in the late 1960s to three births today (United Nations 1999a, total fertility rates). Not everyone agrees that they have played this role. Pritchett (1994) argued that fertility levels across the world largely have reflected desired fertility and that therefore, desired fertility, conditioned by socioeconomic change, was the determining force whether or not family planning programs were in place. Bongaarts (1994: 619) replied both that Pritchett’s argument contained analytical errors and that basically he had ignored “the much broader [than the provision of contraceptives] and powerful influence programs can have by reducing noneconomic costs of contraceptive use, such as lack of knowledge, fear of side effects, and social and familial disapproval.” Those of us who have worked with contemporary family planning programs have been convinced of those programs’ impact by the certainty of their clients that they could not control their fertility without the support of the program and that their parents’ uncontrolled fertility was the inevitable consequence of the absence of such programs in their time.

Powerful national family planning programs evolved in Asia where the archetypal ones have operated in Bangladesh, India, Indonesia, Singapore, South Korea, Taiwan, Thailand, eventually Nepal, and, for a while, in Malaysia. An extreme form of such programs was developed in China. These programs were implemented by governments that promoted a new morality: that high fertility was bad for the country and for the family. The programs extended power to the younger married generation to make reproductive decisions and supplied free or cheap contraceptives. In Asia, such programs did not fully develop or succeed where they met religious opposition (as in the Philippines), politically expressed ethnic opposition (as in Malaysia), or feudal social structures (as in Pakistan). Similar programs were later developed in much of North Africa, in Egypt, Morocco, and Tunisia.

Bongaarts and Watkins (1996) examined the onset of fertility decline in a range of countries by the level of the Human Development Index (HDI). The HDI—combining measures of income, mortality, and education—was devised by the United Nations Development Program in 1990. They drew attention to onsets of decline over time occurring at ever-lower HDIs, a phenomenon that was clear only in Asia. Equally clear from their analysis, however, is that, with one exception (Haiti), every fertility decline in the world starting at an HDI of 0.45 or lower occurred in countries with comprehensive national family planning programs: Turkey, Tunisia, Indonesia, Morocco, Egypt, India, Nepal, and Bangladesh (by descending order from HDIs of 0.45 to 0.32). This list does not contain China, Hong Kong, Malaysia, the Philippines, Singapore, South Korea, Sri Lanka, Taiwan, or Thailand, all of which began fertility declines at higher HDI levels, because these levels were reached early, before fully developed family planning programs were in place (although such programs almost certainly accelerated subsequent fertility decline).

The significance of these huge, fairly efficient family planning programs can hardly be overstated, if only because Asia is the home of three-fifths of the human species. A comparison of the number of births in the years 1995–2000 with that which would have occurred had the 1955–1960 fertility level remained constant shows that Asia accounted for almost three-fourths of global fertility decline and four-fifths of the decline occurring in the developing world. Two Asian countries, China and India, with less than two-fifths of the world’s population, accounted for almost half of the fertility decline (United Nations 1999a).

The new family planning programs were greatly, even critically, assisted by new contraceptives suited for use among huge, poor, often illiterate populations. From the early 1960s, a succession of technological breakthroughs produced oral contraceptives, the intrauterine device (IUD), injectables, implants, and easier-to-use and better techniques for achieving sterilization (especially female sterilization) and for performing abortions. These breakthroughs were no accident. Rapid global population growth and projections of even higher growth rates had caused increasing concern in the West during the 1950s and 1960s, which had pointed biomedical researchers toward working on new forms of contraception and had unlocked resources for this purpose and also for international assistance for family planning programs. This concern also changed societies so that the small or even childless family became a justifiable aim in the West and having smaller families became defensible in developing countries. The result was that the number of births in 1995–2000 in the developing world was 40 percent lower than it would have been had the fertility levels of four decades earlier been maintained. Moreover, it was, unexpectedly, 47 percent lower in the developed world. This latter change is likely to affect the way Western nations view fertility decline.

The spread of changed ideas about family size and the legitimization not only of the use of contraceptives but also of their provision by governments was not a...
haphazard affair. International organizations played an increasingly important role, from the support the United Nations Population Division gave to demographic conferences in 1954 and 1965, to the first advice on national family planning programs offered by the United Nations Secretariat and the World Bank in 1965, to the establishment of the United Nations Trust Fund for Population in 1967 (renamed the United Nations Fund for Population Activities or UNFPA in 1969). Beginning in 1974, UNFPA organized decennial international political population conferences, which, together with a vast array of regional and national meetings, induced more and more governments to organize family planning programs. These programs grew from two in the 1950s (India and Pakistan) to 15 in the 1960s and many more thereafter.

Despite the successful expansion of family planning programs, their goals and demographic rationale have always been the subject of discussion and debate. As Finkle and McIntosh note in their review in this issue of the experience of successive UN decennial conferences, shifting political support for family planning programs has not always been anticipated by their proponents and donors. Yet donor support for programs expanded throughout the decades of the 1970s and 80s. Nevertheless, by the 1990s, three changes had begun to erode the position of some family planning programs, although many would persist or be created, and presumably many will be needed well into the twenty-first century. The first change was their own success. Coupled with socioeconomic change, the programs had reduced the rate of annual global population growth from more than 2 percent in the late 1960s (with a potential to be 3 percent by 2000) to 1.4 percent by the end of the twentieth century. The second change was a diminution of the level of foreign aid contributed by the rich countries, with an especially steep decline in support for fertility reduction toward the end of the century. The third change was the increasing importance of the commercial sector in selling contraceptives. The private sector had always been dominant in the industrialized countries and seemed likely to become so long before the middle of the twenty-first century in most of the rest of the world as living standards rose and as governments shut down family planning clinics and adopted a lower profile in contraceptive provision.

The View from the End of the Twentieth Century

The first weeks of the year 2000 seemed to be an appropriate time for surveying the experience of the latter part of the twentieth century and for trying to assess the needs of the new century. Accordingly, the conference that is reported in part here was organized.²

At a time when decisionmaking was needed, it was a time of hesitation. Fertility, as measured by the total fertility rate (or the average number of births that would be experienced by a woman if current fertility rates remained constant), had fallen globally from almost five births in the 1960s to fewer than three births, or about two-thirds of the way to replacement level. The fertility rate was still about 3.2 children per woman in the developing world, however, 3.6 in South Asia, 4.0 in West Asia, and 5.8 in sub-Saharan Africa. World population had doubled since 1960 from just over three billion to just over six billion, but the next half-century would add almost three billion more according to the United Nations medium projection, and close to five billion more according to its high projection (United Nations 1999a). Although the world’s population growth rate had peaked at 2.04 percent per annum in the later 1960s, the annual absolute increment to global population had continued to rise from 72 million at that time to 80 million in the early 1990s, falling only slightly by 2000.

By the end of the twentieth century, international funding for family planning was declining. Radical new forms of contraception either had not appeared or were beset by legal difficulties. Six years of experimentation since 1994 had shown just how hard it was going to be to change the Asian type of family planning program to the model devised at the International Conference on Population and Development (ICPD) in Cairo, which was based on a broader approach emphasizing reproductive health. Some of the leaders in the field were confused or disheartened. The two largest programs in operation were unsatisfactory: China’s continued to be coercive and India’s still relied primarily on female sterilization (at around two-thirds of all method use [United Nations 1999b]). Fertility decline in most of sub-Saharan Africa was only just beginning, and experience seemed to show that the Asian national family planning program model, focused almost solely on married women, might not be directly transferable to Africa. If a continued rise in income per capita was needed to encourage fertility decline, the world’s third-largest family planning program, that of Indonesia, might be in trouble, as might those of all countries of sub-Saharan Africa. The reactions of the countries already containing 44 percent of the world’s population, where fertility was below the long-term replacement level, were uncertain. These are among the issues that this publication is designed to address.

The Bongaarts and Johansson article examines future trends in contraception. The authors express no doubt that the global fertility transition essentially has been achieved by the new contraceptive methods that became available around 1960 and that future declines in fertility will depend directly on the increased use of
modern contraceptives. Our interpretation of their dis-
cussion of the probable advances in contraceptive tech-
nology is that these will be valuable but supplementary. 
The world is not going to witness another great leap for-
ward in technology of the revolutionary kind that oc-
curred in the 1960s.

Our interpretation is that continued increases in lev-
els of contraceptive use necessary to achieve global re-
placement-level fertility by the middle of the twenty-first 
century, as postulated in the United Nations medium 
population projection, will depend on four factors. The 
first is socioeconomic change: rising real incomes per 
capita; perhaps more important, higher levels of educa-
tion, especially among women; a greater proportion of 
the population living in urban areas; and a higher pro-
portion of the workforce obtaining nonagricultural em-
ployment, especially jobs other than subsistence or peas-
ant farming. The second factor is continued demographic 
change, particularly in the form of declining infant and 
child mortality. Typically, countries with total fertility 
rates above six children per woman have infant mortal-
ity rates of around 125 deaths per thousand live births, 
and those with total fertility rates between five and six 
children per woman typically exhibit infant mortality 
rates of around 100 deaths per thousand live births. The 
third factor is the diffusion of the idea of fertility control 
and its practice. The fourth factor, especially in most 
countries with high fertility, is the existence of family 
planning programs that can facilitate the diffusion of 
family planning ideas and access to the means of imple-
menting them.

Changes in the level of contraceptive use might be 
expected to be used to estimate changes in fertility lev-
els in order to project the size of future populations. In-
stead, more confidence is expressed in the continuing 
momentum of fertility change, and therefore, the projec-
tions of contraceptive change estimated both by the Uni-
ted Nations and by the Futures Group that are discussed 
by Bongaarts and Johansson, as well as the estimates in 
their own work, use as their basis the United Nations me-
dium fertility projection, and the number of users needed 
to achieve this estimate is calculated. Ironically, over the 
coming century the contraceptive demand may vary little 
between the three projections, because the low projec-
tion would require higher levels of early use but there-
after would constitute a lower base population needing 
contraceptive supplies, whereas the converse would be 
the situation with the high projection.

The kinds of national program that could help pro-
vide these contraceptives would be shaped by the con-
sensus reached in 1994 at the ICPD (United Nations 1994). 
This consensus called for family planning programs with 
a human face that placed their emphasis on clients’ needs, 
but this prescription did not differ greatly from what the 
better national family planning programs had long iden-
tified as the best practice and the most desirable aim. De-
ographic targets were disowned, but the ICPD Program 
of Action still had much to say about the demographic 
consequences of persistent national efforts in the popu-
lation field. The major change sought was a movement 
from the concept of “family planning” to that of “repro-
ductive health.” The latter concept clearly was wider 
than the provision of contraception. It included assess-
ing and treating reproductive morbidity at the time of 
contraceptive provision and thereafter. Its reference to 
sexual health could be taken to refer to attitudes and phi-
losophies regarding sexual relations. The recommenda-
tions could be interpreted to refer as well to intergender 
relationships and to the situation of women relative to 
men. At the widest definition of the document, it was a 
broad social agenda indeed. Moreover, its focus was no 
longer confined to the family but embraced the indi-
vidual regardless of marital or family status.

These changes in focus could be necessary to ensure 
that the programs reach their optimum demographic tar-
gs. Better service would attract more clients and en-
courage more clients to continue practicing contracep-
tion. On one hand, the older programs in North Africa, 
South Asia, West Asia, and possibly East Asia were ac-
cetable to governments and probably to the great ma-
jority of their constituents, especially because they man-
ged to provide the contraceptive message and supplies 
with little reference to sexuality. The attitudes reflected 
by that acceptance have not wholly passed, despite how 
governments voted in Cairo in 1994 or at the Beijing 
women’s conference the following year. On the other 
hand, programs like that of India, in which family plan-
ning is treated as a matter concerning the younger cou-
ples, certainly loosened the bonds between young couples 
and the extended patriarchal family and thereby gave 
some support to the daughter-in-law. The advent of the 
AIDS pandemic has created an urgent need for programs 
to address the individual as well as the family and to in-
troduce the topic of sexuality in sub-Saharan Africa, as 
well as in the Caribbean and more widely in Latin Amer-
ica, and elsewhere in the world.

In this issue, Helzner reports on a major attempt of 
the International Planned Parenthood Federation (IPPF) 
to test the ICPD prescription in its widest possible inter-
pretation. The federation’s programs cover family plan-
ning, sexuality, protection against genital and HIV in-
fec tion, sexual abuse, child abuse, abuse of women, and 
all gender-based violence, which it defines as a health 
problem in broader terms than the World Health Organ-
zation’s definition by attempting to move “toward a 
more comprehensive vision of well-being that includes
not just freedom from disease, but the enjoyment of healthy, pleasurable relationships” (page 58). The IPPF programs embrace a complete social agenda and include the aim of women’s being able to decide when and with whom they engage in sexual relationships.

This exploration of the practicability of the broad ICPD agenda is valuable, because it demonstrates the challenges of fostering large-scale organizational change. Just as catalyzing fertility transition was the central challenge faced by family planning programs in the twentieth century, catalyzing bureaucratic transition will be the central challenge of programs in the twenty-first century. The International Planned Parenthood Federation/ Western Hemisphere Region (IPPF/WHR) experience suggests that fostering change according to the ICPD agenda is feasible, even in institutional settings where leadership and staff are aligned against change. Indeed, Helzner concludes that even government programs can undertake such changes. This particular experimental approach has been confined to date to Latin America and the Caribbean. The full range of the IPPF/WHR programmatic changes has not yet been tried in any country. The full program probably could be adapted to sub-Saharan Africa, Melanesia, and, with modifications, to parts of Southeast Asia. Problems of adaptation might be greater in South and Central Asia and in North Africa. So far, this work has been undertaken by nongovernmental organizations (NGOs), affiliates of the IPPF, in a region where human development indexes were high enough to begin a largely spontaneous fertility decline and where government programs have not been of critical importance. The author points out that the region has not had Asian-type state programs, and that only in Colombia does a government program provide the majority of contraceptive services.

The real problems of such extended programs may lie elsewhere. IPPF/WHR programs were adopted because of declining donor interest in traditional family planning programs and, therefore, the family planning NGOs “accepted the challenge of changing their focus and their image” (page 53). They pursued this plan in nine countries where populations are generally not dense and where fertility transition was already well advanced: Five had total fertility rates below three children per woman and three more had rates below four children. The two funding agencies involved, the United States Agency for International Development and the European Union, certainly regarded the work as experimental and as valuable in showing the planners of government programs what could be done, but they were not likely to provide governments with the kind of funding needed for such work, funding of the sort that they had once been advanced for national family planning programs. Fully developed national programs of this type would be both expensive and charters for massive social change. As such, they would meet a good deal of opposition in Asia and North Africa. Within those governments, a range of ministries would claim that various segments of the work fell within their own provinces.

This assessment is not so pessimistic as it sounds. The experimental work is of great value. Some of the approaches being tried out could be absorbed by most national programs, and more by a smaller number. In the next few years, however, most national programs will probably move no farther toward absorbing the ICPD agenda than they can by shifting their focus to that part of the agenda confined to reproductive health and by representing the best family planning practice. Other programs, especially those run by NGOs, may take on much of the work pioneered by IPPF/WHR, even if much is not transferable to national programs, or at least to national family planning programs.

The article by Simmons, Brown, and Díaz takes up this question of transferability of lessons from successful pilot projects and field experiments to large-scale national programs. The authors review projects from the dawn of the national family planning era, such as the Taichung Project, which served as a model for developing the Taiwan program, to the collaboration of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) with the Government of Bangladesh, whereby the Matlab project was used as a model for improving the national program, to the current work of the World Health Organization in introducing new contraceptives. This article marshals organizational development theory to inform strategies for using developmental pilot projects to guide structural and functional programmatic change. The case studies cited show that evidence-based change is possible, but also raise the question of why so few examples are found from recent national family planning program experience of successful organizational reform. Perhaps, until they were jolted by ICPD, the directors and managers of these programs believed that enough experience had been accumulated globally and had been recounted at conferences or given as examples by donors. A worthwhile exercise for readers is to select a national program with which they are acquainted and try to apply to it the seven lessons outlined by Simmons and her colleagues for the transfer of the approaches described in the Helzner paper.

The systems paradigm for large-scale programmatic change proposed by Simmons et al. may be more appropriate to the research needs of family planning programs in the twenty-first century than are the discrete problem-solving models that are represented by most operations research projects conducted in the twentieth century.
Operations research may be more useful for introducing marginal improvement in the performance of a program than it is for guiding the restructuring or phasing out of an entire organizational system.

Individual Programs at the Beginning of the Twenty-first Century

Two points had become starkly clear by the beginning of the new century: The first was that the agreed-upon ICPD target of providing high-quality reproductive health services for all by the year 2015 would require a huge increase in expenditures. The second was that international assistance in providing contraceptives, which covered 41 percent of their cost from 1992 to 1996, declined by 24 percent between 1996 and 1999 (UNFPA 1999). Therefore, funding difficulties endangered both the continuing fertility decline and the movement toward the kind of reproductive health services demanded at the 1994 Cairo Conference. One way that national programs could meet the situation was by aiming at greater efficiency.

A prime example of the problem and its possible solution came from the Bangladesh national family planning program. In the 20 years prior to the early 1990s, Bangladesh had almost halved its total fertility rate from 6.3 children per woman to 3.3 children. It was the poorest country to have achieved such a low fertility level. A comprehensive program was devised, guided by ICDDR,B findings about how it should function in a society in which women were secluded by the rules of purdah. The program had included, at least in intention, regular visits to every household in the country by government female family planning workers. The cost had been high, and an unusually large proportion of all costs had been met externally, mostly by the World Bank. It was clear by the end of the twentieth century that this level of support would not be sustained.

The obvious way to cut costs was to reduce the expenditure supporting household visits. Originally, the doorstep-delivery system was praised on the grounds that it overcame the strictures of purdah through contact with women in their own homes whereby they were brought into the modern world of family planning. At the end of the century, that social change, partly caused by the family planning program, had proceeded to the point where women were considered likely to visit a central point, such as a health clinic, to obtain family planning services. Moreover, their leaving home to visit a clinic would promote broader ICPD objectives by further eroding purdah. The circumstances of the new approach were inauspicious: Demographic and Health Surveys showed little further spread of contraceptive use and little further fertility decline since 1992, suggesting that at the existing socioeconomic level of Bangladesh, some kind of family planning saturation level might have been achieved.

The Arends-Kuenning article examines the situation in Bangladesh, which may come to represent a wider problem if funding continues to decline throughout the developing world. Donors are recommending scaling back household visits and attempting a transition to greater reliance on long-term methods such as sterilization or the IUD, which would require a smaller workforce because fewer provider–client contacts would be necessary.

The study reported here concluded that home visits had been successful and that their abolition could have a serious impact on the program at a time when contraceptive prevalence had reached a plateau. Instead, an intermediate aim is suggested whereby such visits would be restricted to those women who are less likely to use clinic services, the poor and the uneducated. The donor recommendation that the use of long-term methods be promoted is a cause for some worry. The idea of bringing pressure to bear on women to use any specific method could be seen as contrary to ICPD recommendations that clients should have control and choice in reproductive matters. Bangladesh has often been cited as providing a democratic cafeteria of contraceptive choice in contrast with the Chinese and Indian governments’ emphasis on long-term methods. A problem may also arise from the tendency in countries with a predominantly Muslim population to be suspicious of the religious legitimacy of long-term, future-oriented methods. Use of oral contraceptives accounts for less than 8 percent of total methods used in countries without a Muslim majority, including China, India, South Korea, and Thailand. In such successful Muslim programs as those in Algeria, Bangladesh, Egypt, Indonesia, Iran, Morocco, and Turkey, however, pill use amounts to 21–85 percent of the total.

Even greater challenges are encountered in sub-Saharan Africa, the region that is least predictable in terms of future economic, contraceptive, and demographic trends and hence likely to become most important in determining future global population. As Caldwell and Caldwell note, outside of Southern Africa, modern contraceptives are used by less than one-tenth of all women of the region. The proportion of men undergoing sterilization probably will remain negligible, and female sterilization and the IUD will remain secondary methods. The highest levels of contraceptive use have been obtained by an expensive government program in South Africa through the provision of oral contraceptives and injectables to 80 percent of black African acceptors. Governments have been unwilling and unable to provide the convinced and determined leadership found in Asia,
in part because weak political commitment may reflect a weak demand for contraceptives. Although poverty has been one factor in low contraceptive demand, surprisingly, the economic setbacks nations have experienced and the higher costs to families of schooling and health care encountered since the mid-1980s appear to have been important in the onset of fertility decline. Total fertility rates have fallen to almost three children per woman among the 7.6 percent of the population living in Southern Africa and to around 4.5 children in Ghana, Kenya, and southern Nigeria, but remain at nearly six children per woman for the region as a whole. In most of the region, the demand for contraception is for birth spacing, with methods used as substitutes for traditional postpartum sexual abstinence. The balance of demand is shared between the desire to prevent premari tal or extramarital pregnancies and the desire to limit family size. Family planning programs are now expected to provide condoms and advice in the battle against the world’s worst AIDS epidemic. Caldwell and Caldwell argue that the world has developed but one national family planning model, based on providing services almost exclusively to married women and meeting the needs of Asian and North African populations. In order to provide for the inhabitants of sub-Saharan Africa and to maximize the rate of fertility decline, the needs of unmarried individuals of both sexes and of married men, all groups reluctant to visit family planning clinics and unlikely to receive satisfactory service there, will have to be met. Such an effort may require more than social marketing. It may require marketing with the help of the commercial sector either by means of a subsidy or by undertaking or organizing wholesaling of supplies. It may also compel the recognition of the central role hormonal methods, both the pill and injectables, must play in the early years of an African fertility transition.

The weakness of African family planning programs also derives from organizational limitations of the one-design model in the world’s most culturally heterogeneous region. Family planning programs in Africa are organized through bureaucracies and nongovernmental organizations that use structures and activities that resemble those of Asian programs. Even community-based programs typically function as extensions of clinical service bureaucracies. In Africa, however, the institutions of government and bureaucracy lack historic grounding, and the institutions of extended family, kinship group, and traditional village governance remain relatively vibrant. Finding ways to tap the institutional strength of African social organization will be crucial to the success of African programs in the twenty-first century.

The mounting health needs of Africa’s cities will further complicate the African family planning strategic agenda in the twenty-first century. United Nations estimates now show that nearly all population growth in Africa is urban growth; informal settlements are growing at alarming rates, adding complexity to a mounting urban reproductive health and poverty crisis. In the twenty-first century, African governments must address the expanding reproductive health needs of two impoverished but contrasting societies, one rural, traditional, and structured, the other urban, dynamic, and diffuse.

The giant national family planning programs are those of China and India. These are the only ones that may be kept in place once long-term fertility replacement levels have been attained, and indeed, that seems to be the situation already in China. The Chinese government might welcome a decline in absolute numbers, and the national programs, without, perhaps, their present level of funding or vigor, might be maintained even after population size begins to contract. Both programs have made use of duress of a type that ICPD opposed, in China since 1971 and in India at times and in places during the 1960s and nationally during the 1975–77 Emergency, proving in each case that a coercive approach can reduce fertility. Both programs have concentrated on a few fertility-control methods, principally the IUD and sterilization, and in both countries abortion is legal.

In her article in this issue, Attané provides insights into the Chinese program. China nearly halved its total fertility rate during the 1970s (as did Bangladesh during the 1980s). Attané, like other observers, has no doubt that the program did lower fertility levels, although she argues that by the 1980s, rising income and widespread socioeconomic change were assisting the decline. She goes farther, pointing out that the enforced lower fertility has changed society, especially the nature of the family, spousal relations, and women’s position. Presumably, all these changes will sustain the fertility decline.

Her most important observation with regard to the future is that the Chinese program is likely to become less coercive. The government is sensitive both to external criticisms of the program and to internal resistance. That resistance should not be underestimated: 20 percent of all births are still of third or higher birth order. A relaxation can occur, partly because of changes in the society. More important, fertility is low, but it has been so for a long time. The smaller numbers of births in the 1970s mean that fewer potential mothers are living today. Great heterogeneity exists according to region in the number of births permitted and even greater variety is evident in enforcement of fertility policy.

Obstacles to fertility decline in China also are foreseen that make the government cautious. The greatest problem is that nearly the whole population is dependent on children, chiefly sons, for support in old age. The
farming population cannot hire outside workers, and agriculture depends on the existence of sons, daughters-in-law, and grandchildren. In fact, the area of land distributed to farming families is determined by their size. Far from moving to counteract these pressures by trying to provide comprehensive national old-age pensions, adequate old-age homes, and support of the elderly when they are sick or injured, economic reforms are causing the disappearance of the cradle-to-grave social welfare system. The result is illicit second or third births, sex-selective abortion, and probably some female infanticide.

In India, an attempt is being made to move toward ICPD prescriptions, although the expansion of contraceptive choice is slow. The ICPD call for more citizen and community involvement came at a fortunate time for India, however, when programs of administrative decentralization were under way, providing more power to the lowest-level councils, the panchayats (village councils). After initial hesitation about the division of roles, the panchayats now seem to be expected to sustain public enthusiasm for family planning and to administer the local facilities while state governments supply the contraceptives. Faster economic growth, flowing from a liberalization of the economy during the 1990s (8 percent growth per annum, compared with half that rate two decades earlier) and rising educational levels also appear to be coming to the program’s aid.

Moving into the Twenty-first Century

The Jones and Leete article takes the leading examples in Asia to show what is likely to happen there and around the globe as the twenty-first century advances. After Japan reached the long-term fertility-replacement level in the 1960s, China, Hong Kong, and Singapore followed in the 1970s, South Korea and Taiwan in the 1980s, Thailand in the early 1990s, and Sri Lanka at the end of the century. Although none of them is likely to have declining populations before 2030, governments were alerted by declining numbers entering the labor force from about 1990.

As early as 1986, the Singapore Family Planning and Population Board was closed, to be followed by the pro-natalist New Population Policy in 1987. Since then, Singapore’s total fertility rate has remained about 1.6 – 1.7 children per woman. At the same time, Malaysia abolished advocacy of small families and reduced the capacity of its own family planning program, although its fertility was still well above replacement level. South Korea adopted a less active population policy in 1996, and, although the family planning program continues to function, family planning workers are no longer employed, and those contraceptives not purchased from the commercial sector are obtained from hospitals as part of normal health-care provision. Taiwan is following a similar path. In Indonesia, the Family Planning Board has been given a wider mandate for social and family change, whereas in Thailand debate has begun about the need for continuing organized family planning. In Sri Lanka, the program has adopted a lower profile. In South Korea and Taiwan, suggestions have been put forward that the programs should concentrate on other problems, especially the growing proportion of the aged population.

Harbison and Robinson look farther into the future. They present two central postulates. The first is that demographic change reformulates opinions and ideologies. The burst of population growth that followed World War II led to support for fertility-control policies and so helped eventually to reduce population growth. The achievement of below-replacement fertility must lead to ideologies for raising fertility at least to a long-term replacement level, if not now, then certainly when population numbers begin to decline. In much of Europe, this change could begin to occur in the next few years and increase in tempo after about 2030 when a second-generation multiplier effect begins to be felt. The second postulate is that no clean end can be expected to the demographic transition in terms of stationary population (and hence demography as a subject area is not dead). The interplay between ideologies, material factors, and fertility will ensure undulations in fertility and periods of greater or lesser fertility decline and even population growth.

The basis for the second postulate is that rich countries can, in time, implement policies that will raise fertility levels. The experiments of the 1930s were carried out during a transient unemployment crisis, and those in Eastern Europe of the 1960s and 1970s in poor populations facing severe housing shortages. Future policies based on overcoming the difficulties that having children imposes on families, and especially on mothers, accompanied by views about the disappearance of the culture and the unlocking of government expenditure, will probably work, however. Much sooner than that, governments of rich countries and their electorates, facing the potential for falling population, will lose interest in assisting population control anywhere, even in sub-Saharan Africa where the fertility transition has just begun.

Looking Forward

The half-century preceding the year 2000 was demographically astonishing and unprecedented. Global pop-
ulation increased from 2.5 to more than six billion, with population growth rates rising persistently to the mid-1960s and little evidence available that this trend could be contained. In the 1950s, the feeling was widespread that Asian and African poverty, together with these regions’ diverse family structures and cultural attitudes to family size, might frustrate any attempt to reduce fertility globally. A 1950 report by the demographers Marshall Balfour, Roger Evans, Frank Notestein, and Irene Taeuber described their inability in 1948 to help a Chinese peasant population with advice about contraception and their belief that no contraceptive in existence or “on the horizon” could be used to remedy the situation in China (Balfour et al. 1950: 119–120). In 1950, no institution in the developing world was yet dedicated to lowering fertility, and history records no such institutions anywhere. No constituency was found in the West for aiding efforts to control high fertility in developing countries, and indeed, baby-boom fertility characterized the West (the total fertility rate in the United States rising to almost four children per woman).

Yet in 1951, Prime Minister Nehru of India announced that his country would organize a national family planning program, and by 1965, about ten such programs had been created (Berelson et al. 1966). By 1960, the new contraceptive technologies that would provide these programs with the necessary tools were being developed and marketed. In 1952, the Population Council was founded, and by 1959, the Ford Foundation was assisting the Indian program. In the course of the 1960s, Western governments became less cautious about assisting developing-country programs, and by the 1980s, dozens of national family planning programs had been established.

By 2000, signs of further change had emerged. Contraception was being practiced by 70 percent of couples in the West and by 55 percent of couples in developing countries. The global total fertility rate was below three children per woman, and the global annual population growth rate was below 1.5 percent. Population projections showed an end to the world’s great growth spurt, probably at under 10 billion by the end of the twenty-first century. Four-ninths of the population of the world and, perhaps more surprising, four-ninths of the population of Asia lived in countries with fertility below the long-term replacement level. This was the case in all major donor countries except the United States, where fertility remained at about replacement level. The Program of Action formulated at the 1994 ICPD in Cairo recommended that national family planning programs not take as a major aim the reduction of fertility but rather focus on the provision of first-rate reproductive health services, which could go as far as improving the general position of women, mediating gender conflict, and enhancing sexual pleasure. Far from being spurred by these extra challenges, donor governments reduced their funding for the population field in what appeared to be a secular trend.

Clearly, the twenty-first century was going to be different. At its outset, only a few national family planning programs had ceased to operate. Indeed, the total number was still increasing as fledgling programs came into being in sub-Saharan Africa. In Asia and North Africa, programs tended toward ICPD objectives insofar as they represented the best-practice family planning that had always been their aim. They were ambivalent about the broader feminist ICPD agenda, and most probably will have implemented only part of that agenda when, after very low fertility has been achieved, they are closed down. These programs do not oppose the narrower reproductive health-care agenda, but they lack the funds, skills, and health infrastructure to implement it properly. The broader agenda will not disappear, but will be taken up by other areas of government and by NGOs. In these regions, the main agenda in the years immediately ahead will be one of learning to do with less external aid and shifting the cost of programs to national government budgets and to families seeking services in the commercial sector.

The need for national family planning programs will not soon pass in mainland South Asia. In these large, poor countries holding persistent socialist beliefs, the governments probably will continue to provide many of the health services for the poor, including family planning in the package. Ironically, the quantity of contraceptives to be provided will increase, not only with population growth, but also with success in reducing fertility, because this reduction can be achieved only by increasing the proportion of people practicing contraception. South Asia still supports the great majority of the world’s population, with total fertility rates at around three or more children per woman, and Bangladesh, India, and Pakistan may, like China, wish to keep their programs in operation once replacement-level fertility is reached. No one is sure what would happen to fertility levels without the government programs.

In contrast, in most of sub-Saharan Africa, the new century will see not the closing down of programs, but their establishment and the creation of approaches to fertility control that are more suited to African society. Until recently, the African demand for contraception has been low, and few governments have been enthusiastic about devoting effort to setting up national family planning programs. The most efficient program was put in place by a racial minority in apartheid South Africa. The position has begun to change as a result of the regional economic
crisis beginning in the mid-1980s. Governments have become more apprehensive of large additions to their populations, and families have become sensitive to steep rises in schooling and health costs as structural adjustment programs are implemented. The position has been rendered far more complex by the advent of the world’s worst AIDS epidemic, which confuses attitudes about fertility control and threatens a reproductive health approach because so much of future work may have to be devoted to HIV/AIDS. The ICPD approach might be well suited to sub-Saharan Africa if the region were not experiencing such a shortage of funds and such inadequate health services.

The twenty-first century began with the greatest number of national family planning programs in position that has ever existed. Because of the efficiency of modern contraception, changed attitudes toward having large families, and global social and economic changes, however, fertility has fallen to low levels in the developed world and in East Asia and parts of Southeast Asia. A shift in interest has occurred in these countries to such problems of low-fertility regimes as the burden of aged populations. Donor funding for family planning programs in the developing countries has declined, a premature change, because no certainty exists that fertility will be reduced further in South Asia or that the fertility transition will soon begin in some sub-Saharan African countries, especially among their rural populations.

Nevertheless, by the middle of the twenty-first century, with the possible exception of a few sub-Saharan African countries, national family programs will almost certainly have disappeared, the price of their success. They will have played a critical role during the hundred years when a global economic and social system was firmly established, and will have been the most potent mechanism in ensuring a stationary global population of around ten billion instead of some billions more. The additional increment of population would have posed risks too great to hazard in terms of long-term sustainability. Whereas most of economic and social globalization proceeded unplanned, flowing inevitably from the changes wrought during the eighteenth- and nineteenth-century Industrial Revolution, the creation of national family planning programs was a choice, a rational response to a situation that could have spiraled out of control. Almost certainly, it was an inevitable response. Although family planning programs will tend to disappear, contraception will not. In the stationary (or undulating) future global population of perhaps ten billion, around 80 percent of those in a potentially reproductive sexual union will be practicing contraception, more than double the present absolute number. An open-ended demand will be expressed for better contraceptive methods and, mostly from the private sector, for the best practice in reproductive health care.

Notes

1 References without publication details refer to articles in this issue.

2 The conference on Family Planning Programmes in the Twenty-first Century, Dhaka, 17–20 January 2000 was sponsored by the International Union for the Scientific Study of Population’s Scientific Committee on Fertility and Family Planning. The chair of the committee was James F. Phillips; the organizer of the conference was John C. Caldwell; the local organizer was Barkat-e-Khuda.

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Acknowledgments

This issue of Studies benefited from organizational support from the IUSSP (especially Renée Latour and Joseph Leynen), the ICDDR,B, and the Australian National University (especially Jeff Marck, Elaine Hollings, and Wendy Cosford).
Without great fanfare announcing the event, international population conferences have become an integral part of policymaking in the United Nations system. The three population conferences sponsored by the UN in Bucharest in 1974, Mexico City in 1984, and Cairo in 1994 belie the assumption that UN population conferences are routine, ritualistic, and inconsequential. What began as an effort to bring governments together to share their experiences and to develop a common orientation to population problems became in time an occasion for governments and interest groups to use population as a vehicle for putting other issues onto the political agenda, even when those issues did not fall within the traditional scope of population policy. Why such “extraneous” issues manage to disrupt or deflect population conferences from concerns that are specifically about population is a question that cannot be answered by demographic analysis or by dismissing them as accidents or political aberrations. A more reasoned view is to treat them as part of a normal pattern of politics reflecting the exercise of power and influence by international actors attempting to achieve a goal that each, individually, may desire.

A retrospective analysis of the three population meetings reveals that whereas final conference statements and programs of action—passed by consensus—may not fully satisfy the goals of major sponsors or advocacy groups, they nevertheless serve as a springboard for important issues to gain the world’s attention. It may, furthermore, be argued that conferences have had a profound effect, albeit somewhat unpredictable, on family planning policies and programs. Governments and international organizations have shown a degree of willingness to change or modify their own priorities to accommodate the recommendations of global conferences on population; however, in some cases, the accommodation has been merely pro forma.

If past is prologue, as we are often reminded, we would be well advised to review the experiences of pop-

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population conferences sponsored by the UN as a means of gaining some insight into the probable influence of such conferences in shaping family planning programs in the twenty-first century. All three conferences indicate clearly that such gatherings do not take place in isolation, but are part of a grander landscape that is host to social and political movements, ideologies, religions, and revolutions. Events taking place on the world stage have a distinct bearing on population conferences. Although it is difficult—or perhaps impossible—to articulate the precise relationship between world events and the issues likely to arise at a population conference, to search for the linkages between the two may yield valuable insight into the place of conferences, as well as population, in the larger scheme of world politics.

The Evolution of Population Conferences

In 1954 and 1965, the United Nations in collaboration with the International Union for the Scientific Study of Population (IUSSP) convened world population conferences in Rome and Belgrade, respectively. Although a public concern had been voiced already concerning rapid population growth in Ceylon (now Sri Lanka), Egypt, India, and Pakistan, and although some of the ideas generated at these conferences may have influenced the views of political leaders, the ostensible purpose of the conferences was not to formulate population policies but to bring together experts from member governments of the UN to discuss scientific ideas as well as more general problems relating to population. Participants at these meetings were experts invited in their own independent capacities; they were not selected by their governments and their remarks were not intended to reflect the position of their home countries.

By 1970, sentiment was growing that rapid population growth was a hindrance to development, and, more important, contraceptive technologies were available that could enable couples to limit their fertility if they so desired. The United States, which earlier had refused to endorse population assistance, “discovered” the population explosion and soon made population control a prominent cause in its program of foreign aid. The United Nations also changed its stance on population and, prompted by a voluntary contribution of several million dollars from the United States, created the United Nations Fund for Population Activities—now called the United Nations Population Fund (UNFPA)—in 1967 to assist countries in achieving their population goals. With these changes, the focus of population conferences shifted from scientific inquiry to that of population policy. Consequently, population conferences, beginning with Bucharest, would no longer be dominated by demographers and population experts; instead, these conferences would be intergovernmental and, in the minds of the major donors as well as their United Nations sponsors, their purpose would be to make governments more aware of their population problems and to encourage and assist them in dealing with them. Population conferences under the aegis of the United Nations were no longer comprised of a community of experts but were made up of government officials and, in some instances, political leaders and others from government and civil society, all selected by their governments.

In recognition that many developing country governments had been less than effective in administering development programs, and that many donors were attaching greater importance to the work of nongovernmental organizations (NGOs), in the 1990s a movement arose—if not a stampede—to enlist NGOs as major players in UN conferences. Although NGOs had had a presence of sorts at Bucharest and Mexico City, by the time of the Cairo meeting, the doors to conference participation were far more open to them. Whereas no great change had occurred in the formal process of conference preparation, NGOs found it much easier to become accredited to the United Nations and to participate more fully in the preparation of the Cairo Program of Action. A touch of irony may be seen in the evolution of conferences from a community of experts at Rome and Belgrade, where neither NGO nor official government presence existed, to the Cairo Conference of 1994, where their presence was stronger, concomitant with a noticeable absence of demographically oriented population experts.

As the Western population establishment sought ways to use the machinery of intergovernmental conferences to strengthen the commitment of member states to implement population policies, they found the initiative passing to those countries they were trying to influence. In the 1950s and 1960s, rapid population growth seemed to be the concern mainly of the industrialized nations, led by the United States, along with a handful of Asian countries. Although industrial nations had their own population problems, these did not include population growth, the demographic issue of greatest concern since the 1960s. Western as well as developing nations were aware that population policy emanating from international organizations or UN conferences was essentially intended to influence domestic policy in the developing world. Consequently, the Western nations found necessary—and even desirable—the sharing of responsibility for international policymaking with a more universal assemblage of states from the developing world.
as well as with NGOs and other interest groups. Along with this shift in power came a change in the focus of the meetings. Not only were neo-Malthusian concerns somewhat overshadowed by the claims of poor countries for a new international economic order that would alleviate their poverty, neo-Malthusianism itself began to fall out of favor in the industrial world. In response, population advocates, including UNFPA, the International Planned Parenthood Federation (IPPF), and the United States Agency for International Development (USAID), were forced to search for new allies and partners who might help to make the deliberations of world population conferences salient to a larger public. They were compelled, in effect, to adopt an open-door policy that would draw a wider variety of interest groups into the lengthy and complex process that begins years before the convening of a UN conference and concludes some five years after it—just in time to prepare for the next decennial meeting.

**Bucharest 1974: The Move to Intergovernmental Conferences**

The World Population Conference held in Bucharest in 1974 took place in a political climate that had become much more favorable to governmental intervention designed to lower the rate of population growth in developing countries. This change of attitude was the product of many factors, only some of which will be touched upon here. On the demographic front, growing numbers of demographers from developing countries were emerging from foundation-sponsored training courses in the United States and from regional demographic centers established by the United Nations. A great deal more reliable demographic and socioeconomic data were becoming available that documented the acceleration in population growth and made possible better analysis of demographic and socioeconomic relationships. At the same time, moral scruples over the propriety of contraception were fading, and, in the United Nations, Soviet opposition, based on Marxist principles, was becoming less strident, influenced, as some have suggested, by India’s strong support for United Nations technical assistance for population programs. Additionally, family planning programs were becoming more feasible owing to the development of effective, cheap, safe, and relatively easy-to-use contraceptives. Indeed, as the decade drew to a close, several Asian countries, including Ceylon, India, and Pakistan, had each accumulated close to 20 years of experience with population policy and family planning programs. Each year, moreover, more countries joined their ranks.

To the surprise of all who were involved in its preparation, the Draft World Population Plan of Action met with strong opposition from developing countries when it was presented at Bucharest. The plan’s basic premise—that rapid population growth was a major cause of underdevelopment rather than its consequence—was vigorously rejected by a group of “radical” developing countries led by Algeria. Moreover, this group was supported by others who believed that although rapid population growth was a significant problem in many developing countries, family planning was but one of several measures available to curb it. More than 300 amendments to the plan were put forward, and the fear arose that achieving agreement on a final plan might not be possible in the short time available.

How do we explain the failure of the UN Secretariat and the major proponents of population control, especially the United States, to anticipate the negative reaction of developing nations to the draft Plan of Action? Seemingly, the answer lies in the dominant role played by population experts and family planning advocates in the preparatory process and the partial exclusion of those parts of the UN system and the donor agencies that might have been expected to be better attuned to broader political issues. In spite of the convocation of regional meetings and gatherings of experts and consultations with UN specialized agencies and prestigious population and family planning organizations such as the International Planned Parenthood Federation, the IUSSP, and the Population Council, as well as advocacy organizations like the Population Crisis Committee (now known as Population Action International), most of these groups shared a common perspective that was highly supportive of efforts to limit population growth.

The arguments advanced by developing countries at Bucharest were couched in terms of the need to establish a new international economic order, a regime that they hoped would narrow the gap between themselves and the rich industrialized states, especially in terms of commodity markets, terms of trade, and the economic policies of rich nations vis-à-vis the poor. The matter had been discussed at the United Nations a number of times in the decade prior to Bucharest. At the sixth special session of the General Assembly, held just a few months before Bucharest, a group of developing countries led by Algeria had managed to obtain agreement on a declaration on the establishment of a new international economic order and, with it, an associated program of action. The latter document contained an umbrella statement asserting that UN programs, including, specifically, the World Population Conference, “should be so directed” as to contribute to the effort to establish a new economic or...
der (Finkle and Crane 1975: 93). Here, then, was a clear warning to political leaders in the West, had they been listening, that Bucharest, a meeting at which developing countries brought their own political agendas, would likely be deflected from population concerns, as defined by the industrial world.

At a deeper level, the conflict at Bucharest may be seen as a response by virtually all the developing countries to what they perceived as a threat to their national sovereignty (Finkle and Crane 1975; Taylor 1989). Newly independent states might have been expected to be sensitive to any hint, intended or otherwise, that they might be subjected to some global plan for reducing their population-growth rates. The draft plan lent itself to this interpretation, notwithstanding the careful use of such language as “countries are invited to consider . . .” and “countries may wish to consider . . .”. Countries were in several instances invited to set quantitative objectives and targets, with dates by which they would be achieved, which would be used in the review and appraisal of the plan (see, for example, Draft Plan, Section C, paragraphs 15, 27[b], and 37[d]). Moreover, as Taylor (1989: 161) points out, developing country delegations would have been aware of such earlier statements as that in the report of the second session of the preparatory committee that the “World Population Conference would provide a forum in which the developing countries could exchange experience with regard to population problems . . . but that it was desirable to have European experience . . . in order to obtain a complete review . . . and to promote knowledge, policies, and action programmes.” Developing countries were also keenly aware that the United States had reduced its development aid at the same time that it was greatly increasing funding for population programs.

In the final Plan of Action agreed to at Bucharest, developing countries made two points: that development, not population control, was their overriding objective, and that they would not cede national sovereignty to a coordinated global plan designed by the rich industrialized countries of the West. That mission accomplished, they were not prepared to disavow the importance attached by many of their number to rapid population growth. In the years following Bucharest, many more states adopted population policies, made efforts to link demographic issues to developmental efforts, and, significantly, showed a willingness to assume more of the cost of their family planning programs by drawing on their national budgets. That these developments were attributable to Bucharest alone is unlikely—and impossible to prove—yet it would be foolish to deny that the conference played a role, at least as a catalyst. Significantly, ten years later, it was the developing countries and UNFPA that provided most of the impetus for the Mexico City conference, the purpose of which was to reaffirm and update the Bucharest Plan of Action.

Changes in the International Policy System

In many ways, the International Conference on Population and Development (ICPD), held in Cairo in September 1994, was the mirror image of the World Population Conference held in Bucharest 20 years earlier. In the lead-up to Bucharest, action programs in population had no universally acknowledged “home” within the United Nations, and the Secretary General of the conference was appointed from outside the UN system. By 1990, UNFPA had emerged as a relatively strong organization within the UN, capable of attracting sufficient funds—based on voluntary contributions from governments—to support a worldwide staff and to make its presence felt in population programs throughout the developing world. Its executive director, Nafis Sadik, was appointed Secretary General of the conference and was determined to make Cairo the most significant UN meeting in the decade that commemorated the fiftieth anniversary of the founding of the United Nations. Although the Bucharest draft Program of Action was comprehensively reworked by delegates to the conference, retaining its population orientation while deleting most references to family planning, at the ICPD, the draft program that was taken to Cairo had already rejected the demographic rationale for family planning and substituted the introduction of reproductive health services as a way to improve women’s health. Whereas the preparatory process for Bucharest was largely closed to nonscientific influence, the Cairo process was influenced by the participation of a broad coalition of more than 1,500 NGOs whose interests spanned development, reproductive and adolescent health, women’s rights and empowerment, violence against women, female genital mutilation, the rights of indigenous peoples, and family planning, but which paid little serious attention to the determinants or consequences of population growth.

The pattern of massive NGO participation was not unique to Cairo but was a feature of many UN conferences during the 1990s, from the 1992 Earth Summit at Rio de Janeiro to the 1993 Vienna Conference on Human Rights and the 1995 Women’s Conference in Beijing. So pervasive has this phenomenon become that students of international organization now recognize it as a new and distinct form of transnational politics and policymaking (for example, see Wapner 1995; Clark et al. 1998; Keck and Sikkink 1998). Although several commentators, in-
including the present authors (McIntosh and Finkle 1995; Hodgson and Watkins 1997), have recognized the concentration of NGOs at Cairo as well as the role of feminist organizations in leading them, none has fully grasped the structured character of NGOs’ participation nor the depth and sophistication of their strategic planning.

The Emergence of Transnational Advocacy Networks

One reason that scholars in the population field have been slow to recognize the significance of the NGO presence at UN conferences is that, unlike formally structured, hierarchical international organizations, activist NGOs are informally structured in loose transnational networks. Such networks help to forge new links among elements of civil society, states, and international organizations. To new actors in domestic political and social struggles in Southern countries, transnational networks bring international resources of information, expertise, and funding. Moreover, “by blurring the boundaries between a state’s relations with its own nationals and the recourse both citizens and states have to the international system,” transnational networks are “helping to transform the practice of national sovereignty” (Keck and Sikkink 1998: 1–2).

Transnational advocacy networks differ from more familiar international organizations in that they are motivated by values and “principled ideas” rather than by professional norms or material considerations. They are characterized by dense exchanges of information and services, shared values, and the common discourse that evolves through intense interaction. Their purpose is not only to influence policy outcomes but also to create new issues or reframe old ones in order to change the terms of the debate. In the international arena, advocacy networks tend to form around issues that resonate, or that can be reframed to resonate, with the fundamental ideas of human dignity that are common to most cultures. In carrying out their activities, transnational advocacy networks also work to introduce new norms, not only of behavior but also of identity (Katzenstein 1966). With increasing experience and sophisticated leadership, networks of small, individually insignificant NGOs have proved themselves capable of “persuading, pressuring, and gaining leverage over much more powerful organizations and governments” (Keck and Sikkink 1998: 2).

Andrew M. Scott, a political scientist, observes that “the increasing complexity of the global system makes it more difficult for organized interests to achieve what they want by acting through national governments and, therefore, they may seek to get what they want via the formation of a transnational organization.” He punctuates this observation by asserting that “to be unorganized in a world of organizations is to be disarmed and vulnerable” (Scott 1982: 152–153). In a sense, Scott has described a phenomenon we have observed in the population field, a field that is comprised of experts, professionals, and interested parties ranging from environmentalists and physicians to demographers and feminists. To be more precise, the population field is not defined and driven by a single interest group nor by an alliance with concerns that can readily be addressed by a sectorally structured national government. Rather, the population field is made up of a coalition of interest groups whose goals and purposes overlap in many important respects and, as the conference in Cairo manifested, diverge at other times and in other important respects.

As decisionmaking in the international system became increasingly open, providing numerous avenues for diverse interest groups to exercise influence, NGOs among others hailed this development as “democratization.” The American political system seemed to be their model. They overlooked, however, that, unlike the American political system, the United Nations lacks a strong executive and a sense of self as a single entity with the loyalties and bonds that accompany nationhood. Moreover, intergovernmental conferences can be roughly equated with the legislative branch in American politics, because both function in a structure that imposes order—an adherence to prescribed procedures; at another level, both behave unpredictably at times. Their behavior is often a consequence of political alignments and coalitions that have formed around issues that are seemingly unrelated to the topic of the agenda before each body. The block of developing nations and the block of industrial nations are two obvious examples of the coalitions and alliances that shape voting behavior in conferences. On certain major issues, countries are highly averse to voting against the position taken by their block. Because conferences follow the rule of the General Assembly, whereby voting is conducted on the basis of one nation, one vote, small nations have disproportionately voting power. To some extent, this imbalance is offset by the ability of strong, rich countries to influence poor, weak states. The means of influence is not merely one of persuasion in the corridors of the UN or at conferences; it involves the multiple instruments of statecraft employed by all nations in the world political arena.

A parallel pattern of influence prevails in civil society. NGOs from rich countries seek to establish linkages with NGOs in developing countries in order to advance their cause globally, and to encourage and assist the NGOs of nonindustrialized countries in attempting to influence the policies of their own governments. Affili-
lation with foreign NGOs also provides donor-country NGOs with the basis for a claim to “international” status, a criterion for acquiring consultative status with the United Nations.

The proliferation of domestic NGOs that are working on social and political issues in both Western and developing countries may be seen as an outgrowth of the activist political culture that emerged in the 1960s. In turn, the internationalization of activism has been fostered by the greater awareness and knowledge made possible by the growing ease—and lesser cost—of international travel and better communication, including electronic communication. In addition, the increasing density of international student exchanges, working holidays abroad, and service in such organizations as the US Peace Corps and the United Kingdom’s Volunteer Service Overseas, has generated a growing sense of solidarity among young people on both sides of the rich–poor and nondemocratic–democratic divides. These forces have combined to create a new element in international politics that aims to multiply citizens’ points of access to their governments in countries where such access has been more limited than it is in the West.

The United Nations and NGOs

Although NGO participation in UN conferences became much more visible during the 1990s, the right of participation has existed since soon after the creation of the United Nations. A General Assembly resolution of 1947 made it possible for NGOs to be granted consultative status with the Economic and Social Committee of the UN, ECOSOC. The criteria for accreditation require that NGOs have an international structure and/or special expertise in one or more of the issue areas within ECOSOC’s purview. Some additional criteria are also applied: For example, the NGO must have nonprofit status, must forswear violence, and cannot receive governmental funding; nor can it campaign against the work of the United Nations (Willetts 1996a).

The formal rights of participation accorded to NGOs with consultative status are far-reaching and almost certainly exceed those accorded to NGOs in national legislatures. In summary, they include the right to attend ECOSOC meetings, with some restrictions, and to circulate written statements to council members. Accredited NGOs are permitted to address ECOSOC committees and, at times, the full council. Early on, they also won the right to place items on the ECOSOC agenda. Once an NGO has been granted consultative status, it may participate in the activities of any of the functional commissions or other units of ECOSOC that it considers to be relevant to its own concerns. In the 1990s, this right facilitated the ability of NGOs working in related issue areas to unite in order to take their concerns to a series of major conferences.

In the hands of politically astute NGOs, some of the informal rights that accompany their status in the UN system accord them even greater influence. For example, an NGO’s association with ECOSOC legitimizes its interacting and consulting with officials of the UN Secretariat, thereby enhancing its ability to influence the views of those who draft reports, position papers, and programs of action. The security passes issued to NGOs provide access to all UN buildings, making it possible for NGO representatives to lobby delegates in the halls and cafés, to keep abreast of the political processes in meetings from which they are excluded, to receive information and, on occasion, to influence negotiations by drafting resolutions to be introduced by sympathetic diplomats. Generally speaking, NGOs that are willing to work in small, informal committees and working groups, where much of the detailed negotiation takes place but where the attendance of delegates may be small and the media presence minimal, may find that they are accorded rights that are equal to those of the diplomats who are present (Willetts 1996a).

Increasingly, for many years, the value of the expert contributions made by NGOs holding consultative status has been recognized by the United Nations. Consequently, the criteria for admission to NGO status generally have been relaxed, resulting in a sharp increase in the number of accreditations. In the opinion of one long-time observer, the broader participation of NGOs in agenda-setting conferences such as those on women, the environment, and population has accompanied a transformation in the character of these conferences from the scientific format of the earlier meetings to one in which the intergovernmental diplomatic form—one which submits language even on nonbinding resolutions to intense negotiation—has become dominant (Willetts 1996b).

The United Nations and Population

The fifth decennial UN population conference (we include here the two scientific meetings at Rome and Belgrade) might be seen as the occasion for an assessment of demographic research and trends, and a review of advances in family planning programs. In fact, a majority of the regional meetings convened before Cairo expected to identify suitable topics for inclusion in the draft Plan of Action. The Asia-Pacific regional meeting, held in Bali in August 1992, formulated a number of demographic goals for the region. The preamble (Section I) of the Bali
Declaring on Population and Sustainable Development, which was produced by a ministry-level meeting that concluded the conference, urged that “all members and associate members of the Economic and Social Commission for Asia and the Pacific (ESCAP) establish a set of population targets in line with sustainable development goals, and initiate and implement policies and programmes to achieve those targets” (Population Bulletin 1994: 22). The demographic goals and strategies adopted by the conference were intended to bring the region to replacement-level fertility “by 2010 or sooner” (Population Bulletin 1994: 23). The Africa regional conference also formulated quantitative demographic goals and aimed to double contraceptive prevalence by the year 2000 (Population Bulletin 1994: Recommendations 1 and 9, 40–41). The Arab World Conference did not specify quantitative demographic targets but clearly recognized the relevance of population stabilization to the attainment of many social goals. The report also stated that, where fertility levels are high, “efforts should be made to set appropriate fertility and family planning targets consistent with the development goals of each country” (Population Bulletin 1994: Recommendation [41b], 78). Finally, the Latin American and Caribbean meeting took a similar approach and called for greater international support for demographic training and research (Population Bulletin: Recommendations 59–64). Despite the broad agreement among regions about the importance of demographic factors, few if any of their recommendations found their way into the Cairo Program of Action.

Notwithstanding the importance and necessity of demographic data, it is erroneous to assume that more and better demographic data will automatically strengthen governmental commitment to population policy and improve the design of policies and programs. In the past several decades, we have accumulated enough experience to know that governments tend to interpret demographic trends primarily as means to valued societal goals—national power, economic development, ethnic dominance—rather than as ends in themselves. In addition, such variables as state–society relations and the quality of governance may have more influence on a country’s policies than do demographic analysis and population trends per se. Thus, many will recall the head of the delegation from the People’s Republic of China speaking before the plenary session at Bucharest, rejecting the idea of fertility limitation and calling for more births. Soon afterwards, China’s population surpassed one billion and China implemented the most vigorous population policy of our time, reducing the birth rate with unprecedented rapidity. The impetus for this dramatic change in China’s population policy is attributable to the internal political shift from radical Maoism to what may be called Chinese pragmatism.

To suggest that demography is not the sole determinant, nor even the most compelling factor determining a country’s population policy, is not to say that it is insignificant. Yet, even in the multilateral arena, those most responsible for population policy and programs have found that limiting their attention to fertility regulation is difficult. For years, Rafael Salas, the first executive director of UNFPA, argued with his governing body over his interpretation of the agency’s mandate. Salas continually reminded his in-country representatives of the importance of state sovereignty and urged them to consider requests from governments for “beyond family planning” projects. Responding favorably to many such requests, UNFPA, to the dismay of its major donors, consistently allocated roughly 50 percent of its support to projects in such fields as migration and urbanization, education in population and family welfare, basic data collection, women’s status, and aging (Salas 1976). Similarly, IPPF, both by conviction and necessity after its expanded network of affiliates was required to raise much of its own funding, broadened its focus to incorporate reproductive and maternal health and similar programs into its portfolio. Again, the “conceptual framework” for the Cairo Program of Action presented by Nafis Sadik at the second meeting of the Preparatory Committee (PrepCom II) in May 1993 included a chapter on population replete with demographic targets, as well as one in which reproductive rights and health were included with family planning (Singh 1998). After PrepCom II, when the Women’s Caucus presented an amended framework that eliminated the articulation of demographic objectives, the stage was already set for its acceptance by UNFPA, some national governments, foundations, family planning providers, and many other erstwhile members of the population establishment.

Feminist Influences on the Cairo Agenda

To attempt an explanation of the emergence of civil society as a major participant in UN conferences during the 1990s is beyond the scope of this article. No mystery exists, however, about the dominance of women’s NGOs; their superior networking skills; the clarity of the articulation of their complex goals; their organizational capacity to work within and influence conference processes; their ability to enlist the support of governments, foundations, and UN specialized agencies; and their capacity to attract significant funding. Women’s groups in such diverse fields as reproductive and sexual health; women’s
rights and status; discrimination; the feminization of poverty; education and employment of women; violence against women; and those dealing with many other issues affecting women and girls had been brought together during the UN Decade for Women, 1975–84. They had learned to work together, linking their causes in an all-encompassing ideology, and had gained invaluable experience in working within the UN conference structure during the three conferences that formed part of the Women’s Decade.

While the emergent transnational women’s network honed its organizational and political skills during the Women’s Decade, the decade also nourished the intellectual and substantive roots of the women’s platform. To the despair of Northern feminists who came to the opening conference in Mexico City with well-prepared positions on such topics as population and the environment, which they believed were of concern to women, Southern women were more consumed by political themes under discussion in their countries—the new international economic order and Palestine (Tinker and Jaquette 1987). Throughout the decade, the imagination of women from the developing world was captured by socialist analyses that explained the increasing poverty and marginalization of women by the impact of such factors as large-scale development projects, deteriorating terms of trade, the debt crisis, the sale of arms to developing countries, and increasing violence (Sen and Grown 1987). Many women were inspired by discussions of strategies to improve the situation of women in poor countries, including suggestions to “empower” women, increase popular participation in policymaking and implementation, and hold governments accountable for their promises (see, for example, Sen and Grown 1987, chapter 3). These and similar ideas were elaborated in later years and informed the chapter in the ICPD document that deals with relationships between governments and NGOs (UN 1994, chapter 15).

Unlike the development agenda, the reproductive health and rights agenda that constituted the primary thrust of the Cairo conference was originally elaborated in the United States, before the Women’s Decade, although it later benefited by research undertaken as part of the decade. In the United States, feminists united to challenge the right-to-life movement that sprang up after the 1973 Supreme Court decision to legalize abortion. Organizations like the National Organization of Women and the National Abortion Rights Action League joined with others like Planned Parenthood and Zero Population Growth to coordinate a pro-choice campaign that, for a while, united American feminists (Hodgson and Watkins 1997). Before long, however, the more radical members of this coalition became disillusioned with its narrow approach and started to elaborate a more inclusive agenda that included not simply a woman’s right to choose abortion but also her right to government-subsidized abortion, contraception, and prenatal and early childhood care. The emergence of the reproductive rights lobby was motivated not only by the imperative of keeping abortion safe and legal, but also by a growing sense that family planning programs as currently constituted were infringing on women’s rights to services that did not threaten their health. Attention was drawn to the potential side effects of the high-dose contraceptive pills then in use and to the administration of hormones by injection. Some well-known feminists recommended that women revert to barrier methods (Greer 1984).

Turning their attention to the poorer countries, feminists from the United States, Latin America, and some developing countries enunciated a devastating ethical critique of family planning programs operating there. They perceived the use of monetary or material incentives for contraceptive acceptance and other forms of heavy-handed persuasion to be coercive. The increasing use of long-term or hard-to-reverse methods, such as the intrauterine device, the injectable Depo-Provera, and sterilization, which they regarded as limiting women’s control of their reproductive life cycles, caused serious concern. Some feminists also took exception to the scientific method of assessing contraceptive risk by treating it as relative to the risk of pregnancy rather than as an absolute risk to women’s health. Moreover, they criticized the lack of easy access for many women to family planning clinics, the long waiting times that were sometimes necessary to obtain services, the lack of privacy, and the lack of respect that service providers often showed to clients at family planning clinics. Increasingly, some feminists argued that the use of a demographic rationale for international population policy subjected women’s bodies to the attainment of an abstract societal goal and was unethical (Petchesky 1984; Hartman 1987; Gordon 1990; Petchesky and Weiner 1990).

The Road Ahead

The preparatory processes and outcomes of these global meetings are shaped by international relations and events, as well as by the domestic agendas of participating states, to a far greater extent than they are by demographic trends. It should come as no surprise, therefore, that the conference process is frequently engulfed in political discussion and maneuvering over issues that nobody seems to have anticipated. Of the three inter-
governmental conferences, the Cairo ICPD probably ranks as the sharpest break from the past in both substance and process. The participation of a new class of actor—the transnational network of NGOs—and the change in focus, from population and family planning to reproductive health and rights, have fundamental implications for the future of the population field as well as for the conference process itself.

The incorporation of family planning services into broader programs of reproductive health can be traced clearly back to the 1974 Bucharest Conference Plan of Action, and it commanded wide support among Western family planning providers well before the rise of the transnational feminist network. Sweden, for example, has never favored categorical family planning programs and for years has provided international assistance for family planning programs only if they were integrated with health services (Wolfson 1983). In the United States, domestic family planning providers were motivated by the 1980s feminist critique of international family planning projects. They were also persuaded by the recognition that in the United States’ privatized medical system, family planning programs often served as the point of entry to the health system for poor women. This understanding was later reinforced by the growing epidemics of sexually transmitted diseases, including HIV/AIDS, which meant that in some geographical areas, family planning clients carried serious loads of infection (Brackbill et al. 1999; Turner 1993). More recently, the effect of Cairo has been to give new impetus to integrating family planning and women’s health services as a single package and to give greater attention to the rights of women. It seems reasonable to assume that family planning will continue for some time to become more integrated with reproductive health services.

The vastly expanded participation of NGOs was widely acclaimed during and after the ICPD, but a closer look suggests that it has not yet become fully institutionalized. In each of the four meetings at which the feminist network was a major player during the 1990s, efforts were made eventually to exclude or limit the extent of NGO participation. The environment, human rights and women’s conferences were all characterized by what has been termed “the fourth PrepCom phenomenon” (Clark et al. 1998: 17). In each case, NGO access to the most important working group and drafting meetings was increasingly curtailed as the preparations advanced through actions taken by some or all of the Group of 77 (G-77)—a voting bloc of around 130 developing countries. At Rio de Janeiro, NGOs were completely excluded from participating in the fourth and last PrepCom, a move that put them at a disadvantage at the environmental conference itself; at the final PrepCom for the human rights conference in Vienna, a group of Asian countries succeeded in severely limiting NGO access at the meeting; and at the fourth PrepCom for Beijing, an attempt was made to exclude NGOs from many closed discussions in the lead-up to the conference. In that case, NGOs appealed to ECOSOC, which ruled that their participation at Beijing should be at the same level as for the PrepComs. A physical barrier to participation was imposed at the conference, however, by the location of the NGO Forum, an hour’s drive from the conference site.

No such efforts to constrain the role of NGOs were made during the Cairo process: On the contrary, NGOs were accorded more extensive rights to participate in the meetings that most mattered than was the case at the other conferences. Five years later, at the PrepCom immediately prior to the General Assembly special session called to review progress in implementing the Cairo agenda, NGOs themselves invited a hostile reaction by demonstrating outside the main conference room against the stalling tactics that were employed by a small group of conservative G-77 members together with the Holy See. Additional G-77 members joined the fray, trying to exclude NGOs from the special session. After lengthy debate, delegates allowed a small number of NGOs to make short statements in the formal plenary sessions (Earth Times 1999b).

The efforts to limit NGO participation reflect the unease experienced by many G-77 members who are unaccustomed to the high-pressure lobbying tactics that have become accepted strategies of Western liberal democracies, especially that of the United States. Nevertheless, however, the arrangements for NGO participation at all the conferences, although doubtless canvassed by UN officials at various levels, were approved by government delegates, including those from the G-77 countries, in the General Assembly, ECOSOC, and the various conference preparatory committees. In the judgment of an experienced inside observer, the influence of NGOs in the Cairo process was “probably at its highest during PrepComIII, where many significant proposals made by them were incorporated in the Draft Final Document” rather than at the conference itself (Singh 1998: 134).

Paradoxically, those countries that were so anxious to protect their sovereignty at Bucharest, and also made sure that it was well protected in almost every paragraph of the Cairo Program of Action, have been liberal in granting NGO access to the core policymaking processes. The ambiguities introduced by governmental delegations toward the end of the preparatory process for several of the 1990s conferences make it impossible to predict whether or not NGOs will be permitted to participate so fully in
the future. Nevertheless, the contemporary stress on governmental transparency and openness, the recognition of the specialized technical expertise brought by many NGOs and, indeed, their increasing willingness to join with others in street protests in support of causes they approve, all suggest that in the future their participation will continue to be sought, even if their access is more carefully regulated than it was in the 1990s.

The Changing Face of “Population”

In this article, we have made two arguments: first, that during the past years, the United Nations has sought to increase support for population policies by enlisting a progressively broader range of participants in their decennial population conferences. From the scientists who helped to make a case for population policies, to the governments who were asked to implement them and the NGOs who were expected to pressure governments for greater efforts, ever-deeper levels of society have been brought into the process. As a consequence, the field has grown in scope and complexity and may be at risk of losing coherence and focus. Our second argument is that UN conferences are political events, shaped not only by substantive questions but also by occurrences and issues in the political environment or on the private agendas of governments and interest groups.

In the aftermath of Cairo, as many reports have indicated, donor commitments have consistently fallen short of what was anticipated at Cairo to be the cost of implementing both family planning and reproductive health programs (Earth Times 1999a; UNFPA 1999). One estimate suggests that less than half of the expected annual donor contribution of US$5.7 billion for the year 2000, which was proposed at the ICPD, has been forthcoming (Sinding 1999). Moreover, although most observers are sympathetic to the need for broader programming in reproductive health, such programming is likely to come at the cost of family planning services, which are now required to compete with many other services for every dollar. Unless some way can be found to raise the level of funding for family planning services and commodities, the achievement of lower rates of population growth will be seriously impeded, compromising the ability of poorer countries to develop (Campbell et al. 2000).

Donor fatigue with population assistance made its appearance long before the ICPD and may, perhaps, be seen as a manifestation of broad social and philosophical changes taking place in the political economies of both donor and recipient countries. Not only did population policies face a decreasing budget in real terms, but so also did development programs in general, as well as domestic health and social policies in the donor countries. The change marked the demise of left-liberal ideologies that had motivated policymakers throughout the world since World War II and their replacement by the more conservative economic ideas espoused by Margaret Thatcher and Ronald Reagan. Interventionist government programs started to fall out of favor, and the private sector was asked to play a greater role in the delivery of social services.

With the fall of the Berlin Wall in 1989 and the end of the Cold War, which for 40 years had structured international politics, world leaders no longer perceived a need to enlist the loyalties of developing countries with lavish expenditures on developmental assistance. Instead, less money has been accompanied by more advice—to rationalize and decentralize governments, to deal with corruption, and to introduce market capitalism. Although political leaders are attempting to assist the poorest countries in these endeavors by such means as forgiving debt and altering the terms of trade in ways intended to enhance their development, these strategies involve difficult negotiations among governments and between governments and such large organizations as the World Bank, the International Monetary Fund, and the World Trade Organization. Predictably, progress has been slow. Although the successful introduction of these various measures would enable poorer countries to advance their economic growth and better manage their health and social services, including family planning services, significant improvement will require a continuing infusion of funds and other forms of assistance from rich nations.

At the beginning of the twenty-first century, the variety of population issues confronting the global community is considerably broader than those that have been the historical preserve of UNFPA, even in the expanded form of reproductive and sexual health and rights. Problems of population growth are not confined to the poorest countries, but exist, in a different way, in the industrialized nations as well. In the poorest countries, many of them in sub-Saharan Africa, fertility rates remain high; whereas, in the industrialized world, including East Asia, below-replacement fertility and population aging pose new challenges to society. Moreover, in recent years, we have become acutely aware of a range of problems that are compounded by population growth, especially rapid urbanization, higher rates of internal as well as international migration, environmental degradation, pollution, water shortages, profligate consumption of resources, carbon emissions, and global warming. Heretofore, governments have been reluctant to confront these issues, the solutions to which often call for lifestyle changes in rich countries and costly changes in development technology.
in poor countries. These issues are likely to appear on the agendas of future population conferences, however, placed there by NGOs, if not by national governments.

In many countries throughout the developing world, the standard of living has improved and life expectancy has increased, in some cases dramatically. In those countries where income levels have gone up the most, a marked decline has been seen in the rate of population growth. Beneficent social and economic change most certainly accounts for much of this success; however, it would be a mistake to overlook the contributions of a comprehensive set of activities associated with the provision of family planning and reproductive health services, including the collection of basic data, regular censuses, and demographic research and analysis. Whereas the need remains for bilateral and multilateral assistance for this work, especially in those parts of the world that have not yet entered or progressed far in their demographic transitions, national governments now shoulder most of the technical and financial burden of their own programs. Significantly, the funding formula approved at Cairo called for developing countries to cover two-thirds of the estimated cost of the recommended programs themselves.

By contrast, the problems that will increasingly confront us in the new century share important characteristics that differentiate them from those we have focused on in the past. They are both complex and interrelated. Many cross national borders and may call for concerted action within and sometimes across regions. Moreover, as countries follow their own routes to development, far greater diversity will occur in the mix of problems they exhibit as well as in their political, economic, and social parameters. Increasingly, our present methods for fostering global change may come to look inadequate.

Conclusions

The changes enshrined in the ICPD final document reflect both a shift in the definition of international population policy and a marked elaboration of the issues presented for the consideration of official delegates, engineered in large measure by the contributions of NGOs (Ashford 2001). No doubt exists that the freshness of the ideas and the enthusiasm of the new participants have reenergized a field that had lost some of its former vigor. At the same time, the geopolitical, economic, and social environments within which these transformations will be played out, at the national as well as global levels, have become more diverse and will require a more differentiated approach to the formulation and implementation of population policy at all levels. The combination of all these changes will also place new demands on the UN system and may prompt a new approach to UN population conferences.

We can say with some confidence that the reproductive health agenda and a growing role for NGOs in the formulation as well as the implementation of population policy are here to stay. Both have been present to a lesser extent in previous conference documents—if not on the ground—and both elements have been widely acclaimed since Cairo. In this environment, securing adequate funding for family planning programs and commodities, in the context of reproductive health, is likely to call for special efforts from the international community. To some extent such efforts are already being made; recently, a greater willingness has been shown by donor governments and family planning NGOs to acknowledge openly that family planning must not be allowed to die of inanition simply because women’s health and rights are perceived as legitimate concerns of the international community.

Throughout this article we have referred to the growing number and increasing complexity of the issues surrounding population questions. Among them we include: a broader agenda; the formal inclusion of elements of civil society in the formulation of international policy; a growing tendency for “population” issues to be linked with such broader questions as poverty, the environment, and human rights; the diversity of development levels, in addition to cultural and religious differences, among countries; the globalization of capitalism; and the need to seek funding support from a variety of new sources. These developments raise serious questions about the adequacy of international policy institutions, which were created in a simpler era, to deal with them effectively. With regard to population conferences, for example, the coming years may see a search for ways of rationalizing the conference process. One possibility might be the replacement of global meetings by smaller thematic or regional meetings. Either means would permit a clearer focus, and reduce the number of resolutions to a more manageable count. Smaller meetings might possibly be perceived as more realistic by the people principally affected, and they would cost less in terms of time and human resources as well as in dollars. Of the two approaches, the thematic approach—which has much to recommend it—is less likely to be adopted because it goes against the contemporary predilection for dealing with issues in a holistic way. A series of regional or subregional meetings, based on some combination of economic and cultural and religious homogeneity, might be more acceptable and would enable focused attention to be given to a range of issues that policy and scientific experts would like to examine.
and NGOs from the region identify as relevant. Of course, predicting the shape of conferences to come or anticipating the international crises and new political alignments that will form during the twenty-first century is not possible. We harbor no illusion, however, that these or other changes could be accomplished without much protracted soul-searching and some painful bureaucratic resistance.

Notes

1 Unless otherwise stated, references in this section to the United Nations are based on the relevant chapters in Symonds and Carder (1973).

2 The increase in the availability of data was stimulated in part by the two earlier United Nations population conferences held in Rome in 1954 and Belgrade in 1965. Large numbers of papers were presented that, especially in 1954, drew attention to the paucity of data available and helped to identify important gaps. The 1954 conference was, nevertheless, judged to have been “immensely useful in stimulating the interests of both scholars and governments . . . in the scientific study of population” (Notestein 1954: 248; see also, Symonds and Carder 1973: 82–86 and 145–149).

3 Up to and including 1965, 12 countries had adopted family planning policies for demographic reasons, and one country had implemented a family planning program for health reasons. Ten years later, an additional 22 countries had adopted demographic policies and 25 more had family planning programs for health or human rights reasons (Nortman 1980: Table 6).

4 This view was shared by at least one other detached observer. On the eve of the Bucharest conference, Alfred Sauvy, the doyen of French demographers, observed that “at Bucharest, a world population plan of action will be proposed that will take aim, whatever may be said to disguise it, at the sovereignty of nations” (Demeny 1985: 99).

5 A point-by-point analysis of the differences between the draft and final versions of the program of action may be found in Berelson (1975: 115–146).

6 The Mexico City conference is not discussed here because the political intervention that was attempted had no visible or procedural impact on the conference or on its document. Many will recall that the meeting was the subject of a last-minute and highly ideological policy statement by the Reagan administration. The administration argued that population growth was a “neutral phenomenon” with little or no effect on economic growth. The supposedly negative impacts of rapid population growth were rightly to be attributed instead to the effect of governmental interventions that impeded the operation of the free market (Finkle and Crane 1985). In a remarkable demonstration of tolerance, the group of 77 countries that constituted a voting bloc of about 130 developing countries ignored this contribution and proceeded to review and approve the Program of Action as drafted.

7 Although many scholars see the increase in NGO involvement as a sign of the emergence of a global civil society (for example, Lipschutz 1992; Wapner 1995), others argue that it is too early to announce the existence of such a society, although they acknowledge that its emergence is well under way (Clark et al. 1998).

8 Barbara Crane (1993) is one of the few population specialists to examine the role of these networks in the international environment of population policy.

9 The frequency with which NGOs active in the Cairo process referred to the coerciveness of orthodox population policies, and those who formulate and implement them, provides an excellent example of this strategy.

10 The Economic and Social Council is the organ that coordinates the economic and social work of the UN and its specialized agencies and institutions, known as the United Nations Family of Organizations (UN 1995).

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**Acknowledgments**

The authors extend their gratitude to Joseph Chamie, Barbara Crane, and Clea Finkle for their incisive comments on this manuscript. Of course, they are not responsible for errors of fact or interpretation.
Contraceptive behavior in the developing world has changed markedly over the past three decades (United Nations 1996 and 1999a). Around 1960, only a tiny fraction of couples practiced contraception, and knowledge of methods was limited. In contrast, contraceptive knowledge is now widespread, and more than half of married women in the developing world are current users of contraceptives. The large majority of these users rely on modern methods, including male and female sterilization, the IUD, and the pill. This revolution in contraceptive behavior has been driven by a desire to reduce family size, as social and economic changes have increased the cost of rearing children and reduced the benefits associated with having children. Another key factor contributing to this rise in contraceptive use has been the diffusion of information about and access to contraceptive methods, aided by a rapid expansion of family planning programs. This expansion of access to a range of methods has helped couples to implement their preferences for smaller families and to avoid unwanted pregnancies.

Although past trends in contraceptive behavior are fairly well established, what lies ahead remains uncertain. Because contraceptive prevalence levels among married women of reproductive age in many developing countries are approaching levels often found in the industrialized world, contraceptive demand might be expected to level off soon. Whereas future increases in contraceptive use could well occur at a slower pace than heretofore, a further expansion of demand is likely for two reasons. First, the fertility transition in the developing world is not yet complete. The average number of children per woman of reproductive age (15–49) has declined from six to three since 1960, but fertility remains at about 50 percent above the replacement level of about two children that is expected to prevail in the long run accord-
According to population projections made by the United Nations (1999b). These further fertility declines almost certainly will be achieved by additional increases in the practice of contraception. Second, as population growth continues, the number of women of reproductive age is expected to rise in most developing countries. These two factors will drive up the number of contraceptive users in the developing world for the next few decades. In contrast, the demand for contraception in the industrial world likely will see little rise in the aggregate, because neither the level of fertility nor the number of women of reproductive age is expected to change much from current levels. In specific countries, however, prevalence could rise, in particular where levels of abortion are high (for example, in Eastern Europe and Japan). Moreover, the method mix could well change substantially in both the industrial and the developing world. Such a change would occur even if no additional methods are made available, and it likely will be accelerated by the expected availability of new contraceptive technologies.

To assess prospects for future trends in contraceptive use, projections have been prepared recently by the United Nations (1999a) and the Futures Group (Ross et al. 1999). The UN projects numbers of users for different world regions from 1993 to 2025. The Futures Group provides similar results for individual developing countries to 2015 and also projects numbers of users of different methods. One of the main goals of these projections is to alert policymakers and program managers to the increases in contraceptive supplies and services that will be needed to meet the growing demand during the next two to three decades.

Levels and Trends in Contraceptive Prevalence and Method Mix

Prevalence

Figure 1 plots estimates of contraceptive prevalence (that is, the proportion using a method among women who are married or in union) for the developing and industrial worlds as well as for selected regions for the latest available year, 1993 (UN 1999a). For the developing world as a whole, prevalence in 1993 stood at 55 percent, 15 percentage points lower than the estimate of 70 percent for the industrial world in the same year. The developing-world average is heavily influenced by the high prevalence in China (83 percent); without China, this average would have been only 43 percent. Sharp differences between regions are evident, with prevalence ranging from 20 percent in Africa to 66 percent in Latin America. Because fertility has continued to decline since 1993, prevalence today is a few percentage points higher than in 1993, and the developing-world average (including China) in 2000 is estimated at 60 percent (UN 1999a).

Past trends in contraceptive prevalence for 98 developing countries are plotted in Figure 2. Each line in this figure represents one country, with two or more observations per country. A full discussion of this set of detailed data is not attempted here, but a few conclusions can be drawn: In the early 1990s, prevalence levels varied from a few percent in several African countries to more than 75 percent in a small number of countries in Asia and Latin America (Brazil, China, Hong Kong, and South Korea). A pervasive upward trend in prevalence...
has occurred during the past quarter-century. This trend is evident in most countries into the 1990s, except in populations for which prevalence remains low (mostly in sub-Saharan Africa). In a few countries, the long-run rise in observed prevalence has been interrupted by pauses and even reversals; measurement error may be partly responsible for these fluctuations. The number of countries for which prevalence estimates are available is seen to be greatest in the late 1980s and early 1990s, and it decreases for earlier dates. The relatively small number of countries with estimates for the 1960s and 1970s tend to be selected for higher-than-average prevalence (UN 1999a). Therefore, obtaining unbiased estimates of global and regional averages for the past is difficult. Obtaining indirect estimates through backward projection is possible, but this approach has not been implemented systematically (Bongaarts 1984).

**Contraceptive Methods**

Methods of contraception practiced today include “modern” and “traditional” ones. The former refers to clinic and supply methods such as voluntary surgical sterilization, the IUD, oral contraceptives, implants, injectables, condoms, and vaginal barrier methods. The main traditional or nonsupply methods are periodic abstinence and withdrawal, as well as traditional folk methods with uncertain efficacy. Figure 3 (right bar) presents estimates of the method mix for the most recent available date (about 1993) for the developing world. Sterilization (mostly female) accounts for nearly half of all contraceptive use. Other modern methods (mostly the IUD and the pill) account for most of the remainder, whereas only 9 percent of women rely on traditional methods. This mix of methods has changed only modestly over time. Since 1980, the proportion of users relying on sterilization and injectables (a new method) has increased, and the use of the pill, the IUD, and other methods has become correspondingly less prevalent (UN 1996).

The mix of methods varies considerably among regions and countries. Users in Africa are much less likely to have been sterilized than are their counterparts in Asia and Latin America, and they are more likely to rely on the pill or traditional methods. Sterilization is about equally common in Asia and Latin America, but in Asia, the prevalence of the IUD is much higher and pill use lower than in Latin America.

At the country level, variation in method mix is even greater than at the regional level. This variation is illustrated in Figure 4, which presents levels and past trends for one method—female sterilization—for 98 countries. The proportion of users relying on female sterilization ranges from a tiny percentage in a few countries (mostly in Africa) to well over half in India (67 percent) and more than half in Brazil (52 percent) and a few other Latin American countries. Aside from this variation in levels, variation is found in past trends in the proportion of women sterilized, but no pervasive upward or downward trend is evident in the data plotted in Figure 4 from the mid-1980s onward. A similarly wide range exists in relative levels of use of other methods (data not shown). As was the case for female sterilization, in a few countries more than half of all use is accounted for by a single method: the pill in Algeria (83 percent), Morocco (64 percent), and Zimbabwe (69 percent) and the IUD in Egypt

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**Figure 3** Percentage distribution of contraceptive methods used by married women, by region, about 1993

![Figure 3](https://example.com/figure3.png)

*Source: UN (1999a).*

**Figure 4** Trends in the proportion of users relying on female sterilization, by country, 98 developing countries

![Figure 4](https://example.com/figure4.png)

*Source: UN (1999a); Ross et al. (1999).*
(63 percent) and Vietnam (51 percent). Among the main reasons for the heavy reliance on a single method in these countries are an emphasis on that method in family planning programs and the limited availability of providers of other methods in the private sector. Little doubt exists that the method mix would be less skewed in these countries if couples were given a wider choice.

**Future Trends in Contraceptive Prevalence and Numbers of Users**

As noted above, the United Nations and the Futures Group have prepared projections of the number of contraceptive users and contraceptive prevalence. The main results of these exercises are summarized in Table 1. In 1993, the base year of the UN’s projection, the number of users in the developing world was estimated at 436 million. By 2000, this total had grown to an estimated 549 million. During the next quarter-century, the UN expects a further increase of 49 percent to 816 million in 2025. The corresponding regional projections indicate a far larger increase in Africa (254 percent) than in Asia (28 percent) or Latin America (37 percent).

For the developing world as a whole, the UN estimates contraceptive prevalence among married women in 2000 at 60 percent (up from 55 percent in 1993), and in 2025, prevalence is expected to reach 67 percent. The current sharp regional differences in prevalence are expected to moderate considerably, with rapid increases in Africa’s prevalence from 29 percent in 2000 to 55 percent in 2025. Smaller increases are projected for Asia and Latin America, reaching 69 percent and 73 percent, respectively, during the same period.

The projections by the Futures Group up to 2015 also indicate substantial increases in the number of users and in prevalence. The UN’s and the Futures Group’s projections differ significantly, however, in a number of key respects. For example, the Futures Group’s estimates of the number of users for the year 2000 is lower than the UN’s corresponding number (525 versus 549 million, a difference of 24 million or 4 percent). The reason for this difference is difficult to pinpoint in the absence of country-specific estimates from the UN, but one of the main reasons appears to be a lower Futures Group estimate of the number of users in China. Another notable difference between the two projections is that the Futures Group expects the number of users to increase by 41 percent between 2000 and 2015, compared with a rise of 34 percent projected by the UN. These results are due to differences in projection methodology, which are explored below.

### Why the Number of Users Keeps Rising

An obvious cause of future increases in the number of users in the developing world is the rise in contraceptive prevalence that, presumably, will accompany anticipated further declines in desired fertility. Several other variables also affect the future number of users, however. Specifically, the projected growth in contraceptive users over any time interval in any country is attributable to changes in one or more of the following five factors: P = population size; F = proportion of P that is female aged 15–49; M = proportion of F that is married or in union; C = proportion of M that practices contraception (that

<table>
<thead>
<tr>
<th>Number of contraceptive users (million)</th>
<th>Source</th>
<th>1993</th>
<th>2000</th>
<th>2015</th>
<th>2025</th>
<th>Percent increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>UN</td>
<td>26</td>
<td>47</td>
<td>111</td>
<td>167</td>
<td>135  254</td>
</tr>
<tr>
<td>Asia</td>
<td>UN</td>
<td>357</td>
<td>437</td>
<td>544</td>
<td>560</td>
<td>24   28</td>
</tr>
<tr>
<td>Latin America</td>
<td>UN</td>
<td>53</td>
<td>65</td>
<td>83</td>
<td>89</td>
<td>28   37</td>
</tr>
<tr>
<td>Developing world</td>
<td>UN</td>
<td>436</td>
<td>549</td>
<td>738</td>
<td>816</td>
<td>34   49</td>
</tr>
<tr>
<td>Futures Group</td>
<td>—</td>
<td>525</td>
<td>742</td>
<td>—</td>
<td>—</td>
<td>41   —</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contraceptive prevalence (percentage of users among women in union)</th>
<th>Source</th>
<th>1993</th>
<th>2000</th>
<th>2015</th>
<th>2025</th>
<th>Percent increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>UN</td>
<td>20</td>
<td>29</td>
<td>46</td>
<td>55</td>
<td>59   90</td>
</tr>
<tr>
<td>Asia</td>
<td>UN</td>
<td>60</td>
<td>64</td>
<td>69</td>
<td>69</td>
<td>8    9</td>
</tr>
<tr>
<td>Latin America</td>
<td>UN</td>
<td>66</td>
<td>70</td>
<td>72</td>
<td>73</td>
<td>3    4</td>
</tr>
<tr>
<td>Developing world</td>
<td>UN</td>
<td>55</td>
<td>60</td>
<td>65</td>
<td>67</td>
<td>9    13</td>
</tr>
<tr>
<td>Futures Group</td>
<td>—</td>
<td>58</td>
<td>66</td>
<td>—</td>
<td>—</td>
<td>14   —</td>
</tr>
</tbody>
</table>

— = Not available.

**Note:** Asia excludes Japan, Australia, and New Zealand.

**Source:** UN (1999a); Ross et al. (1999).
The number of users (U) at any point in time is the product of these five factors: \(U = P \times F \times M \times C \times T\). For example, the number of users in the developing world in 2000 is estimated by the UN at 549 million, which equals \(4,867 \times 0.26 \times 0.71 \times 0.60 \times 1.03\). The corresponding equation for the projected number of users in 2025 is \(6,609 \times 0.25 \times 0.68 \times 0.67 \times 1.08 = 816\) million. The growth in the number of users from 549 to 816 million over this 25-year period is, therefore, due to increases in population size, \(P\) (from 4,867 to 6,609 million), contraceptive prevalence, \(C\) (from 0.60 to 0.67), and the ratio of all users to married users, \(T\) (from 1.03 to 1.08). These trends are partly offset by small declines projected in the proportion of the female population aged 15 to 49, \(F\) (from 0.26 to 0.25) and in the proportion married, \(M\) (from 0.71 to 0.68).

The specific contributions of the factors (\(P, F, M, C,\) and \(T\)) to future increases in the number of users can be measured by comparing the percent increase or decrease in each during the projection period 2000 to 2025. These estimates are provided in Table 2. For the developing world as a whole, the number of users is projected to be 49 percent higher in 2025 than in 2000. This rise is largely attributable to anticipated increases in population size (36 percent) and in contraceptive prevalence (13 percent). The remaining factors \(F, M,\) and \(T\) have substantially smaller effects (–3, –4, and 4 percent, respectively), and they partly offset one another. This same analysis of the roles of different factors has been conducted separately for Africa, Asia, and Latin America, as shown in Table 2. Future increases in population size and contraceptive prevalence are also the dominant causes of future increases in users in each region, especially in Africa, where the huge expected increase in the number of users (254 percent) is much higher than the average for the developing world. This difference between Africa and other regions is attributable primarily to increases that are much more rapid than average in population size (66 percent) and in contraceptive prevalence (85 percent). Whether such a large increase in users in Africa can, in fact, be achieved is an open question, because it is projected to occur at a pace that has been observed in few other populations and only in more favorable program settings (for example, in Thailand).

**Projection Methodology**

A projection of the future number of users in a population can be made by preparing separate projections for each of the variables \(P, F, M, C,\) and \(T\). The procedures employed by the UN and the Futures Group for forecasting these factors directly or indirectly are complex but broadly similar. They both rely on the UN’s standard projections of population size and the proportion female aged 15–49 (UN 1999b). Estimates of future proportions of women who are currently married differ slightly (the UN assumes a small decline whereas the Futures Group holds this proportion constant), and the future trend in the ratio of total users to the number of married users is similar.¹ The two agencies differ significantly, however, in the way future trends in contraceptive prevalence are projected, and a brief comment on this difference is in order.

The UN and the Futures Group both assume that future trends in prevalence can be derived from future trends in fertility and that the level of fertility will change (mostly decline) over time as predicted in the standard UN population projections. Given these assumptions, the question is how to turn a fertility trend that is presumed to be known into a contraceptive prevalence trend.

The Futures Group’s procedure for projecting prevalence trends is based on the well-established close statistical relationship between levels of prevalence and fertility (as measured by the total fertility rate, TFR). Figure 5 plots the relationship for these variables in 98 developing countries. Each line in this figure represents one country and connects the prevalence and fertility levels observed in all past years for which estimates are available in that country. The level of correlation between fertility and prevalence is clearly high (\(r = 0.90\)), which is not surprising because the practice of contraception is the main proximate determinant of fertility (Bongaarts and Potter 1983). Variations around the regression line in Figure 5 are due to measurement errors as well as to variations in a number of other proximate determinants that also influence fertility (for example, the proportion of women in union, the duration of breastfeeding, and the propensity to rely on induced abortion). The figure also makes evident that the lines representing the different past country experiences generally run parallel to the regression line. This relationship implies that, as expected,

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### Table 2  Projected percent change for components of growth in the number of contraceptive users, by region, 2000–25

<table>
<thead>
<tr>
<th>Region</th>
<th>Population size</th>
<th>Proportion female aged 15–49</th>
<th>Proportion married</th>
<th>Contraceptive prevalence</th>
<th>Total married</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>65.5</td>
<td>10.8</td>
<td>–4.2</td>
<td>85.2</td>
<td>8.7</td>
<td>253.7</td>
</tr>
<tr>
<td>Asia¹</td>
<td>29.5</td>
<td>–5.8</td>
<td>–3.8</td>
<td>9.2</td>
<td>0.0</td>
<td>28.1</td>
</tr>
<tr>
<td>Latin America</td>
<td>34.2</td>
<td>–5.0</td>
<td>4.7</td>
<td>4.2</td>
<td>–0.9</td>
<td>37.2</td>
</tr>
<tr>
<td>Developing world</td>
<td>35.8</td>
<td>–3.1</td>
<td>–3.9</td>
<td>12.6</td>
<td>4.3</td>
<td>48.6</td>
</tr>
</tbody>
</table>

¹ Asia excludes Japan, Australia, and New Zealand.

*Source: Derived from data in UN (1999a).*
a decline in fertility is almost always accompanied by a rise in prevalence. Some convergence to the regression line is seen as prevalence rises, that is, the variation around the regression line declines at lower levels of fertility. The Futures Group relies on these features to estimate future trends in prevalence from fertility trends.

The key assumption made by the Futures Group is that all countries move over the course of the projection from the level of prevalence measured at the latest post-1980 survey to a prevalence level of 73 percent when the TFR reaches two births per woman. This endpoint for the projection is located on the regression line and is illustrated as point $a$ in Figure 6. For example, a country located at point $b$ in Figure 6 in 2000 (TFR = 3 and C = 50 percent) at the beginning of the projection is expected to move along a linear trajectory toward point $a$ (TFR = 2, C = 73 percent) during the projection. In other words, any country that is now located above or below the regression line is expected to be on this line when the TFR reaches two births per woman at some time in the future. The rate at which a country moves along this trajectory over time depends on the trend in the total fertility rate (which is taken from the standard UN population projections). If a country’s TFR does not decline to two by 2015, it only completes part of the trajectory, and prevalence remains below 73 percent in 2015.

The UN’s procedure is more complex and, among other things, takes into account differences in contraceptive effectiveness. However, the basic principle on which it is based is easily demonstrated for a hypothetical country with an average level of contraceptive effectiveness. The UN assumes that such a country moves over time from its current level of prevalence and fertility toward a prevalence level of 100 percent when the TFR reaches zero births per woman. For example, a country located at point $b$ in Figure 6 in 2000 (TFR = 3 and C = 50 percent) would move along a linear trajectory toward point $c$ (TFR = 0, C = 100 percent). Because no country is expected to reach zero fertility, only part of the path $bc$ is traversed by countries during the next quarter-century. In general, the UN projects a slightly lower future level of prevalence than the Futures Group for countries that are located below the regression line at the beginning of the projection and a somewhat higher trajectory for those that start above this line. Because roughly as many countries are above as are below the regression line, the average trend for the two projections is similar.

For most countries, the procedures followed by the two organizations provide plausible projections. The results are generally similar for countries that fall on or near the regression line at the start of the projection. The main differences occur in countries that are near the end of the fertility transition but are still at some distance from the regression line (for example, point $d$ in Figure 6). In such cases, the Futures Group procedure typically projects a fairly sharp change in the trend (path $da$) compared with the past, whereas the UN’s projection (path $dc$) represents a smoother transition. As noted above, the UN also takes into account differences in contraceptive effectiveness and assumes modest improvements in effectiveness over time. These desirable features should improve the accuracy of the UN projections.

These existing projections make no explicit assumptions about trends in abortion. Therefore, no attention is given to the tradeoff between abortion and contracep-
tion (Bongaarts and Westoff 2000). This tradeoff implies that abortion rates may well increase in countries where the supply of contraceptives lags behind rapidly growing demand. Conversely, if women are given access to a wide range of methods through high-quality family planning programs, abortion rates are likely to fall.

Future Trends in Method Distribution

The Futures Group is the only organization that makes projections for the distribution of contraceptive methods used by women. According to these projections, substantial changes will occur in the method mix by 2015 (see Table 3). For the developing world as a whole, at least a doubling is expected between 1993 and 2015 for the proportion of users relying on the condom (from 4 to 10 percent) and the pill (from 11 to 22 percent). Increases are also expected for traditional methods (from 9 to 14 percent), injectables (from 4 to 6 percent), and vaginal methods (from 0.3 to 0.6 percent). Substantial declines are forecast by 2015, however, for the proportion relying on female sterilization (from 39 to 26 percent), male sterilization (from 8 to 3 percent), and for the IUD (from 26 to 18 percent).

These projections indicate a continuation of past trends (1980–93) for the IUD, male sterilization, and vaginal methods, but for all other methods, the Futures Group expects reversals of past trends. Some of these results are surprising, especially the projected sharp drop in female sterilization and the rise in traditional methods. No obvious reasons suggest themselves for expecting such large reversals. In our view, these projections are not optimally designed in some respects, and below we propose changes in the projection procedures.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sterilization</td>
<td>24</td>
<td>39</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>13</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Pill</td>
<td>13</td>
<td>11</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Injectablesa</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>IUD</td>
<td>32</td>
<td>26</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Vaginal methods</td>
<td>0</td>
<td>0.3</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Condom</td>
<td>5</td>
<td>4</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Traditional methods</td>
<td>12</td>
<td>9</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

a Includes Norplant®. * See Appendix for discussion.

Source: UN (1996) and (1999a); Ross et al. (1999).

Determinants of Method Choice

The mix of contraceptive methods selected by couples who wish to avoid pregnancy will continue to evolve in response to changes in several factors.

Improved Access

In many developing countries potential users have a severely limited choice of methods. One main reason for this constrained choice is that program managers often emphasize just one or two methods, largely to reduce costs, thus restricting the user’s options in countries where national family planning programs are the dominant source of contraceptive supplies. For example, the copper IUD is inexpensive and provides highly effective contraception for as long as a decade. Female sterilization and the pill are also commonly made available through national programs. Regulatory barriers often contribute to limited use of some methods. In a number of countries, choice is so limited that the majority of users must rely on a single method. Examples of this situation are the dominance of female sterilization in India, of the IUD in Egypt and Vietnam, and of the pill in Algeria, Morocco, and Zimbabwe. The assumption is plausible that with a general move toward a market economy and with greater emphasis on quality of care, the choices available to potential users will increase in the future.

Changing Characteristics of Users

Knowledge of contraception has increased enormously in recent decades. In most countries, women and men are fairly well informed about different methods and their costs, side effects, benefits, and sources of supply. Higher levels of education also have made users more assertive, a trend that should lead to improvements in services. Another important trend with implications for the selection of methods is a continuation of the decline in desired family size. In contemporary pretransitional societies, women often want large families and, as a consequence, demand for contraception is low and is focused on methods used for spacing births rather than limiting them. This situation has characterized much of sub-Saharan Africa until recently (Caldwell et al. 1992; Westoff and Bankole 1995). As countries develop, however, desired family size declines and the demand for limiting family size rises sharply. Women who want no more children often use permanent methods. During the next few decades, these trends toward lower desired family size and increasing proportions of women who want no more children can be expected to continue. This situation will lead, in turn, to a high future demand for long-acting methods. In the past, these women often relied on sterilization, but the irreversible nature of this method is an...
important drawback. This group of women can also rely on the IUD, Norplant®, and, in the future, on new methods that are inexpensive, long-acting, safe, and reversible, and on those that require little or no medical care or supervision.

New and Improved Technology
Among the available methods, users select the ones that are least costly and most convenient, and those that are most effective and have the fewest health and other side effects. These preferences explain why traditional methods were largely abandoned in the 1960s and 1970s when modern methods became widely available. Around 90 percent of users in the developing world now rely on modern methods, and in most countries, the proportion of users relying on traditional methods will, no doubt, continue to decline. The availability of new and improved contraceptive technology is likely to lead to further changes in method use in future decades, as discussed below.

Trends in these three general factors will result in future changes in the mix of methods used by couples in the developing world. Although changes will vary from country to country, in most countries, the dominant methods will likely become less prevalent and the other less commonly used methods will rise in prevalence. Such changes typically occur slowly, however.

A Comment on Methodology
A full discussion of the methodology employed by the Futures Group is beyond the scope of this article. Instead, we illustrate the main features of the projection procedure for one method—female sterilization. Figure 7 plots the Futures Group’s projections to 2015 of the proportion of users relying on female sterilization for all countries that are expected to complete the fertility transition by 2015. The key feature of the methodology is clear from the patterns in this figure: Most countries move from their current level of use of female sterilization to an average just above 30 percent. In other words, regardless of the current level of use, each of these countries moves either up or down toward the same level by 2015 (populations still in transition by 2015 move only partway to this endpoint). This pattern applies to a majority of countries, but a second, smaller group consisting solely of Muslim countries is assumed to converge to a lower average of around 7 percent. Finally, for a third set of countries, special projections were made in ways that are not specified (see Ross et al. 1999 for details).

How reasonable are these procedures used by the Futures Group? Because the accuracy of projections cannot be assessed a priori, ascertaining whether particular assumptions about the future are valid is not possible. The procedure seems less than optimally designed, however. Specifically, although some convergence toward an average can be expected, no evidence exists for rapid convergence in the late 1980s and early 1990s, just as no convergence was seen earlier in Figure 4 for female sterilization. In addition, an inspection of the new projections to 2015 for individual countries reveals some surprising and probably unrealistic future trends that result from this assumed rapid convergence. For example, between 2000 and 2015, the proportion of users relying on female sterilization is projected to decline from 63 percent to 32 percent in India, from 28 percent to 7 percent in Pakistan, and from 15 percent to 7 percent in Bangladesh. Another question is raised by the assumed trends in the role of traditional methods. Although the Futures Group projects declines in the proportion using traditional methods in the majority of countries, it also projects increased use in a substantial number. For example, in China this proportion is expected to rise from 2 percent to 17 percent between 2000 and 2015. Such increases seem unlikely. This large projected increase in China and the expected rising proportion of all users who live in Africa (where traditional methods are relatively common) are the main causes of the upward trend in traditional methods projected by the Futures Group for the developing world as a whole by 2015 (see Table 3).

An Alternative Projection
The preceding comments suggest the following desirable characteristics for a methodology that projects the method mix within countries. First, convergence to a more bal-
anced method mix is likely to occur, but allowing for considerable inertia is important. In the past, the distribution of methods has changed only slowly over time in most countries, and the mix at one point in time is highly correlated with the mix ten or 15 years later. 3 In the Futures Group’s procedure, this correlation largely disappears between 2000 and 2015. Second, countries will not all reach the same method distribution in 2015. A range of historical, cultural, socioeconomic, and other factors have contributed to the preference for some methods over others in the past. Although such preferences might well diminish in the future, almost certainly they will not disappear altogether. Third, little justification can be found for using different projection procedures for different groups of countries. Instead, if a country has a particular characteristic (for example, a Muslim population), that characteristic can be considered as one of several factors leading to current preferences for a particular mix in that country. This preference is likely to be maintained to some degree in the future. Fourth, declines in traditional methods can be expected in the future, and this trend should be acknowledged explicitly.

These proposed features have been incorporated into a simple new projection procedure, which we describe in the Appendix. The general approach is one of slow and incomplete convergence toward a more balanced method mix in each country, with uniform reductions in the role of traditional methods. All countries are treated in the same way. The main results of the application of this new methodology are presented in the last column of Table 3. As expected, these alternative projections to 2015 differ substantially from those made by the Futures Group. For the developing world as a whole, the proportions relying on female sterilization are higher in 2015 (37 percent rather than 26 percent), and the proportions using traditional methods are lower (7 percent instead of 14 percent). Trends for individual countries are also substantially different. For example, a more modest decline in female sterilization is forecast for India (from 67 percent to 53 percent rather than to 32 percent), and increases are expected in Pakistan (from 28 percent to 32 percent) and in Bangladesh (from 15 percent to 25 percent) rather than declines to 7 percent. These trends seem plausible, although any projection is potentially subject to substantial errors.

Although both the Futures Group’s and the new procedure project considerable increases in condom use, they do not include additional use that is likely to arise from the AIDS pandemic. These projections are limited to the use of condoms and other methods required to bring about fertility declines. The use of condoms for family planning and for protection from infection with HIV or other sexually transmitted diseases is, therefore, higher than that projected in Table 3.

The alternative procedure presented here should be considered to be no more than a step toward a more detailed and comprehensive methodology for projecting method distribution. Given the limited attention in the literature to the causes of variation in method mix, which refinement would improve the accuracy of these projections is not clear. Further methodological developments will no doubt benefit from more in-depth studies of the factors affecting choice of methods in specific countries (see Potter 1999, for an excellent example).

Prospects for New Contraceptive Technology

A new contraceptive method requires many years to gain general acceptance, because the contraceptive market moves slowly and is conservative 4 (see Figure 8). For example, the first market approval of a copper IUD occurred in 1971, but almost two decades passed before the device became the most widely used contraceptive after female sterilization. During this period, the copper IUD was greatly improved both in efficacy and duration of use. A similarly slow evolution has occurred in the case of oral contraceptives. The oral contraceptive available to women worldwide in 2000 is markedly different from the pill first introduced in the United States in the 1960s. The dosage has been drastically reduced, the steroids used are different, and the greater knowledge of the pill’s biological effects enables providers to counsel users more thoroughly.

From a market perspective, female sterilization and vasectomy differ from the other modern methods because sterilization is not a product provided by any manufacturer. The development of improved surgical methods has reduced the surgical trauma and time required for the procedure. The efficacy and safety of sterilization are largely dependent, however, on the skill of the provider and the quality of the institutions offering the supporting services, such as anesthesia, blood supply, and sterilization of surgical instruments. The individual user can do little to improve the outcome of the procedure. Unfortunately, sterilization is sometimes the only long-term contraceptive option available.

In most countries, women are increasingly able to choose good alternative contraceptives developed during the last two decades. Four long-term reversible contraceptive products are now available that are virtually as effective as female sterilization. Table 4 lists their generic and trade names, protection times, and approximate number of users worldwide. 5
The copper IUD is the most commonly used long-term reversible contraceptive, and the most affordable one ever developed. The cost of the device when bought in large quantities from the manufacturer is around US $1. It is unlikely, in fact, that any long-term method with such low cost per year of protection will ever be developed again. The IUD with greatest efficacy is the copper T 380A. This method is convenient, but increases menstrual blood loss and menstrual pain. The hormonal methods, on the other hand, reduce these side effects.

Norplant®, the first hormonal implant developed for female contraception, has been found acceptable in most cultures. Having gained approval in 60 countries including the United States, Norplant is effective and safe but requires trained providers for both insertion and removal. Its main disadvantage for the user is unpredictable vaginal bleeding, which, however, tends to be light and accompanied by little or no pain. A number of new hormonal implant methods are expected to become available in the near future (see Table 5). Jadelle® consists of two levonorgestrel rods that offer effective protection against pregnancy for up to five years. Jadelle has been approved in the United States and Finland, and wider European approval is pending. Implanon® consists of one ketodesorgestrel rod with proved efficacy for up to three years. Implanon is approved in Europe and Indonesia, and approval in the United States is pending. Nestorone®-one, a single implant that offers protection for two years, is still in the development pipeline. It is specially designed for use during lactation and does not affect the nursing infant. A single rod containing gestodene is under development in China, and a nomegestrol acetate Silastic® implant (Uniplant®) with a life span of one year is currently pending approval in Brazil.

Mirena® is a levonorgestrel-releasing intrauterine system that is highly effective for at least five years. It also provides significant health benefits, including drastic reduction of pain and blood loss during menstruation, as well as reduction in uterine pathology. Menstrual blood loss is reduced by more than 90 percent, an important characteristic for use in developing countries, where anemia is a widespread health problem. Mirena is now widely accepted in Europe after introduction in 1990 in Scandinavia. It is particularly popular among women who are dissatisfied with existing methods and with those who are candidates for female sterilization. Mirena may also be used to treat excessive menstrual bleeding and to protect the uterus from the effects of estrogen therapy during and after menopause.

Injectable contraceptives are likely to occupy a fairly small niche among contraceptive systems. This category is currently dominated by Depo Provera®, which provides

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**Table 4** Characteristics of currently available long-term contraceptives

<table>
<thead>
<tr>
<th>Method</th>
<th>Trade name</th>
<th>Use time</th>
<th>Number of users (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper T 380A</td>
<td>Paragard®</td>
<td>10–12 years</td>
<td>30–40</td>
</tr>
<tr>
<td>Six levonorgestrel-filled</td>
<td>Norplant®</td>
<td>7 years</td>
<td>8</td>
</tr>
<tr>
<td>Silastic® capsules</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levonorgestrel intrauterine</td>
<td>Mirena®</td>
<td>5 years</td>
<td>3</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medroxyprogesterone</td>
<td>Depo Provera®</td>
<td>3 months</td>
<td>12</td>
</tr>
<tr>
<td>acetate 150 mg i.m.®</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Delivered by intramuscular injection.*
Hormonal contraception will soon be available in the form of patches, using the transdermal route of administration with a mode of action similar to that of oral contraception. A weekly patch is likely to improve compliance, the lack of which is the main drawback of oral contraceptives. In the foreseeable future, women will be able to choose vaginal rings that provide hormonal contraception in much the same way as do oral contraceptives, but without the first-pass metabolic effects on the liver that occur with oral delivery. In clinical trials, vaginal rings give excellent bleeding control and are well accepted by women.

The copper IUD is likely to remain the most prevalent reversible method by 2015, but its use will be under pressure because of the increased menstrual blood loss associated with its use. This side effect is clearly undesirable in countries with a high prevalence of anemic women. Also, IUD use is affected by misinformation regarding the risk of infections. Despite strong clinical evidence that the IUD does not cause infections, the notion that it does still prevails in many countries, notably in the United States. Efforts to reintroduce the IUD are under way in several countries. Some may succeed, but others are bound to fail because changing the attitudes of both providers and users is difficult.

Emergency contraceptives in the form of hormones or copper IUDs will be widely used in the future. Copper IUDs are effective in preventing a pregnancy for as long as five days after unprotected coitus. Hormonal tablets are less effective and should be taken as soon as possible after coitus. In the next decade, specially designed emergency contraceptives will be on the market; these new products will be more effective and have fewer side effects. Widespread availability and use of emergency contraceptives are likely to reduce the need for induced abortions.

We expect that medical abortion will become much more widely available within a few years. Mifepristone in combination with misoprostol is now widely used for medical abortion in China. Mifepristone was approved by the French government in 1988, by the European regulatory agency in 1999, and by the FDA in September 2000. It will be distributed in the United States under the trade name Mifeprax®. Medical abortion with these substances is safe and will greatly reduce mortality and morbidity associated with both induced and spontaneous abortions in developing countries.

The AIDS pandemic and greater awareness of other sexually transmitted infections (STIs) will drive the increased use of both male and female condoms. Technical improvements now in the product-development pipeline will increase their acceptability. The concept of dual protection (from STIs and pregnancy) is finding stron-
ger support among family planning managers and users. This trend is likely to contribute to the higher prevalence of barrier methods in the future.

Vaginal microbicides that protect women from sexually transmitted infections, including HIV, are high on the list of products that are needed. Many such compounds are in a phase of early development, but to date none has entered efficacy trials. Microbicides designed to protect against STIs could be combined with spermicides to have a contraceptive effect as well. Microbicides will provide greater protection for women, many of whom currently have to negotiate condom use with their sexual partners.

Research on the development of male hormonal contraceptives has accelerated recently, and several methods are in the late stages of development. Aside from birth control, hormonal contraceptives may provide other health benefits to men, as hormonal contraceptives do for women. Acceptability is likely to vary widely among societies, however, as has been the case with female contraceptives.

**Conclusion**

The number of contraceptive users in the developing world is expected to rise from 549 million to 816 million during the next 25 years, according to the most recent UN projection. An examination of the projection methodology found it to be reasonable. The two main factors driving this increase were identified as growth in population size (and hence the number of women of reproductive age) and the rise in the contraceptive prevalence level that will accompany further declines in fertility. The rate of growth among users will be much more rapid in Africa than in Asia or Latin America, because growth in both factors will be higher in Africa than elsewhere. These projections reflect rapid increases in the demand for contraception resulting from population factors and from individual choices to have smaller families. Whether this demand will be satisfied by a rising supply of contraceptives and high-quality family planning services is not clear and will depend on the future investments of governments, nongovernmental organizations, and the private sector. The greatest difficulties will be encountered in the poorest countries, which will need international support to prevent the demand from further exceeding the supply.

Projecting the future distribution of specific contraceptive methods is more difficult. Method choice is affected by trends in several factors, including access to different methods, user characteristics, and technology. In addition, the health effects of contraceptives will become a more important consideration for women and men in the future, because contraceptives will be used during a large proportion of the reproductive years. We expect the mix of contraceptives to change slowly over the coming years. No new product currently in development will radically alter the prevailing pattern. A gradual increase in availability of a wider range of methods is likely, however, as the quality of services is improved, as markets for contraceptives become more open, and as levels of contraceptive knowledge and education rise. This increase in availability of more methods should result in a greater variety of contraceptives coming into use and a more balanced distribution occurring among different modern methods. These trends will likely favor new hormonal contraceptives, especially if their cost can be reduced, and diminish the current heavy reliance on female sterilization.

**Appendix: An Alternative Methodology for Projecting Method Mix**

We employed the following procedure to project the distribution of contraceptive users by method from the date of the latest available survey to 2015. First, the (unweighted) average method mix for countries with contraceptive prevalence exceeding 65 percent was calculated to represent the typical pattern at the end of the fertility transition. This produces the following percentage distribution: female sterilization, 30.0; male sterilization, 3.2; oral contraceptives, 19.8; injectables, 3.4; the IUD, 16.0; vaginal methods, 0.5; the condom, 11.8; traditional methods, 15.3; total, 100.0.

Next, the target distribution in 2015 for each country is determined by averaging the observed distribution at the time of the most recent survey and the above typical pattern. Finally, each country is moved along a linear trajectory from its current mix to its target mix by 2015. This procedure is followed for each method except traditional ones; their proportion is assumed to be reduced in all countries to one-half the most recently observed level by 2015, with linear interpolation for intervening years. The proportions projected with this procedure are adjusted proportionally to insure that they add to 100 percent.

This procedure differs from the one used by the Futures Group in that the rate of convergence in the method mix over time is much slower (by about half, on average); method mixes vary much more among countries in 2015; all countries are treated in the same way; and proportions of users relying on traditional methods are reduced in all countries.
To test the accuracy of this new methodology, we used it to prepare a projection from the late 1970s to the early 1990s for each of 31 countries. The latest available survey before 1981 provided the baseline data and the method mix was projected forward from that base to the date of the latest available survey (mostly in the 1990s). Two sets of projections were made, one with the new procedure and the other with the Futures Group’s methodology. A comparison of the projected method mix with the observed mix provided a measure of the accuracy of the two approaches. With the new approach the average error in the 31 countries between the projected and observed proportions using a method ranged from 9.5 percentage points for the pill to 2.0 percentage points for male sterilization, averaging 5.6 percentage points. The comparable errors for the Futures Group procedure were similar in magnitude, averaging 5.5 percentage points. Although the new procedure is not more accurate in projecting past trends than the Futures Group’s procedure in the average country, it is simpler to apply. More importantly, it avoids some large and, to us, implausible changes in method mix projected for 2015 in several of the largest countries in the developing world, including China, India, Bangladesh, and Pakistan.

Notes

1 The value of T is not projected independently in most countries because where data on prevalence among all women are available from surveys, they are used directly. The future trend in T is calculated as the ratio of the projected number of all users to married users, and it is not the result of explicit assumptions about T.

2 The projection equation used by the UN simplifies to TFR1 / TFR2 = (1–u1) / (1–u2) if contraceptive effectiveness is assumed to equal the average level of 93 percent (UN 1999a). In this equation, TFR and u represent, respectively, the total fertility rate and contraceptive prevalence, and the subscripts 1 and 2 refer to the beginning and end years of the projection.

3 The correlation between the proportion of users of a particular method in the latest survey before 1981 and the same proportion in the latest available survey (mostly in the 1990s) for the different methods ranged from 0.90 for female sterilization to 0.46 for the IUD, averaging 0.68.

4 Figure 8 gives past and estimated future dates of approval by the US Food and Drug Administration (FDA), together with the date of first launch of a product in the given category. FDA approval has global consequences, not only because of the high quality of the approval process, but also because the US Agency for International Development can only purchase FDA-approved products for distribution in developing countries.

5 These products, with the exception of Depo Provera, were originally developed by the Population Council.

6 No specific assumptions are made about trends beyond 2015, but it seems unlikely that they will continue along the pre-2015 trajectory.

References


Acknowledgments

The authors gratefully acknowledge comments on earlier drafts of this paper from Rodolfo Bulatao, Vasantha Kandiah, John Ross, and John Stover, and financial support from USAID and the Hewlett and Mellon Foundations.
Policy Implications of the Next World Demographic Transition

Sarah F. Harbison and Warren C. Robinson

Although the world demographic transition from high to low fertility appears to be nearing its completion, observed in perspective, this is the latest in a series of such transitions stretching back into prehistory. A stable new equilibrium is far from inevitable; indeed, it is unlikely. Many countries are experiencing below-replacement-level fertility, and this trend is spreading. Couples are now able to choose their family size, free of the traditional pressures to bear children that was characteristic of most traditional societies. In fact, most societal pressures for the last generation have been distinctly antinatalist, in response to the enormous attention paid by the media to the “population bomb” agenda. This antinatalist attitude is changing, however, and what seems more likely than either a stationary or declining world population is a new growth cycle reflecting a resurgence of fertility as a response to growing material affluence and potential technological mastery of environmental challenges. Societal pressures and policies will play a role in this transition as they did in earlier ones. (Studie in Family Planning 2002; 33[1]: 37–48)

According to United Nations projections, the global demographic transition will end by 2050. Current UN population estimates show that demographic growth rates are declining nearly everywhere, even more rapidly than was projected in the past. Regional growth rates differ, but international migration is redistributing a substantial amount of the continuing natural increase. According to the United Nations, even regions that have been late to join the world transition will undergo declines from high mortality and high fertility to low mortality and low fertility by the middle of the twenty-first century. Ultimately, “zero population growth” will follow the global transition as the age distribution stabilizes.

Many of the same observers view this world demographic transition as a unique event in world history. The rise of modern science and technology, only two hundred years ago, dramatically reduced disease and famine in Europe and North America, thus reducing mortality and triggering a sustained and unprecedented population growth. Changes in the structure of society gradually led to a reduced demand for children. Later, safe and effective contraceptive technology was developed, enabling people to control their fertility with greater precision, and fertility continued to drop. International programs invested heavily in making this technology widely available. Now the transition appears to be nearing completion, although debate remains over when zero population growth will be reached (Bongaarts and Bulatao 1999). Future policy challenges certainly exist, but they are likely to be found in the areas of infant and child mortality, maternal mortality, and reproductive health, as well as in the provision of assistance to regions where high fertility persists. Another important policy arena will involve social and economic adjustments to the emerging stable age distribution (Freedman 1986). Such is the expectation, implicitly if not explicitly, of most international agencies and policymaking groups.

In this article, we argue that that view of the transition and of recent fertility declines is short-sighted and fundamentally flawed. No reason exists to assume that the future will be merely an extrapolation of the present, and, in fact, it may be dramatically different. The framework presented here is simple. The scientific, technological, and socioeconomic revolutions that launched the modern world demographic transition have not ended, but rather have increased in power and tempo. The present may be the end of one transition, but it will also be the beginning of a new one. The longer-run challenges cannot be foreseen, but world demographic history suggests that neither global depopulation nor demographic and ecological collapse is likely. The human species now

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has more control over its demographic destiny than ever before in its history and is not likely to choose extinction. It seems likely that population growth will begin a new cycle and that the ultimate population of the planet will be considerably larger than present trends suggest.²

Understanding Demographic Change

The study of modern population is a deliberately and self-consciously empirical field. Most demographers would agree that scientific progress lies in the patient accumulation of facts rather than in overarching generalizations. Yet, some theoretical framework is necessary for interpreting the data arising from demographic, economic, and environmental interactions. We need, in Hirschman’s phrase, “some parsimonious principles that explain complex patterns” (Hirschman 1994: 226).

Most demographers agree that population size and growth are ultimately limited by the environment and resource availability. In the homeostatic model, population is density-dependent. When population size exceeds the carrying capacity of its given resource base, feedback loops activate checks that prevent further growth or even bring about a reduction in numbers. Similarly, if carrying capacity increases as a result of climate change or some other exogenous factor, population tends to grow. A consensus is emerging that this model fits premodern (or preindustrial) human populations well. Lee (1987) found that the homeostatic model described demographic change in premodern England reasonably well, and Wilson and Airey (1999) have concluded recently that the model fits several historical Asian societies as well, and most students of world population history agree (Livi-Bacci 1990).

The controlling factor in density-dependence is clearly more complex and subtle than the simple Malthusian check of rising mortality. After a survey of the substantial anthropological literature, Wood (1998) concludes that the evidence strongly suggests that population growth in nearly all preindustrial societies is “regulated” in a meaningful sense by social and institutional mechanisms. Wilson and Airey (1999: 123) conclude similarly that “the most persuasive interpretation of the data on long-term population growth would seem to be that human societies have adopted regulatory mechanisms that worked to keep long-run population growth rates close to zero.” These “regulatory mechanisms” amounted to “policies,” implicit if not explicit (Johansson 1991).

The notion of the demographic transition follows logically from the homeostatic paradigm. Based on the European experience over the course of the previous two centuries, the transition is viewed as the process of movement from one homeostatic equilibrium to another. At the dawn of the Industrial Revolution, fertility and mortality in Europe were in a rough balance, with population growth on average being nil or at least very low. The European population explosion of the eighteenth century resulted from a series of “revolutions”—commercial, agricultural, industrial, and socioeconomic—and transformed the fundamental economic and technological structure of European society. These structural changes led to an increased use of machinery powered by new, inanimate energy sources, a wave of new inventions, the introduction of new food crops, and a single world trading system. These transformations also led to important ideational changes (Cleland and Wilson 1987), including a belief in greater individual freedom and in the possibility of material betterment. The new transition, like the earlier ones, involved changes in the economic and social factors confronting couples, as well as implicit and explicit social policies that tended to reduce population growth (Robinson forthcoming).

This theory of the demographic transition represented a considerable intellectual achievement when it was formulated. It was a major step forward in our understanding of the mechanics of population change, because it saw fertility and mortality as interacting with social and economic forces. It incorporated the two dominant pretransition-theory macrodemographic paradigms: The “logistic law” of population growth, which saw all populations as following a logistic growth curve with an upper asymptote; and the “optimum population” notion, which argued that economic and resource factors set a limit to population increase unless the standard of living was to fall. Transition theory comprehended both of the earlier models and was more solidly based in historical experience (Kirk 1996).

European history reveals earlier agricultural revolutions and technological revolutions accompanied by material progress and increasing population, but these were relatively short in duration and limited in their ultimate impact. Wilson and Airey (1999) remind us that a close examination of Chinese, Egyptian, or Indian history reveals similar cycles of material and demographic increase, followed by stabilization. What made the eighteenth-century European changes different was that they were cumulative and did not diminish after a generation or two. On these points Malthus went astray. The economic and demographic interactions he was witnessing did not follow the course of all the others he had studied. These new technological and economic changes were so powerful that they transformed Europe and effected a similar transformation throughout the world. Human
beings everywhere achieved a power over their own material and demographic destinies greater than they had ever had before. Economic and demographic increase since then has had its ups and downs, but has never really ceased.

Seen from this perspective, the great transition now presumed to be in its last stages is unique because it is so different in scale and scope. First, the new technologies in commerce, agriculture, and industry represent a paradigm shift, based on an increasing understanding of the physical and biological laws of nature and their application to the process of creating and distributing output and wealth. Whereas the introduction of the metal-tipped, deep-cutting plow and the three-field system of crop rotation had led, in medieval times, to substantial increases in agricultural output and population carrying capacity, basically, these were improvements in the existing technology, and their long-term effects were limited. On the other hand, the development of the steam engine, the coal-iron-steel complex, and the factory system were not merely innovations but whole new technologies that altered the entire basis of existing economic and social institutions. The Industrial Revolution was, in fact, revolutionary economically, socially, politically, and demographically.3

Second, the new technological changes have had worldwide impact. The countless earlier homeostatic interactions between economic and demographic forces were regional or national in scope: Goods, people, and even knowledge did not move easily or on a large scale from one region to another. This situation changed in the early modern period, and a single Eurocentric global trading system emerged. The new technologies that created rising output and population also created the capability of moving these goods and people swiftly and cheaply all over the globe. Eventually, the technologies were also exported and effects similar structural transformations throughout Africa, Asia, and Latin America.

The current prevailing opinion seems to be that the logical end of this global demographic transition will be a new equilibrium, with low fertility and low mortality and hence no or low growth, that a new global population equilibrium will emerge when replacement-level fertility is attained worldwide. The ultimate stationary-population equilibrium will be reached when age distribution becomes stable sometime in the present century. This conclusion is what most people are referring to when they use the term “post-transition.”

No real basis in transition theory exists, however, for this conceptualization of a new stable homeostatic equilibrium with population growth at zero in the near future. The technological revolutions of the eighteenth century have led to a series of such revolutions that continue today. All involve the development of new inanimate sources of energy and the harnessing of this energy for practical uses in the production of goods and services. Coal and the steam engine gave way to petroleum and the internal combustion engine, which will give way to nuclear or solar energy and the microchip. The recent breakthroughs in information technology are the latest, but by no means the last, examples of the revolutionary power of technological development. All these changes have an effect on the relationship of population and resources. The carrying capacity, or the new homeostatic equilibrium, appears constantly to be shifting upward.

After a careful review of the homeostatic theory’s application to the past, Lee admits that a density-dependent model seems to offer little guidance for the future: “Ordinary homeostatic tendencies essentially vanish in the course of economic development . . . current theories of fertility give little insight into how [a new] equilibrium would then occur.” He adds: “In the long run, if population growth continues, natural resources must eventually reemerge as an unavoidable constraint on human numbers” (Lee 1987: 459). This statement implies that resources are limited absolutely and that the density-dependency ratio will become relevant again at some high density. No new theoretical foundation is offered for the conclusion, but many would agree with some version of this statement. Put another way, some hypothetical world population will be so large as to threaten environmental and societal breakdown, and thus lead to a cessation of further growth. But how large is that? Urban sprawl, global warming, and other ecological problems are of concern. However, assuming continued technological progress, humankind may well find solutions to these problems. The economist William Nordhaus (1996: 12–13), in his generally laudatory review of Joel Cohen’s book How Many People Can the Earth Support?, asks:

If the earth is reaching its carrying capacity because of land or food or energy shortages, where are the warning signs? Such increased stress should be accompanied by rising prices of land, food and energy. But, these prices have been declining relative to labor for the last two centuries and particularly over the last 15 years. Markets provide signals of scarcity yet why are there so few signals of resource shortages if we are approaching earth’s capacity?

No one has yet answered this question. The sustainable world population may prove to be several times the
roughly ten billion now seen as a likely new homeostatic equilibrium. This optimistic scenario was argued forcefully by Simon (1981), and it remains a real possibility.

The Recent Collapse in Fertility

Regardless of how one estimates ultimate global carrying capacity, present trends in fertility strongly suggest that a deliberate equilibration process is, in fact, already well under way. Mortality likely will continue to decline moderately over the next several decades toward some lower limit, reaching a life expectancy at birth of 90-plus years for all populations enjoying decent living standards and having access to modern health care. Fertility will be the key variable in any future global equilibration, and fertility everywhere is falling, even though striking diversity in rates of decline remains around the globe. The present global average period total fertility rate of three children per woman of reproductive age encompasses a variation from 1.3 to 6.4 children among national populations. On the other hand, once launched on a fertility transition, most national populations appear to follow a similar pattern of fertility decline, with the main differences among regions being in timing and tempo (Caldwell 1994). Therefore, those countries are of particular interest that are relatively far advanced in their transition and are actually at or below replacement level. Ross and Frejka (2001: 213) have looked in detail at this group of populations and find that 44 percent of the world’s population lives in countries experiencing below-replacement fertility, including Asian, European, and Latin American ones.

Furthermore, they conclude that this finding is not an artifact of fluctuations in the period-wide rates. The cohort-versus-period fertility question has been addressed analytically by other authors in the recent literature. Bon gaarts and Feeney (1998) argue that much of the recent decline in the countries with very low fertility is due to a rising age of childbearing (“tempo distortions”) that may be temporary, and that a rise in fertility (“recuperation”) may occur in the future as new cohorts enter the picture. Lesthaeghe and Willems (1999: 220) examine this proposition for the European Union populations in some detail and conclude that “[t]he cohort total fertility rates for the 1995 cohort indicate that, even in the absence of further postponement, most national period total fertility rates in future could not possibly return to replacement level without major quantum changes or tempo reversals.” For a significant group of countries, Ross and Frejka (2001: 213) are correct to conclude that “an era of below-replacement fertility is taking hold.”

Their conclusion has global implications given that nearly all of Asia and Latin America are already below the global average fertility and are also moving rapidly toward replacement, with vigorous public-sector family planning programs in Brazil, China, and India leading the way. The United Nations Plan of Action calls for major international efforts to reach replacement-level fertility in all countries by the second decade of the twenty-first century. This level may or may not be attained, but global fertility on the average almost certainly will be at replacement level by then, with some 65 percent of the world that is below replacement level balancing out the 35 percent that may still be experiencing above-replacement fertility. Clearly, if all countries attain at least replacement-level fertility and some continue to experience below-replacement levels, then the global average will, in fact, be at below-replacement level, and the goal of ultimate stabilization will give way to gradual decline in total world population sometime in the present century. Moreover, other Asian, Latin American, and even African populations may also follow the demographic path being beaten by Europe, North America, and North Asia and may move into below-replacement fertility sometime in the first half of this century. This circumstance would intensify population decline.

Although most people would probably favor demographic stabilization, the prospect of depopulation is a different matter. At this point, even the best projections are a poor guide, because any declining fertility trend projected far enough suggests the ultimate extinction of the species. The question regarding the probability of a new global homeostatic equilibrium seems to be a matter of whether we think the human species will or will not breed itself out of existence.

The biologist E.O. Wilson (1998) has noted that most known species appear to pursue one of two reproductive strategies, depending upon prevailing external factors: the “K” strategy, when mortality risks are high, by which a species reproduces as rapidly as possible to ensure that at least a few of its offspring will survive to maturity to reproduce themselves; and the “r” strategy, in a more benign setting, by which only a small number of offspring are produced and carefully nurtured so as to arrive at maturity in good condition. Which strategy is most appropriate appears to vary with the species but also with environmental circumstances. Wilson also finds examples of species that have switched from one strategy to the other in the face of changing environmental conditions, but all seem to aim at survival (see also Livi-Bacci 1990).

Davis thought that the human species had followed the “r” strategy and wrote: “The genius of the human
species is to have few offspring and invest heavily in their care and training so that the advantage of a cultural adaptability can be realized. Fertility has tended to be as low as mortality allowed it to be” (Davis 1987: 34). Implicitly, Davis apparently assumes that the human species does, somehow, aim at replacement. Irons (1988: 307–308), writing from the vantage point of a biological anthropologist, attempts to explain how this motivation must proceed:

The evolutionary theory of human behavior does not assume that people consciously pursue replication of their own genes. Rather, they pursue shorter-term goals such as getting enough to eat, establishing and maintaining social relations which they find rewarding, seeking sexual satisfaction, taking care of children and so forth. Somehow, the human nervous and endocrine systems process information about an individual’s environment and life circumstances and translate this into a set of goals, aspirations, interests, values, feelings and so forth. These goals, aspirations and so on in turn guide behavior. Selection has shaped human neural and hormonal mechanisms so that people want and seek what serves the best survival of their genes in the particular environment in which they find themselves.

Endowing most human beings with a heterosexual drive is, presumably, nature’s design to promote survival of the species. Mortality risks dictate how high fertility must be to insure that survival.

There is another side to the coin, however. Insuring a balance between population size and resource availability (the homeostatic equilibrium) requires some type of check to fertility if mortality is naturally low. As noted above, human groups seem to develop such checks, and even during the preindustrial “natural fertility” regime, fertility remained well below biological limits. The most important checks, however, were what Davis and Blake (1956) called limits on access to coitus, gestation, and parturition: rules about intercourse, marriage, abortion, and infanticide developed and enforced by the larger social group (lineage, clan, or tribe) of which the individual was a member. This larger group usually aimed at living within its resources but also aspired to immortality and, consequently, aimed at replacement even if its resource endowment was marginal. These social controls were undoubtedly the mechanism by which homeostatic equilibrium occurred. Individual contraception was possible, but it was unreliable and could be costly in terms of social sanctions. This convergence of individual behavior and group goals has been called “unconscious rationality” (Wrigley 1978), whereas others describe the mechanisms as “implicit policies” (Johansson 1991).

One of the many incidental revolutions that have flowed from the scientific and technological changes of the last century is a revolution in family structure. About a hundred years ago, modern science and technology entered the picture and began making family planning increasingly effective, safe, and cheap, and it became a private recourse for individual men and women. Human beings are now able to control their fertility precisely as never before. Nearly everywhere the cohesiveness and strength of the extended kin group is weakening, and the individual or, at most, the nuclear husband–wife family are becoming the dominant decisionmaking unit. Individuals are now assumed to be free to pursue their own self-interest as they perceive it and are no longer obliged to take orders from their elders. This change means that reproductive decisions are vested in the individual or the couple, the primary male–female unit, rather than in the lineage, clan, or tribe. Many experts on the family predict that the once uniquely European family type follows from industrialization and will one day be the norm for all societies (Goode 1963; Thornton 2001). Thus, the locus and the mechanism by which fertility was controlled to achieve the group goal of immortality seem effectively to have been removed from the picture.

Sathar and Casterline (1998: 782) write of the recent changes in fertility in Pakistan:

It is not an increase in the autonomy of women that seems to have been decisive during the past decade but rather an increase in the autonomy of couples of childbearing age. Over the past three decades, kinship relations and household structures have evolved in a manner that has eroded the power of elders and other relatives, and as a result, decisionmaking about family matters has become more nucleated.

The couple is now free to make its own family-size choices and has access to technology that reduces the cost of choosing a small family. Thus, future fertility trends will rest on decisions made by couples, not lineages.

The Microeconomic Theory of Fertility

What do we know about how couples choose their family size? A well-developed body of theory, the economic theory of fertility that has been the dominant explanatory paradigm for the last several decades, has emerged that purports to give guidance to micolevel economic and demographic interactions and outcomes. This model
takes the individual or the couple as the decisionmaking unit and assumes that they exercise a conscious, deliberate control over their childbearing, with respect to the number and also the timing of offspring. This control is part of a series of interlinked decisions involving asset acquisition, investments, labor-force participation and so on, all aimed at maximizing the “utility” of the family unit over time, subject to resource constraints. Having children costs time and money, but they produce a variety of “utilities” (pleasures and benefits) for their parents, and hence the family-size decision is simply a matter of consumer economics. The future course of fertility, and the long-run persistence of the species, rests, therefore, on the microlevel subjective appraisal of the costs and benefits of having children compared with other ways of gaining pleasures and benefits (Rosenzweig and Stark 1997).

At first glance, such a framework is troubling. The argument can be advanced that the household will always need food, clothing, and shelter in some form, and hence a confident prediction can be made that there will always be industries producing such products. That people need children to live rewarding, satisfying lives is less clear. As if anticipating this difficulty, Becker (1991), one of the chief architects of the economic model, argues that children generate a unique kind of utility that does not compete with other types of pleasures and rewards available to the couple. Similarly, he and others have proposed that the couple may aim at maximizing an intergenerational “dynastic” utility function, one clearly implying that couples see themselves as acting for future generations in a continuing lineage.

These propositions suggest that couples, like clans or tribes, will at least reproduce themselves; individual free choice together with near-perfect contraceptive and reproductive technology will lead to replacement fertility at the micro level and hence at the macro level as well. Unfortunately, these comfortable assumptions are just that. The uniqueness of utility from children and the notion of a dynastic utility function as motivating forces for the couple are not established facts, but are, instead, plausible, convenient assumptions that make possible rigorous closure of the model. Alexander and others, writing from an anthropological viewpoint, find no reason for thinking that couples will always find having children necessary in order to achieve the “wealth, power, and status” that most people seem to crave (Alexander 1988: 327). The family-size decision is a function of a host of variables including the characteristics of the couples, prices and availabilities of other products in the market, and finally, the economists’ black box, “tastes.” If we drop the optimistic “profamily” assumptions of the Chicago School, the microeconomic theory of fertility provides no assurance that couples will choose replacement fertility. The economic model is perfectly consistent with the belief that family size can fall to zero, or equally that fertility could rise sharply at some point in the future.

A crucial and often neglected element must be added to this picture, however. Although the economic and social changes accompanying industrialization have freed individuals of many familial controls and obligations, everyone still exists in a social context. The relevant collective group is now the nation-state and the society at large. In most modern industrial societies, we find government policies and agencies playing the role that the collective ethnic or kin group once played. Individuals certainly have free choice, but are subject to both direct and indirect public-sector interventions and to a climate of public opinion. The modern state increasingly views itself as the agent of generations yet unborn and enacts laws and programs on their behalf that impinge upon the behaviors of the present generation. Wilson and Airey (1993: 123) note that: “Indeed, it is arguable that, with the great decrease in the variance of family sizes that accompanies fertility decline, social control is in fact stronger in post-transitional populations.” The economic model of fertility is uncomfortable with such a sociological variable, but it is real, all the same. Peer-group approval has a “shadow price.”

The implications of sustained economic and technological progress for the individual family-size decision also come in to the picture. Within a few decades, our constantly changing technology may have found ways to deal with the environmental and ecological hazards that appear so frightening today. Julian Simon may yet be vindicated (Lomborg 2000). The hue and cry over excess population growth may lessen. Peer-group pressure may shift in favor of larger families. In the terms of the economic model, this shift will lower the “cost” of having children relative to other sources of utility and lead couples to choose higher fertility. Such an ideational change would, presumably, be reflected at the societal level as well, and policies can change.

Policy and Programs Affecting Population Growth

The state has always been interested in the number, composition, and well-being of its citizens. Writers in classical antiquity took population growth as a sign that a state was well-governed, and specific measures that could fairly be called population policies can be identified under nearly all forms of government in many countries (United Nations 1978). In modern times, the pub-
lic sector has been deeply involved in controlling and reducing mortality and morbidity, and no one seriously opposes such efforts, even though lively debate occurs about which causes of death should be eliminated first.

Public-sector policy and programs to affect fertility have come to play an important role in recent decades, particularly in the developing world. These policies and programs were based on the strong belief that fertility had become uncontrolled and that rapid population increase threatened the present and future well-being of societies around the globe. Dire predictions about the world population explosion were heard well before World War II, but had distinctly racist overtones. Indeed, public-sector family planning programs remain controversial, and this controversy is puzzling, because, as noted above, some form of social control has almost always been exercised by the lineage, the clan, or other social group over the fertility of the individual couple.

Most cultures have taken for granted that the continued long-term viability of the kin group or the country takes priority over the short-term preferences of the individual. Social control and governance are more formal these days, but the same interaction is at work. Indeed, modern public-sector family planning programs are considerably more humane and less coercive than the sanctions and devices employed by premodern lineages or societies (Robinson forthcoming). The social group continues to have a legitimate interest, however, in those actions of the individual that affect the collective well-being. Democratic political procedures and the rule of law hopefully ensure that social gains outweigh losses when a conflict does arise.

Debate also continues about whether family planning programs have had any impact on fertility in the developing world. We need not deal with these complicated, often tortured, statistical interpretations. Suffice it to say that fertility has fallen, that the prevalence of modern contraceptive use has risen, and that public-sector programs are generally understood by those involved to have played a major role in the speed and timing of these trends if not in their initiation. The UN’s post-ICPD Plan of Action lays out the programmatic steps that remain to be taken to insure that modern contraceptive technology, embedded in well-managed reproductive and child-health programs, is made available to the remaining areas where high fertility persists in the developing world. If this plan is successful, sometime early in the twenty-first century these programs will be at a maintenance level, requiring public-sector services only for particular segments of the population.

The international family planning movement and all its national implementing programs have arisen from a social, economic, and political context. They are based on the belief that world population growth had burgeoned out of control and was threatening national and global viability. The programs supplied commodities and information to women and men of childbearing age and actively encouraged contraceptive use. These specific program activities took place against a background of vocal social concern over the population issue. The family planning literature often pays too little attention to the powerful effect of this world climate of opinion concerning population growth. For nearly half a century, a growing clamor of concern has been voiced about rapid population growth. This concern has become a part of intellectual assumptions of educated people around the world. More recently, this concern has been linked to an equally great distress about environmental degradation, endangered species, and other related issues. Phrases such as “the fate of the planet,” “space-ship earth,” and “limits to growth” permeate our thinking. (Lee [1987] suggests that it permeates scientific thinking also.) For a long time, no respectable, responsible world leader has argued seriously that rapid population growth and large families were good things. Even the Pope urges couples to have children but also to exercise responsible parenthood and moral restraint.

The critics of the commodity-supply programs argue that fertility would have fallen in any case once couples decided that they wanted to have fewer children. This misses the point. The changed climate of opinion that shaped the small-family norm was connected with the rise of family planning policies and programs. The programs succeeded only because opinion had shifted in their favor and because good programs helped to convince public opinion of their importance. Changed public opinion was the most powerful and pervasive intervention of all. One of the critical feedback loops that rapid population growth triggered was a public-policy response and an ideational change, a result true for the European transition (Robinson forthcoming) and for the recent Asian and Latin American ones as well. Currently, global population appears to be under control and a goal of stabilization attainable. The important decision-making unit is now the couple (the woman, usually), but the couple still is affected by the surrounding climate of opinion. The decline in fertility in many developed countries is a reflection of the general decline of both wanted and unwanted fertility, suggesting that social support for high-fertility motives is eroding. Low-fertility social norms are emerging as having too many children is considered irresponsible by a growing segment of populations and having no children draws less opprobrium now than at any time in the past (Feyisetan and Casterline...
Couples today are acting out the present collective social values just as their forebears did when they had large families in furtherance of kin-group goals.

An undercurrent of concern is growing over the “birth dearth,” as one writer has termed the present low fertility levels in most developed countries (Wattenberg 1990). Most informed persons still see the correct international goal as completing the UN’s post-ICPD Plan of Action, however, and this goal requires continued support for international family planning. The emphasis remains global rather than national or regional, but it is changing. Below-replacement fertility has been viewed as temporary, but increasingly it is clear that, as Westoff (1991: 227–228) points out, there is, in fact, no “homeostatic device which will operate to maintain a nice balance.” Presently, above-replacement populations are exporting migrants to the below-replacement ones, and these movements are intensified by political and social unrest in the exporting countries. If fertility continues to fall in the sending nations, presumably such movements will decline a generation or two in the future. These movements threaten to change the ethnic and cultural landscape of many migrant-receiving nations, and an emotional backlash is developing. A public policy response is to be expected. Politics is already driving many countries to formulate changed policies toward immigration; a step beyond such a policy change is a pronatalist stance whereby governments adopt programs to increase the fertility of their native-born inhabitants. With the global population threat under control, emphasis is likely to shift to national population concerns. Pronatalism may be the policy wave of the future, not today or tomorrow, but within the next several decades.

The Efficacy of Pronatalist Policy

What do we know about the efficacy of pronatalist population policies? Most states and organized political units have been pronatalist throughout history (United Nations 1978). The organized Christian religions in Europe were staunchly pronatalist for centuries and, typically, this attitude was supported by the secular authorities. Long-term support for pronatalism has existed in most Islamic countries as well. How much this support contributed to maintaining high fertility among such populations is uncertain, however. In light of the waning influence of religion in many countries, this relatively ancient effect on family size is probably of little use in thinking about future pronatalist policies. In Europe, more recent experience can be used as a basis for judgments about future possibilities. Fertility rates in many European countries were already at or below replacement level in the period between the two world wars, and many such countries found themselves facing depopulation. The topic was discussed by many prominent writers (Spengler 1938; Glass 1940; Myrdal 1940). Nearly every European government adopted a pronatalist policy, and a variety of measures were put in place, including family allowances (paid in cash and in kind); long-term loans to newly married couples; cash awards for first births; discriminatory tax systems; and provision of maternal and child health-care facilities. These positive programs often were accompanied by negative measures outlawing contraception and abortion.

The impact of these programs on fertility has been studied by numerous authors (for a summary of this literature, see United Nations 1978: 643–648). Most studies have found no conclusive evidence that they worked, but their effect varied, apparently, from country to country: German fertility rose slightly, but French fertility fell still lower. Glass (1940) found that most monetary allowances had been too low to reimburse parents for costs associated with having children and that all the measures were operating in a general setting of depressed and uncertain economic times.

More recently, there has been a new round of pronatalist policies and programs, particularly in eastern Europe, and a renewed effort is evident in northern and western Europe. These policies and programs have garnered mixed reviews. Some authors feel that the eastern European efforts have failed (Demeny 1986); others find that they have had a positive effect (Ross and Frejka 2001), while yet others remain unsure (McIntosh 1987; Hohn 1991). The eastern European cases lack general relevance for the future because they were adopted in a general economic, social, and political setting that was highly unfavorable. These governments were unpopular dictatorships, their economies depressed, and their futures uncertain. None of the pronatalist policies they adopted was successful in realizing its goals except for those policies of a totally repressive sort.

The matter of the setting in which a policy is adopted is crucial, as is an understanding of other social and economic trends at work that impinge on the policy’s outcome. Thus, most pronatalist policies have assumed the traditional family-household structure and aimed at creating and strengthening such units. They have paid allowances too low to reflect the reality of the full opportunity cost that children impose when both parents work outside the home, and have not provided the assurance of long-term programs for health and education. Usually, they have also extolled traditional family values and, implicitly, the efficacy of a male-headed household.
We do not know what effect such programs might have when the policy represents an underlying social consensus, with genuine public support, and when it is well planned and financed so as to take into account the economic and social factors affecting family-size decisions at the micro level. No clear evidence exists for assuming that a vigorous, popular, well-funded pronatalist policy would not have a reasonable chance of increasing fertility.

The Future Role of the Mass Media

We are only one generation into the electronic age and are still learning exactly how people live and behave when they are surrounded on all sides, all day every day, by a never-ending barrage of images and words, entertainment and information mixed together, but inescapable and subtly powerful. Fashion in clothing, sporting events, popular heroes, and political news are transmitted around the globe in a matter of hours, and public opinion is shaped by this flood of information. The effect of the media, and television in particular, on young people in developed as well as less-developed countries is a lively topic these days. Some would control strictly the content of television, especially for young people, whereas others stress the importance of free speech and civil liberties. No one questions any longer the impact that television has on attitudes and on consumer behavior. Political ads have become a science, if not an art, as the huge sums of money spent on such ads during elections in the United States, India, and elsewhere testify. Governments have only begun to make use of the media to promote programs designed to induce behavioral change, but seem sure that such programs work.

In the last 20 years, a considerable amount of experience has been gained in the use of mass media information, education, and communication (IEC) programs to affect public attitudes and behavior regarding contraceptive practice. That such IEC programs have an impact is now beyond debate, and the most powerful of the approaches used turns out to be, not surprisingly, radio and television. Cleverly designed television campaigns have been shown to have a significant impact on contraceptive behavior in numerous developing countries, going well beyond the simple provision of information. Although traditionalists felt that people in these countries would not accept public discussion of private matters, they were proved wrong, even with regard to conservative societies (Piotrow 1994; Robinson and El-Zanaty 1994).

Designing a Pronatalist Program

If we can understand why earlier pro-fertility policies were not effective, perhaps we can also see some of the components of such a policy that might be effective in influencing fertility in the future. Some of the prerequisites of such a policy can be suggested in light of apparent prevailing socioeconomic trends. First, any new policy would have to be female-centered, female-directed, and embedded in a total health, education, and family-support program for prospective mothers. A large part of the opposition to family planning programs from feminist groups is based on their conviction that such programs were aimed at preventing births without regard to the wishes or the well-being of the women being targeted, in order to save a male-dominated economic and social order. Just as rapid ideational change has driven the fertility transition, sustained low fertility may foster a gender transition. Low fertility may give rise to increasing female-centeredness. Increasingly, women will be involved in the planning and execution of new social programs.

Second, another aspect of female-centeredness is that the relevant unit for the program will be the woman and her children, so that their living arrangements would be of little importance. In other words, the policy would not be family oriented because we are losing any firm grip on what the term “family” means (Cherlin 1999; Thornton 2001). “Household” or “coresident group” are, perhaps, more accurate descriptions for the living arrangements of a great many young women and men. Single-person households are not efficient, and hence most people will “live” with someone to share expenses and perhaps more, but the ties will be loose and transitory. In many industrial states these days, entering or leaving a marriage is much less complicated than buying or selling a house.

Third, the policy would have to offer meaningful economic support and motivation for a woman to bear a child. Such a policy would not mean that the state would “buy” children, but that the financial and psychic cost of adding a child to a woman’s life, as perceived by the woman, would be subsidized by the state. State-run day-care centers have been successful in Israel and elsewhere. Voucher schemes to motivate the private sector might prove more popular. Generous pre- and post-maternity-leave arrangements on the job might be guaranteed and educational expenses subsidized at least through secondary school. Economic theory tells us that lowering a price will convert latent into manifest demand. Making children “cheaper” would not motivate all women to have a child, but it could motivate those
women to do so who had been thinking about it but had been deterred by the cost.

Fourth, any future pronatalist policy would have to be promoted through a vast mass-media campaign aimed at changing public attitudes and the climate of opinion toward fertility. This campaign would aim to create a strong positive image for increased childbearing. It would be coordinated with other government programs and consistent with other social and economic trends and preferences at work in the population. Such a campaign sounds manipulative, and so it is. If and when increased fertility is an accepted social goal, and a policy has been adopted openly and democratically, a full-scale effort to create a favorable climate for it and to change behavior is perfectly sensible. It would, indeed, be foolish not to use the demonstrated persuasive powers of the modern mass media to help make the program work.

Finally, at the borderlines of such a program lie fascinating but still controversial possibilities for increasing fertility. Artificial insemination is a well-established procedure, but now ova can also be artificially implanted, extending a woman’s normal fecundity. Talk of a “market” in ova has occurred, but the legalities have yet to be explored. Exuterine fertilization of an ovum is now possible also, but serious ethical and legal questions about this option must be addressed. The biological and health sciences are moving rapidly, and still more startling choices will be open to couples in the years to come. Research in these areas could be encouraged by public policy.

We have omitted from our list some of the plausible, even ingenious, proposals that have been suggested by earlier authors (Demeny 1987; Hohn 1991). The suggestion has been made, for example, that parents be given an extra vote in national elections for each child under the age of 18, and that adults of working age be obliged to pay a part of what would otherwise be their social security tax directly to their own parents (the implication being that they would want to have children themselves so that they could recoup these payments from their children). Such measures strike us as more clever than workable. Most likely, they would have unintended collateral effects that cannot be foreseen, as do any novel fiscal devices. They might introduce new divisions and tensions among households and within intergenerational relationships that are already difficult. Successful policy will aim at reducing the costs and increasing the benefits of having children, as perceived by the mother, rather than imposing a cost for not having children.

The implementation of the pronatalist measures outlined above would be expensive. The costs would include: reimbursing a woman (or her employer) for her time lost in pre- and postmaternal leave; providing nursery and day care for the infant; offering health care and other necessary maintenance; and providing support for education from kindergarten through high-school graduation. Perhaps reimbursement of the full costs of education would not be needed in order to motivate a significant number of women to have children. Presumably, the program would be conducted in a particular area on a trial basis to establish its demand elasticities. Such a program would be expensive and, therefore, it would require a public debate to determine its financing.

Such pronatalist policies would be national in scope, because no international body with the fiscal or legal authority to implement such a program exists. One can only hope that such national policies might proceed in a spirit of international cooperation and assistance. One can imagine a new Plan of Action, coordinated by UNFPA or a new agency, to implement the goal of maintaining global equilibrium while also allowing different policies to be employed in different national contexts.

The present high degree of international cooperation concerning population matters may not last long into the twenty-first century. Emigration from the remaining high-fertility areas in Africa and Asia is creating political and social tensions in some of the countries of Western Europe that now experience below-replacement-level fertility. Recent election results in Switzerland and Austria may be a harbinger of things to come. The goals of greater European unity and of more open borders and freer trade with other nations may be jeopardized by the growing fear of depopulation and loss of ethnic identity. Pronatalist policies arising from such fears will be altogether different and are likely to pursue different implementing strategies. The rise of international terrorism and a looming world economic recession further cloud all these issues.

Conclusions

Population growth, composition, and movement will continue to be items on the policy agenda for some time to come. The present goal of global population stabilization is clearly attainable, and perhaps some of the earlier concerns of ecologists and environmentalists were exaggerated. Assuming continued technological and economic progress, a new transition toward a new and higher sustainable global population may well be under way by the middle of the present century. Policy will be a major part of this movement, as it was in all earlier transitions. A real risk can be seen that this new movement will reflect nationalistic rather than global concerns. A
half-century ago the late Frank Notestein (1950: 340), contemplating “The Population of the World in the Year 2000,” foresaw some of these same concerns and wrote: “The greatest danger, it seems to me, is that concern about slowing growth may drive societies to a renewed emphasis on the obligations of the individual to reproduce for the benefit of the state, church, party or other extra-personal unit. There is a danger that the emotional reaction to slowing growth will lead us to seek people for society, rather than to enrich society for people.” His warning remains valid.

Notes

1 The end of the global transition by the year 2050 is the middle variant of current United Nations projections (UN 2001).

2 Livi-Bacci (1990) makes a persuasive case that global population is now in the final stages of the third such long-run upsurge in numbers in response to enhanced control over the environment in the history of the species. The transition from the first cycle to the second was triggered by the shift from hunter-gatherer societies to sedentary agriculture and animal husbandry, whereas the shift from the second to the third cycle flowed from modern scientific and technological changes.

3 In effect, this is the contrast between moving along a given long-run growth curve, albeit unevenly, and a shift upward in the entire curve.

4 Social research in South Asia has shown that rapid fertility decline enhances women’s autonomy and status, even in settings such as Bangladesh where profound gender stratification has been the norm (Phillips and Hossain 1998).

References


Traditionally, family planning programs have concentrated services almost exclusively on contraceptive service delivery. Initially introduced in static clinics with a medical focus, family planning programs have evolved over time to expand contraceptive availability through mobile clinics, community-based distribution systems, and social marketing. Within the medicalized family planning model, a client’s broader sexual and reproductive health needs were rarely addressed, and discussion of sexuality with clientele was rarely a theme of encounters with providers (Sen et al. 1994; Moore and Zeidenstein 1996).

In response to the changing expressed needs of clientele and to the consensus emerging from the 1994 International Conference on Population and Development (ICPD) held at Cairo, family planning policymakers have refocused services to address gender issues, sexual and reproductive health, and quality of care. Achieving the requisite organizational and service changes within the International Planned Parenthood Federation (IPPF) has proved to be challenging to its regional programs and member family planning associations. Program policy deliberations following ICPD have focused on the goal of shifting desired outcomes from achieving fertility targets and national demographic goals to meeting individuals’ needs for family planning, reproductive and sexual health care, and high-quality services.

To undertake the transition to a focus on sexual and reproductive health, IPPF family planning associations have confronted questions that require changes in organizational mission, structure, and operations. Even for those associations that accepted the ICPD agenda, practical problems arose in achieving this goal. Many of the leaders and experts who must take responsibility for organizational change remain concerned that the shift in focus and approach will be a lengthy, costly, and complex process. Skepticism arises in part from the paucity of documented international experience on such matters as integrating initiatives for HIV/sexually transmitted disease (STD) prevention with family planning or addressing sexual health needs within the context of family planning. Much of the theory, philosophy, and principles of the desired outcomes of change in focus are in place, but little is known about appropriate strategies for redeveloping, reorganizing, and refocusing family planning programs to address the themes of the ICPD consensus. This article addresses this need by documenting the determinants of successful ICPD-oriented operational change from three successful initiatives.
The IPPF Strategic Plan: Vision 2000, adopted at the 1992 Members’ Assembly in Delhi, anticipated many of the elements of the 1994 ICPD Programme of Action (United Nations 1994). Well before the Cairo conference, International Planned Parenthood Federation/Western Hemisphere Region (IPPF/WHR) and its member associations began a process of integrating family planning initiatives with HIV/STD prevention and sexual health activities, with the overall goal of creating new service-delivery models for the future. IPPF/WHR has managed three programs, each funded by external donors, to translate the sexual and reproductive health approach into practice. Experiences from those three programs, involving family planning associations in Latin America and the Caribbean, offer lessons drawn from service providers’ experience of embarking upon and continuing the transition from contraceptive service delivery to sexual and reproductive health care. Table 1 illustrates some differences between the two service-delivery models.

No family planning association in the region can be fully characterized by the descriptions in either of the columns of the table. Yet such an overview can serve as a framework or map within which nine associations have attempted to leave tradition behind and address the business of meeting more of their clients’ needs.

The Introduction of Service-delivery Changes

Three different programs, each operating in three countries, provide the nine sets of experiences on which this analysis is based (see Table 2). The three programs began with different aims and objectives. The first focused on developing associations with an HIV/STD-prevention service component. The second represented an attempt to introduce the notion of sexual and reproductive health into community services, with corresponding changes in clinical services. The third was a response to evaluations of service quality showing that providers were unprepared to respond to the problems of gender-based violence that women raised in the course of their family planning service encounters.

Although each of the three programs approached the broadening of family planning services from a different perspective, the nine associations involved in the three programs underwent similar changes as they wrestled with the prospect of integration. This shift in focus entailed instituting organizational changes, broadening the range of services, reorienting the way in which individual services were provided, and redefining criteria for short-term and long-term “success” (see Table 3).

Integrating HIV/STD Prevention Initiatives

When the AIDS pandemic began, most family planning associations in the region ignored the problem, either because it was believed to be one of marginal populations rather than one affecting married women in long-term relationships or out of concern that HIV/STD prevention and care would somehow stigmatize the other services offered. Moreover, association managers typically were concerned that expanding the range of services would dilute the focus on family planning.

In the period from the late 1980s to the early 1990s, the views of association leaders in the region altered in recognition of the rapidly changing face of the AIDS pandemic, as heterosexual men and their partners represented an increasing proportion of all reported cases.

This transformation in attitude coincided with an impetus from clients themselves, who began actively to seek information about HIV and AIDS from family planning associations and from providers who recognized that they had been ignoring a major health risk.

Table 1  Contrasting approaches to family planning service delivery

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<tr>
<th>Traditional family planning style</th>
<th>Sexual and reproductive health style</th>
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<tr>
<td>A focused and mainly medical approach: Oriented toward solving reproductive problems with solutions limited to medication, surgical intervention, and contraceptive-specific counseling</td>
<td>A more holistic approach including attention to sexuality, gender, power relationships, and human rights issues: Tolerance for uncertainty and the lack of a “quick fix” response to problems</td>
</tr>
<tr>
<td>Organized as a hierarchical service using top-down communication modes, controlled by trained health professionals who view clients as uninformed “patients”</td>
<td>Emphasis on two-way discussion and clients’ needs</td>
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<tr>
<td>Attention to clients’ rights subordinated to fertility-control objectives</td>
<td>Recognition of provider–client partnership in problem solving</td>
</tr>
<tr>
<td>Service delivery focused on individual women</td>
<td>Services addressed to the needs of women, men, and communities</td>
</tr>
<tr>
<td>Autonomously organized in relative isolation, without links to communities (apart from community-based service distribution), other nongovernmental organizations, or government</td>
<td>Linkages and partnerships with community groups, women’s groups, government bodies; new effort to involve men in problem solving</td>
</tr>
<tr>
<td>Impact evaluated through quantitative assessment of new acceptors, couple-years of protection, and contraceptive prevalence</td>
<td>Impact evaluated by qualitative appraisal of breadth of service, options, quality of care, service providers’ competence, and client satisfaction</td>
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A number of associations engaged in experiments with different approaches to HIV/AIDS. For example, PROFAMILIA/Colombia carried out operations research to study the effects of both a mass media campaign and talks by community workers on knowledge and attitudes about condoms (Vernon et al. 1990).

In 1992, IPPF/WHR developed a five-year pilot project to integrate HIV/STD prevention into the activities and services of three of its associations: BEMFAM/Brazil, ASHONPLAFA/Honduras, and FAMILAN/Jamaica. Supported by the United States Agency for International Development (USAID), the pilot project provided an opportunity to test the feasibility of developing full-scale integrated sexual and reproductive health projects in the three countries. To do so, IPPF/WHR, together with the associations, had to define new programmatic content and develop a process for transforming services to meet a broader array of clients’ needs. The goal of the program was not simply to add HIV/STD prevention as another element of clinic or community-based distribution services, but rather to improve the quality of services by changing the manner in which they were provided overall. Rather than housing two separate services—family planning and HIV/STD prevention—under the same roof, the project aimed to alter the fundamental nature of the interaction at the heart of the client–provider relationship.

Initially, the project focused on the currently accepted primary HIV-prevention strategies: condom promotion, behavior change, and STD control. Over time, as experience in the field increased understanding, the project began to emphasize a broader sexual and reproductive health approach, integrating HIV/STD prevention with a focus on human sexuality. The element of sexuality was ultimately linked to specific efforts aimed at reducing the vulnerability of women, adolescents, and communities to HIV transmission.

Although the program did not begin with a systematic evaluation plan, it was documented while it was under way (Becker and Leitman 1997), and followed up three years later to determine what results could be observed after the funding had ceased (Frautschi 2000). Training staff was an essential component. The demonstration of condom use with the aid of a wooden penis was initially considered shocking, but the demonstration helped providers, and later clients, to break taboos about discussing condoms. The workshops used participatory techniques including role-playing and case studies. Staff had to confront their own personal biases against the condom and their discomfort at delving into clients’ sexual practices.

The HIV/STD-prevention effort has generated a wide variety of ancillary activities in each of the three participating countries. Social marketing of condoms has

### Table 2 Participating countries, dates, and funding sources of three International Planned Parenthood Federation/Western Hemisphere Region sexual and reproductive health programs, Latin America and Caribbean region

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<td>Brazil/Sociedade Civil Bem-Estar Familiar no Brasil (BEMFAM)</td>
<td>X</td>
<td>—</td>
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<tr>
<td>Honduras/Asociación Honduras de Planificación de Familia (ASHONPLAFA)</td>
<td>X</td>
<td>—</td>
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<tr>
<td>Jamaica/Jamaica Family Planning Association (FPFA–FAMPLAN)</td>
<td>X</td>
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<tr>
<td>Guyana/Guiana Responsible Parenthood Association (GRPA)</td>
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<td>St. Lucia/St. Lucia Planned Parenthood Association (SLPPA)</td>
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<td>Peru/Instituto Peruano de Paternidad Responsable (INPPARES)</td>
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<td>—</td>
<td>X</td>
</tr>
<tr>
<td>Venezuela/Asociación Civil de Planificación Familiar (PLAFAM)</td>
<td>—</td>
<td>—</td>
<td>X</td>
</tr>
<tr>
<td>Dominican Republic/Asociación Dominicana Pro-Bienestar de la Familia (PROFAMILIA)</td>
<td>—</td>
<td>—</td>
<td>X</td>
</tr>
<tr>
<td>— = Not applicable.</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*a* The Bill and Melinda Gates Foundation.  
*b* This project also received funding from the John D. and Catherine T. MacArthur Foundation.

### Table 3 Program-change mechanisms and evaluation criteria, IPPF-affiliated family planning associations, Latin America and Caribbean region

<table>
<thead>
<tr>
<th>Element of program change</th>
<th>HIV/STD prevention</th>
<th>Community sexual health</th>
<th>Gender-based violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using experts</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Professional project coordinator</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>External training assistance</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Building community participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training of community outreach staff</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Links to community leaders and residents</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Developing partnerships with other organizations</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Establishing a focus on adolescents</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Exchanging lessons learned at participating associations’ workshops</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Evaluation component built in from onset</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
increased markedly in Brazil and Honduras as a consequence of the associations’ efforts to generate local income for financial sustainability. The Jamaica Association followed up with an integrated rural outreach initiative that sold more than 144,000 condoms through a network of community-based distribution agents. Evaluation of the outreach initiative indicates that condom use increased, was consistent over time, and was highest among those in the 15–19 age group.

On the negative side, the assessment of the three associations, conducted in 2000, revealed that staff turnover has been a problem, because once the pilot project was ended, few resources remained to bring new employees up to date through training. The HIV/STD projects are finished, but they offer some important lessons that have influenced the other two programs.

Community Involvement

The second initiative designed to broaden family planning services featured an approach heavily dependent on community involvement.

Led by three Caribbean associations, with financial support from the European Economic Commission and with technical assistance from IPPF/WHR, this initiative explored the common concerns and experiences of communities with regard to sexual and reproductive health and the accessibility of services to meet their needs. Family planning associations in Belize, Guyana, and St. Lucia were involved in the project.

The program was designed to operate in four key areas: institutional development for the management of clinical sexual and reproductive health services, community involvement in analyzing these health issues and defining solutions, the sexual and reproductive health needs of teenagers, and collaboration with other community-oriented organizations. The objective of this approach was to enhance the sexual and reproductive health of community members by creating conditions for social change beyond the walls of the clinic and the reach of the associations’ staff members.

This initiative operated on the assumption that benefits are to be derived from involving the community directly, that is, by training lay people, including local leaders, to engage communities in the discussion of sexual and reproductive health issues. The program focused on communal recognition of shared experiences, concerns, and possible solutions, rather than on isolating problems and solutions with the individual client. In addition, the program was committed to exploring the fundamental social influences on gender relations, human sexuality, and choice in sexual relations, working within the community’s rather than the providers’ understanding of the notion of sexual health. The starting point for discussions of sexual health began not with a single symptom of poor sexual health but rather with a multiplicity of issues, such as inequality in power relationships between the sexes and resultant beliefs and behavior patterns, the consequences of poor choices, exposure to risk, and, ultimately, dissatisfaction with the exercise of one’s own sexuality.

In all three countries, community meetings were held at least twice monthly, exploring issues determined by the community. In turn, the community facilitators met monthly with the family planning associations to provide them with highlights of those discussions, including concerns and needs as well as proposed solutions at the service-delivery level.

Reports and interviews from all three countries show that facilitators have been accepted by their communities as providers of information on sexual and reproductive health topics, including incest, child abuse, rape and other forms of sexual abuse, drugs, and violence. The facilitators are also known to encourage open discussion of problems.

In several communities, the discussions have led to specific interventions. In Belize, for example, these included the formation of support groups for victims of domestic abuse, specially designed sessions for adolescents led by the community facilitators, and parenting workshops. In one community, members became heavily involved in the construction of a new family planning association clinic, thereby reducing the cost of labor substantially.

Addressing Gender-based Violence

The third program is based on the United Nations General Assembly’s 1993 definition of gender-based violence. Violence is still an unrecognized health problem in many areas of the world, as was HIV/AIDS during the early 1990s. As more reliable estimates become available, concern has increased about the widespread occurrence of gender-based violence and about its health consequences. In a recent issue of Population Reports, a comprehensive overview is presented, stating that at least one woman in three worldwide has been beaten, sexually coerced, or otherwise abused in her lifetime (Heise et al. 1999).

IPPF/WHR’s involvement in this issue has its roots in the process of promoting quality of care from the perspective of gender and sexual and reproductive health. A study of quality of care and gender at three family planning associations showed that when clients raised the issue of domestic violence, providers gave evasive
responses (IPPF/WHR 2000b). Gender-based violence, and particularly domestic violence, have long been considered to be private, household issues. Providers simply did not know how to respond to women’s disclosures of their experiences of violence.

Recent research findings demonstrate a connection between gender-based violence and aspects of reproductive health. For example, contraceptive use is lower among victims of violence than among other women. Moreover, violence occurs in 4 percent to 8 percent of all pregnancies, and may be more common than pre-eclampsia or gestational diabetes, conditions for which screening is routinely performed during prenatal care (Gazmararian et al. 1997).

PLAFAM, Venezuela, was the first family planning association to attempt to integrate universal, systematic screening of women and provision of services for victims of violence at their clinics. This pilot project, initiated in 1997 with support from the MacArthur Foundation, was like the Caribbean Community program in that it required the sensitization of all levels of staff, strategic changes in and additions to clinic-based services, and partnerships with actors outside the association (Guedes et al. forthcoming). The pilot program has led to a three-year, three-country project that is currently working to strengthen Venezuela’s activities concerning gender-based violence and to replicate its experience in the Dominican Republic and Peru. The objectives of this project were to strengthen institutional capacity, promote cultural change, improve the legal protection of victims, and increase understanding of effective interventions in sexual and reproductive health settings.

As the first step in launching the program, an investigation was conducted of local organizations that provided services for victims of gender-based violence, and a detailed directory was prepared for staff to facilitate referrals for psychological and legal counseling services. This information gave staff something to offer women who reported that they were being abused. Sensitization and training assisted staff in overcoming their misconceptions about gender-based violence and prepared them to ask women direct questions about their experiences and to provide appropriate care.

**Conceptual Framework for Initiating and Sustaining Change**

The planned operational change undertaken in the three programs described above revealed factors that can facilitate change in service provision from a traditional family planning approach to a sexual and reproductive health focus. The nine family planning associations involved in the process of organizational change found three main sets of factors that served to help them introduce strategies consistent with the ICPD consensus. Figure 1 illustrates these factors.

**External Factors Promoting Change**

Factors within each country and family planning association interacted with social changes to foster operational change. In the AIDS-prevention project, for example, much of the providers’ motivation to change came from a general awareness of the AIDS pandemic and from family and friends. With the project focusing on community involvement, the motivation for providers was their desire to be useful to the community in a broader sense than simply by meeting family planning needs, and from their finding greater job satisfaction in an expanded role. Where the gender-based violence project is concerned, motivation seems to have stemmed both from a growing awareness of the magnitude and health consequences of the problem and from a desire to care for clients in a more comprehensive way. In all three service areas, providers often found that the new approach was relevant to their private lives, an additional reason to increase their commitment.

Moreover, pressures on family planning associations in the region during the 1990s enhanced their receptiveness to the initiatives. High contraceptive prevalence rates and improving health indicators in Latin America provided a rationale for donor agencies to make the region a lower priority than relatively more needy regions. The associations’ realization that continued donor largesse would not be maintained led to the launching of a five-year, USAID-funded program called “The Transition Project” lasting from 1992 to 1997, designed to help selected affiliates install systems for calculating costs accurately; for diversifying their services to include some that generate income, such as mammograms and laboratory tests; and for adopting an entrepreneurial approach. Within this setting of decreasing resources, the associations accepted the challenge of changing their focus and their image.

**Mechanisms for Catalyzing Change**

**Changes in Organizational Mission**

Although changing a mission statement may be merely symbolic in some organizations, in most IPPF affiliates, it is a complex process that must precede any major operational change. If the basic mission of a family planning association is defined as “providing high-quality sexual and reproductive health services,” all ICPD strat-
egies, programs, and services—including those related to such topics as gender-based violence or HIV/STD prevention and treatment—can be readily developed.

To inculcate the new program philosophy within the goals of the Jamaica association, the senior managers of FAMPLAN decided to include HIV/STD integration in their mission statement and job descriptions. Introducing changes in organizational mission was more difficult in Guyana and St. Lucia, however. In St. Lucia, the long-time members of the board of directors resisted change, and the internal conflict that ensued could not be resolved until younger members with a vision that allowed for expansion replaced them. In Guyana, the board was divided, and conflict between the staff and the board constrained progress. There too, when board members eventually rotated and were replaced, progress was possible.

The Role of Pilot Projects in the Change Process
Pilot activities in this changeover were designed to demonstrate the changes required and clarify problems that could be avoided when operations are scaled up. New service protocols were developed and tested, training procedures were implemented and evaluated, and the impact of the changes on workers’ morale, knowledge, and service competence was determined. Where pilot projects were rigorously implemented and comprehensively evaluated, the credibility of the proposed changes was nurtured generally among the associations’ staff. The pilot trials produced a sense of institutional ownership of the new service regimen; results of the pilot phase produced evidence and lessons that were invaluable to the process of planning large-scale program changes. Experience gained in pilot projects was particularly useful for guiding the design of training aimed at changing staff procedures for sexual counseling and gender-based violence programs (Moore and Helzner 1997).

Pilot-project experience demonstrated, for example, that the location of the project within the organizational structure has a profound impact on whether the new approach takes root within the institution or remains peripheral to its general activities. Successful pilot activities, moreover, are designed to be systemic so that the small-scale trial involves all organizational levels and key operational units. Failure to use a systemic approach is associated with delays and difficulties.

In all three pilot community-involvement projects, the hiring of a staff coordinator challenged established lines of authority and supervision and precipitated conflict. In Guyana, two separately funded pilot projects were begun, each with its own program coordinator, creating a structural problem that led to internal tension and power struggles. These parallel pilot-project structures produced a confused model for the scaled-up integrated program. Resolving organizational ambiguity at the pi-
lot phase was crucial to developing sustained organizational change. The solution was to unify the pilot-project structure under an overall program coordinator responsible for overseeing and managing the complexities of integrated programming and overall donor relations. To resolve the internal conflict, build teamwork, and structure management, external organizational diagnostic counseling was required.

In most projects, the addition of new services became part of the intervention funded. The clearest example is the inclusion of legal and psychological counseling services for victims of gender-based violence, designed to complement referrals to other local groups. Laboratory services for testing of STDs (other than HIV) and for reading Pap smears were added in some cases, and work with young people or with men became either a core or spinoff activity as part of project execution in several countries.

Training
Staff training was essential for generating an understanding of the facts and concepts underlying the proposed changes and also for communicating the new provider—client philosophy. Experience revealed that building consensus for operational change is more readily achieved with a participatory approach than with a didactic one. In all nine countries, external consultants served as change agents to facilitate group discussions and consensus-building activities.

In the HIV/STD-prevention and gender-based violence projects, consultants interacted with key staff to build consensus for change and subsequently develop the skills of the front-line staff who had regular contact with clients. For example, in the HIV/STD program, members of the staff at all levels in the organization—not only counselors and educators, but physicians, nurses, and administrative and support staff—took part in sensitization exercises, which focused as much on personal reflection as on technical information and skills (Helzner and Roitstein 1995). The staff were helped to become more comfortable with communicating openly on matters of sexuality by encouraging them to reflect upon their own feelings and experiences, an approach that led to a more favorable climate for change than existed in settings where consensus building was overlooked. In Belize, for example, staff members were well trained and understood the concept of the new approach, but almost three years elapsed before changes in everyday operations occurred (BFLA 2001).

In the gender-based violence program, training focused not only on the relationship between violence and reproductive health but on the practical details of screening women, asking direct questions, recording responses, making referrals, and providing care. In all three programs, the challenges included dealing with staff turnover and the necessity for continued support and supervision to sustain new skills.

Monitoring and Feedback
In settings where comprehensive monitoring and feedback were achieved among the association’s leaders, pilot-project staff, and the regional IPPF office, large-scale change was based on the evidence of what had worked well during the pilot phase. For example, the gender-based violence project has already started to meet its objective of sharing lessons with interested IPPF affiliates and other organizations. Lessons are based on careful monitoring and evaluation of each step of program development, so that program and evaluation units can plan and assess all phases of the project jointly. Large-scale operational planning is a natural byproduct of this collaboration between evaluators and managers. Their close relationship is fostered as the program and evaluation officers travel together and conduct joint discussions with field counterparts. Minimizing the boundary between program and evaluation, and thereby mitigating tensions that can arise from evaluation, fosters the process of organizational change. External evaluation consultants were hired to carry out data collection and initial analysis at the baseline and midterm evaluations to ensure an unbiased assessment of the project’s accomplishments. A similar strategy will be followed for the end-of-project evaluation.

New Partnerships and Alliances
Establishing new partnerships enables the family planning associations to undertake procedural changes that they would not be competent to undertake on their own. For example, the victims of gender-based violence need a variety of medical, legal, and social services that are best provided by means of a referral network. PROFAMILIA, for instance, has used its internal funds to support the work of two legal-action nongovernmental organizations, a strategy that has proved to be more cost-effective than hiring an in-house lawyer and staff. In several settings, an advocacy arm of the gender-based violence program has been directed to building a coalition between family planning associations and other groups.13

Evaluation
The approach to evaluating family planning service delivery by tabulating the number of visits, number of acceptors, or couple-years of protection was clearly unsuited to assessing progress toward broader sexual and repro-
ductive health objectives. The need for a new, broader approach would lead to an increased investment in evaluation, not only of clinic activities, but also of community involvement and gender-based violence programs. In the three participating Caribbean countries, two unusual strategies were employed: “mini surveys” to chart community attitudes and “process documentation.”

**Conclusions about the Initiative**

The use of quantitative survey data in conjunction with qualitative process documentation has provided a rich resource for determining whether change has actually occurred, producing three general conclusions about the initiative: First, the broader sexual and reproductive health approach produces new audiences and expands clientele. For example, adolescents and men—both neglected populations for the associations’ services in the past—are now the focus of group activities. BEMFAM in Brazil has been successful in piloting and scaling up its programs. In addition to establishing outreach to adolescent groups, BEMFAM developed a school-based program that combines a sexual health education curriculum with peer education in the classroom. Selected teens are trained to disseminate information to their classmates on subjects such as human sexuality, reproductive health, family planning, and HIV/STD prevention. Projects in Belize, Honduras, and Jamaica have also demonstrated that the new strategy expands the range of clientele seeking the family planning associations’ services (IPPF / WHR 2001a).

Second, evaluation research has demonstrated that the altered approach improves service. In Belize, the evaluation revealed that the sexual and reproductive health approach was associated with a marked improvement in staff dedication, less staff turnover, and greater productivity relative to the program that the new services replaced. This change was attributed to enhanced technical expertise and a general increase in overall capacity to function professionally (BFLA 2001). Similar findings emerged from the gender-based violence program in Venezuela (IPPF / WHR 2001a).

Third, the shift in institutional philosophy entailed embracing the sexual and reproductive health model altered the public image for several associations. Those in Belize, Guyana, and St. Lucia received considerable support and coverage in the mass media. In Guyana, a new STD clinic was opened officially by the first lady of the country, with concomitant publicity. In other settings, the collaboration between partners has resulted in favorable publicity and media support. For example, in Venezuela, the gender-based violence project led to cooperation with new partners, several prizes, considerable press coverage, and a change in the image of PLAFAM’s staff and clientele.

**Sustainability**

Currently, the three pilot programs are at different stages—one was completed in 1997, one ended in 2000, and one is ongoing. Once special funding for such experiments comes to an end, what changes are sustained?

First, the new “external image” and internal “self-image” become permanent features of participating associations. Some affiliates are considering changes in their organizational names from “family planning association” to names reflecting their new focus. Second, the new partnerships that have been developed with government bodies and local communities are retained. An extensive change in the range and quality of client-provider interactions has been achieved as a result of improved knowledge, attitudes, and practices developed from staff training and support. Third, the organizational cultures of the participating affiliates have been changed permanently. The associations have learned that the issue of greatest interest to the community is not family planning services or HIV/STD prevention, but rather the lack of balance in power that subjects women to unwanted sex, gender-based violence, infidelity, unwanted pregnancies, and sexually transmitted infections. The women interviewed in evaluation studies expressed a sense of helplessness in communicating their sexual concerns to their partners, and some requested assistance in explaining their situation to men so that they might engage in dialogue with them. Men, the associations learned, often felt misunderstood and overwhelmed by female expectations. Communication of findings from these appraisals by means of training and discussion groups has enabled participating associations and affiliates to make the topics of gender relations and appropriate male involvement priority issues for the future (Helzner 1996).

**Lessons Learned and Future Challenges**

**The Climate of Demand for Services**

The perceived needs of clients are more general than the need for contraception. For a family planning agency to move toward an ICPD approach, shifts are required in institutional philosophy, management structure, and service-delivery strategy. When providers accept individuals’ ability to recognize and articulate their own concerns, the task of facilitating the appropriate search for care is easier. Pressure from clients who are demanding satisfaction of a wider variety of needs is a key factor triggering change.
Gender dynamics represents a key underlying variable in promoting change. The social construction of gender roles has universally put women at a disadvantage when they try to protect themselves from their male partners’ power—power to require sex or have unprotected sex, to abuse or threaten, and to control resources and decision-making. Unequal male–female relations need to be recognized as an important and necessary frontier for investigation and intervention in the future and as inextricably tied to sexuality, to contraceptive use, and to prevention of HIV transmission (Blanc 2001).

The Need for an Organizational Development Strategy

Developing a sexual and reproductive health approach requires consensus building. Building leadership for change involves piloting new strategies, developing evidence from the pilot-project experience, and using the evidence to build a high-level commitment to change.

Change takes time. In all three programs described here, the nature of the provider–client relationship is transformed from a one-way offer of assistance using a medical model to a collaborative exploration of a complex problem to learn the possible contributions that the provider and the client might make toward solving it. Staff members need to go through a personal and professional process of examining, and often changing, their own knowledge, attitudes, and behaviors, before they can be fully prepared to help clients. Staff turnover thereby becomes a more serious problem, because the investment in staff training is crucial to the new approaches described. Yet some staff members report greater job satisfaction because they sense that they are helping clients solve difficult problems.

The process of building a commitment to change benefits from exchanges. Each family planning association’s effort was enhanced by an ongoing exchange with the other countries in its program. The IPPF/WHR regional level offered guidance, coordination, training, and custom-tailored support designed to overcome particular obstacles that arose during the pilot-trial implementation of the project.

Partnerships are necessary. A family planning agency cannot, and should not be expected to, handle complex social change on its own. Community-based groups, women’s and other nongovernmental organizations, government at different levels, and universities can all help, and all these have been partners to family planning agencies in these programs. IPPF/WHR has made special efforts to join forces with key individuals and organizations in Latin America and the Caribbean through meetings, consultancies, and other forms of collaboration.

Changing operations requires clarity about costs and the commitment of resources. Resource demands need not be overwhelming. Staff training should last a few days, not weeks, and follow-up supervision can be provided by a skilled project coordinator or consultant at relatively modest cost.

Cost and efficiency affect the commitment to change. The sexual and reproductive health approach has improved financial sustainability by attracting new clients, thereby increasing local income; by expanding the skilled human resources available, at little or no cost to the association; by expanding donor support through marketing staff expertise to the United Nations Population Fund for South-to-South technical assistance in Africa; and by nurturing partnerships with national health-sector reform initiatives involving privatization and restructuring.14

Evaluation is critical to developing commitment, collaboration, and resources. The HIV/STD-prevention program did not place strong emphasis on evaluation, whereas the gender-based violence integration effort is investing a great deal in monitoring and evaluation. The Caribbean community-involvement program went beyond standard approaches to evaluation by hiring a part-time process documenter in each country to follow a research protocol that complemented the usual strategy of receiving reports from staff. In all three cases, the process indicators such as the number of training sessions and trainees, number of clients served, demographic characteristics of the beneficiaries, and even the pre- and post-training attitudes of the providers are far less complicated to collect and analyze than is information about the changes in risk-taking behaviors, gender dynamics, negotiation skills, levels of women’s self-esteem or empowerment, and so forth, that are the desired outcomes. Defining “success,” and finding the ways to measure progress toward it, are not simple tasks in terms of the ICPD goals.

The impact of the shift in emphasis on family planning requires further study. Work on AIDS, gender-based violence, and community participation is valuable in its own right, no matter what its impact on contraceptive use might be. The scarcity of funding for population and reproductive health programs, and the tension that some see between the goals of the two, means that more rigorous investigation of the possible relationship of the new approach to contraceptive use is desirable. The hypothesis can be made that broadening to an ICPD mandate dilutes and harms family planning efforts, but some argue that such efforts help increase new and continued use of contraceptives. The work on gender-based violence should help decrease high-risk behavior, increase contra-
ceptive continuation rates, and attract additional clients to a service site. Taking HIV/STD prevention into account should result in convincing more men to use condoms and more women to choose the combination of methods that best protects them against both pregnancy and disease. HIV/STD prevention should also bring more young people, especially young men, into the realm of “family planning” services, given their potential interest in staying healthy. The debate about whether increased method choice, better provider–client interaction, and other elements of quality of care hinder or promote the delivery of services has been going on for a decade. Rich material is available here for examination from many perspectives.

**Nongovernmental Organizations’ and Governments’ Roles in the Twenty-first Century**

The ICPD consensus statement provided guidance on what family planning programs can achieve through strategic change without providing guidance on how to undertake those changes. The IPPF and its affiliates have offered a nongovernmental institutional environment for experimenting with new programs since the federation was founded in 1952. Now that policy commitment to changing traditional family planning services to focus on sexual and reproductive health has largely been achieved, IPPF affiliates represent a mechanism for addressing the day-to-day challenges involved in turning ICPD rhetoric about gender equity and sexual and reproductive health into reality, as demonstrated by family planning associations in Latin America and the Caribbean during the post-ICPD period. Nongovernmental organizations and government service-delivery partnerships have extended previous collaborations in family planning services to a pilot trial of service development in line with the new focus.

The changes represented by a decade of experience within the nine associations have arisen because focused donor support and substantial regional office involvement to pilot projects could be used to implement a large-scale operational change.

The programs described in this study have the potential, with support from independent actors, including women’s health and rights activists and health professionals, to be adapted by large-scale government services. The new frontier for the twenty-first century in the population field is the necessity of helping women and men not only to achieve the number of children that they desire but also to enjoy a general state of well-being that includes freedom from unwanted pregnancy and illness and healthy, fulfilling, and pleasurable relationships.

**Notes**


2. In Colombia, for instance, 37 HIV-positive men were seen for every one HIV-positive woman as late as 1987. By 1995, that ratio had changed to five men for every one woman, and by 1998, three men for every one woman (PAHO 2001).

3. Both of these associations received some donor support for activities related to HIV/STD prevention after the end of the pilot project. For example, in Honduras, during the project, after the death from AIDS of the wife of one of the association’s permanent drivers, all the drivers began talking to other men about AIDS and condoms. The effort gradually expanded to include taxi drivers. After the project ended, a new grant eventually allowed the training of 46 taxi drivers, who reached nearly 5,000 people with information about condoms. The change in knowledge, attitudes, and practice of the drivers was striking: 85 percent felt they could be useful in helping clients, compared with 30 percent initially. This small spinoff project is dwarfed by the many opportunities that BEMFAM found to follow up its HIV integration work; it found support to work with men, with young people in and out of school, and even with selected African countries in a technical advisory capacity. In 1999, its sale of condoms accounted for 18 percent of its total budget.

4. A detailed look at the Belize project is illustrative of the approach. A first step in this process of community outreach was to work on changing attitudes among the staff of the Belize Family Life Association (BFLA). An initial “training of trainers” workshop in April 1995 introduced 20 staff members and selected community leaders to the idea of listening to the concerns of the community rather than providing answers. Twelve of those participants would later help 48 women from four of Belize’s six districts to gain the skills and confidence to organize ongoing community discussions. (Campbell and Lambey forthcoming).

5. This definition states that gender-based violence is “any act . . . that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life.”

6. The difficulty of collecting data about domestic violence in large-scale general surveys is thoroughly explored in a recent comparative analysis of three population-based studies in Nicaragua (Ellsberg et al. 2001), but the range of cumulative lifetime incidence estimates from 28 percent to 69 percent in those studies clearly indicates the dimensions of the problem.

7. Three particular types of gender-based violence are addressed by this project: childhood sexual abuse, adult sexual abuse/rape, and domestic violence (including emotional, physical, and sexual violence).

8. Regional IPPF assistance was directed to establishing the program and its evaluation, developing assessment tools, ensuring comparability across pilot sites, and sharing findings with regional affiliates (IPPF/WHR 2000a).
The Belize association reported that its motivation to enter into the process of change was prompted by “women’s changing role in Belizian society; increase in number of female-headed households (54 percent, 1996); established link between HPV and cervical cancer and rising incidence among women in Belize; increasing STI cases generally and cases among adolescents; increasing HIV/AIDS prevalence rate in Belize; increasing need for cost-recovery and more sustainability for BFLA; high fertility and teenage pregnancy; and need to establish community linkage to enhance BFLA’s response” (BFLA 2001: 1).

New screening and referral procedures produced new evidence of social problems requiring family planning association involvement. For example, upon implementing systematic screening procedures using direct questions, the PLAFAM gender-based violence initiative showed that nearly 20 percent of all clientele had been victims of violence. Pre-project procedures, using indirect questions, had suggested that only 7 percent of all clientele were victims of gender-based violence (IPPF/WHR 2000a).

For example, the ASHONPLAFA/Honduras HIV/STD program managers found that placing the project under the jurisdiction of a new staff member expressly hired for this purpose led other staff members to dismiss the program as a separate and isolated activity. This perception had to be altered by means of a dialogue between staff sharing a commitment to change and senior management who had to be motivated to broaden the organizational basis for the new approach. BEMFAM/Brazil, on the other hand, placed the change effort directly in the hands of existing high-level managers from the beginning, signaling to all concerned that change had commitment and support.

In Jamaica, although the project had the immediate support of the executive director and senior managers, the pay required to attract a qualified project coordinator was higher than the salary scale allowed. Eventually the board of directors agreed to raise other salaries to make possible the hiring of an appropriate professional for the job.

By working through existing channels within civil society, PROFAMILIA strengthened its advocacy activities and was also able to transfer its experience to the public sector and beyond. It was able to have gender-based violence screening questions and other important provisions included in the National Guidelines for the Health Care of Victims of Intramfamilal Violence in the Dominican Republic. The Belize Family Life Association formed a network with government agencies, including the Belize Family Court system (for referrals), the Ministry of Health (with which it helped to draft a policy on sexual and reproductive health), and the Ministry of Human Development (for teen programs). On the other hand, it encouraged cooperation among nongovernmental organizations. Taken together, this network of governmental and nongovernmental services is far more comprehensive than any single family planning organization was able to provide in the pre-ICPD era.

For example, the Belize association has been selected as one of three models for the National Health Insurance Scheme and is receiving new support from the government. Family planning association managers are convinced that this support would not have materialized without the changes that resulted from the community-involvement project.

IPPF/WHR has more than a decade of experience in helping family planning associations shift from a traditional medical approach to more client-oriented, quality-directed, and gender-sensitive services. A separate analysis of this process (Ortiz-Ortega and Helzner 2000) indicates how credit for these changes has been shared by the strong women’s health movement in the region as well as by the family planning community. IPPF and IPPF/WHR, together with women’s health activists worldwide, also have been promoting the translation of human rights into sexual and reproductive rights, another important area where nongovernmental organizations have the potential to influence government in the years ahead (Newman and Helzner 1999).

References


Acknowledgments

This article draws on the efforts of many colleagues. Thanks are owed to Julie Becker, Doris Bertzeletos, Sarah Bott, Coralie Bryant, Lucella Campbell, Francine Coeytaux, Yvette Cuca, Alessandra Guedes, Petrina Lee-Poy, Hernan Sanhueza, Lynne Stevens, and Victoria Ward for their contributions. The family planning associations that are helping their clients move toward sexual and reproductive health are, of course, the sine qua non of the analysis. In addition to the support from the donors to the programs described in the text, funding from the Ford Foundation and the John D. and Catherine T. MacArthur Foundation allowed the author time for reflection and writing, and is gratefully acknowledged.
Facilitating Large-scale Transitions to Quality of Care: An Idea Whose Time Has Come

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In the field of reproductive health, investigation of the transfer of knowledge gained from demonstration and pilot projects to large public-sector programs typically has not been considered a relevant domain for research or other investigation. This article draws on a range of research in the social sciences and presents two frameworks for understanding the critical attributes of successful expansion of small-scale innovations. Seven key lessons are developed using examples from family planning where scaling up was an explicit objective, including the early Taichung Study of Taiwan, the Chinese Experiment in Quality of Care, the Bangladesh MCH–FP Extension Project, the Navrongo Project in Ghana, and the Reprolatina Project in Brazil. Unless small, innovative projects concern themselves from the outset with determining how their innovations can be put to use on a larger scale, they risk remaining irrelevant for policy and program development. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 61–75)

At the beginning of the twenty-first century, family planning programs have shown a measure of success in regions of the world where earlier little hope had been voiced, especially among those persuaded by structural and demand-side interpretations of demographic change. Family planning programs have drawn increasing criticism, however, for their lack of attention to quality of care and to more general reproductive health needs. The Program of Action approved at the International Conference on Population and Development (ICPD) held in 1994 in Cairo mandates that family planning programs adopt a reproductive health approach, address social and gender inequalities, and ensure adherence to appropriate levels of quality of care (UN 1994). The challenge for the twenty-first century will be to demonstrate how this shift can be accomplished on a large scale, especially in resource-constrained public-sector settings.

A key to accomplishing the ambitious ICPD agenda lies in understanding the transfer of reproductive health innovations from small-scale projects to large-scale programs. Impressive pilot, demonstration, and experimental projects from different parts of the world have shown that quality of care can be attained and a range of reproductive health needs addressed even in settings characterized by extreme poverty (Phillips et al. 1988). Many such projects have been cited in the recent effort to document progress five years after the Cairo conference (Population Reference Bureau 1999; Haberland and Measham 2002), although they generally fail to address the question of how the innovations they have tested can be expanded or “scaled up” so that they benefit regional or national programs. The results of many other projects are confined to the “gray literature” of project documentation and, therefore, largely go unnoticed.

The use of research findings and related experience from small-scale interventions in family planning for broader policy and program development has received little attention and is not commonly acknowledged as a problem requiring scientific research. This article draws attention to important insights about scaling up that can be derived from social science literature and a variety of field experiences.

Although the family planning literature has not paid sustained attention to issues of scaling up, some exceptions can be found. In several instances, a concern for scaling up was made part of the experimental or pilot project from its beginning. One of the first major family planning experiments in the world, the Taichung study, was deliberately designed to inform national policy and
program development in Taiwan. Freedman and Take-shita (1969) and Cernada (1982) analyzed how research results in Taiwan were integrated into program experience. Another initiative, the Extension Project, organized by the International Centre for Diarrhoeal Disease Research in Bangladesh, was designed to transfer lessons from the successful Matlab Maternal and Child Health–Family Planning Project to the national program, and the process of transfer was systematically examined (Phillips et al. 1984; Haaga and Maru 1996). In a third example, the strategic approach to contraceptive introduction pioneered by the World Health Organization (Simmons et al. 1997) has dedicated a major stage of work to the use of research findings for policy and program development. As an extension of this program, the Reprolatina Project in Brazil is studying the process of how successful innovations tested in four municipalities can be made available throughout the country. Fourth, the Navrongo Project in Ghana was, from its inception, designed to avoid the problem of isolation of research from action.

The project is a collaboration between researchers and senior government officials. At all stages, results have been fed into the normal channels of government through memoranda, staff meetings, and internal Ministry of Health conferences (Nyonator et al. 2001).

If we look beyond the family planning literature to related areas of reproductive health (Gonzales et al. 1999), and beyond that to the international literature on hunger eradication, income generation, and child survival and nutrition, we can see that attention to scaling up increased considerably in the 1990s (Clark 1991; Edwards and Hulme 1992; Lovell and Abed 1993; Uvin 1995; Wils 1995; Uvin and Miller 1996; Wazir and Oudenhoven 1998; Marchione 1999; Sternin et al. 1999; Uvin 1999). Much of this research arose out of a broader interest in the role of nongovernmental organizations (NGOs) in the development field. This body of work provides a range of important lessons about scaling up and also attempts to present typologies of how NGOs have dealt with growth in their programs and projects.

This article draws upon research from several social science disciplines in an effort to develop broader frameworks and principles for understanding how innovations are transferred successfully from pilot projects to larger, public-sector programs. Among the studies that can inform discussions of scaling up are: (1) a body of scholarly work that explicitly studied the diffusion of innovation and the transfer of knowledge (Havelock 1971; Glaser et al. 1983; Rogers 1995); (2) the political science literature related to policy formation, agenda setting, and the diffusion of innovations within political systems (Walker 1969; Kingdon 1984; Mintrom 1997); and (3) theory and research from the management and organization sciences (Lawrence and Lorsch 1969; Perrow 1978; Paul 1982; Rondinelli 1983; French and Bell 1995; Donaldson 2001).

Because the literature on the transfer of knowledge and diffusion of innovation is largely unknown in the international health and development fields, some of its central ideas are highlighted below. This literature alerts us both to the attributes that encourage successful transfer and to the difficulties that confront the broad replication of quality-of-care innovations. Pertinent insights from the political and organization sciences as they apply to the international scaling-up experience in family planning and health care are also discussed. Scaling up, which in the NGO literature is defined as “increasing impact” (Edwards and Hulme 1992: 14), is defined here as the deliberate transfer of quality-of-care innovations tested in pilot or experimental projects to large-scale public-sector health and family planning bureaucracies.

**Insights from the Knowledge-transfer Literature**

In the decades following World War II, interest in the application of knowledge and especially in the diffusion of technology was strong. Technological innovations were multiplying, social science and applied research were thriving, and issues of social change—in both industrialized and nonindustrialized societies—attracted a great deal of attention. The diffusion of innovations, planned change, and the dissemination and use of research were the subject of many publications. For example, the bibliography of a major review of the literature on the diffusion of knowledge and the implementation of planned change by Glaser et al. (1983) consists of more than 2,000 entries; Rogers’ bibliography in his volume on the diffusion of innovations (1995) comprises more than 1,000 entries. Between 1964 and 1986, the Center for Research on the Use of Scientific Knowledge at the University of Michigan was dedicated to these issues. Similarly, in the field of family planning, interest in this subject was illustrated by the organization of a conference on the use of family planning research (Echols 1974, as cited by Cernada 1982), and of other professional meetings and activities. Although still pursued in the social sciences, these issues have become less prominent than they were in the 1960s, 1970s, and early 1980s.

The key question addressed in this body of work is how to ensure that new products, ideas, or exemplary practices will be put to use on a broad scale. The literature on the transfer of knowledge and innovations has identified a variety of factors that affect the successful
transfer of knowledge. Distinctions are made among factors pertaining to: (1) the innovation itself, that is, the innovative product, process, or practice; (2) the change agency, resource, or sending system from which the innovation originates; (3) the potential users or the user system—sometimes also referred to as the receiving system; (4) the means of transmitting knowledge, also referred to as the dissemination–utilization strategy or the linkage process; and (5) the larger social system within which the transfer of innovation occurs.

In seeking to identify the determinants of the effective use of knowledge, several authors have established lists of variables or attributes that can be used in assessing the potential for innovations to be implemented in particular settings. These factors are derived from a variety of sources: case studies, clinical experience, and research projects that have used models of behavioral change and learning theory.

Figure 1 provides an overview of elements of the innovation-transfer framework, along with key attributes that were found to assure success in such a transfer. The large oval represents the social, cultural, political, and economic environment within which the resource system and the user system are located (for a discussion of the importance of this larger sociopolitical context, see Chunharas 2001). The small rectangle to the left within the oval depicts the innovation as well as the resource system (or change agency) that has tested the innovation. The small rectangle to the right side within the oval designates the user system, that is, the organization or program context within which the innovation is to be replicated and expanded. Connecting these two rectangles is an arrow, representing the linkage process, defined as the strategies for the communication, diffusion, or dissemination of the innovation. The arrow is pointing in both directions to highlight the importance of a two-way communication process to ensure that the transfer of knowledge succeeds.

Connected to the innovation, to the user system, and to the linkage process are three boxes outside the oval. These identify major attributes of each component that, according to the literature, contribute to a successful translation of new ideas, products, and exemplary processes into larger-scale practice.

Attributes of the Innovation

Innovation is defined as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers 1995: 11). As Rogers points out, whether the idea, practice, or object is new or whether it is only perceived to be so matters little. If it is perceived to be new, it is considered an innovation. Glaser identified seven key characteristics of the innovation that were found to facilitate its wider application (Glaser and Taylor 1973, as cited in Glaser et al. 1983). Innovations must be: (1) based on sound evidence or espoused by respected persons or respected institutions in order to be credible; (2) observable to ensure that potential users can see the results in practice; (3) relevant for addressing persistent

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**Figure 1** Components of the innovation-transfer framework and key attributes of success
or sharply felt problems; (4) having a relative advantage over existing practices so that potential users are convinced that the costs of implementation are offset by benefits; (5) easy to install and understand rather than complex and complicated; (6) compatible with the potential users’ established values, norms, and facilities; (7) able to be tested or tried without committing the potential user to complete adoption when results have not yet been seen.6

These seven characteristics logically facilitate the transfer of innovations, but in practice they are unlikely to be present simultaneously. In the case of innovations derived from research, evidence may be sound and the innovations may be supported by respected persons or institutions. Proposed innovations usually are observable in pilot, demonstration, or experimental projects, and they can be tested by the user system before large-scale adoption.

Other attributes on the list above may not be present, however. Policymakers or other decisionmakers may not always see the advantage of the innovation; they may consider it too complex or costly, or the innovation may conflict with established norms, practices, or resources in the potential user system. For example, when innovations are tested in nongovernmental settings rather than in the public sector, policymakers may argue that the innovations are irrelevant.

Policymakers usually have a preference for technological solutions, expecting that “magic bullets” will provide effective solutions to pervasive problems. New approaches to preventive health care or emphasis on what has been referred to as the “software” dimensions of quality of care receive less attention because they are less visible or demonstrable. For example, to program managers and policymakers, expanding contraceptive choice typically suggests bringing in new contraceptive devices and distributing them rapidly. It does not suggest improving counseling or the information given to clients or upgrading the technical standards of care. Technological solutions are also easier to install and understand than are innovations in management with which services of higher quality can be delivered. Policymakers want simplicity, whereas researchers may conclude that relatively complex change is needed.

Moreover, improving the quality of services usually requires that clients be treated with dignity and respect, that their concerns be listened to, and that they be given the information and support they need. Public-sector bureaucracies charged with delivering reproductive health-care services are rarely characterized by such an orientation. Providers and field staff are more likely to be authoritarian and nonsupportive of clients’ needs.

Furthermore, public-sector management systems tend to be punitive rather than problem solving in their approach to supervision and generally are not sufficiently supportive of their frontline staff. Small-scale demonstration or experimental projects often create an organizational environment in which energies are directed toward achieving formally established service goals. In large-scale, complex bureaucracies, other concerns tend to predominate, such as finding additional sources of income, advancing careers, promoting political agendas, and dealing with power struggles (Perrow 1978; Misra et al. 1982; Phillips et al. 1985).

**Attributes of the Potential User System**

Research findings show that successful transfer of innovations is facilitated when: (1) the members of a user system perceive a need for the innovation, and consider it beneficial and congruent with the system’s central ideas and concepts; (2) the user system has the appropriate implementation capacity, values, and openness; (3) the timing and circumstances are right; (4) the user system possesses effective leadership and internal advocacy; and (5) the resource and user system are similar in characteristics (homophily) and are in close physical proximity.7

For an innovation to be adopted, the members of the user system must be sufficiently dissatisfied with the status quo, must generally be open to the idea that change is desirable and possible, and must be willing to accept outside help. The innovation must be perceived as relevant to the pressing problems the system faces, and there should be no major resistance to the innovation’s central concepts and ideas.

These requirements often stand in contrast to the circumstances found within the potential organizations that will have to scale up pilot programs. The quality-of-care and reproductive health innovations tested in small-scale interventions address problems that are sharply felt in the global reproductive health profession by individual researchers, and even by individuals within the user system. The key decisionmakers within the user system may not give these problems priority or consider them to be pressing, however. Their agendas are often oriented differently.

Clearly, the user system must have the appropriate openness, values, and capacity to implement an innovation. In practice, the organizations or programs expected to scale up quality-of-care and reproductive health innovations are usually limited in their capacity to implement such change. Their physical and human resources generally are constrained. Their organizational culture often does not support a quality-of-care and human-
service orientation that makes such innovations effective (Simmons 1980).

The work of Havelock and Lingwood (1973) and Rogers (1995) emphasizes the importance of “homophily”—the similarity in the characteristics of the resource organization and the user system—as critical attributes for determining the successful transfer of innovations. Researchers and policymakers are, by definition, dissimilar in their orientations. Policymakers and program managers need quick and timely solutions; researchers require sufficient time to undertake a systematic process of study design, data collection, analysis, and synthesis. Scientific rigor requires a process of rational steps and methodical documentation of findings and analysis. Political rationality proceeds according to a different logic and at a much faster pace. The innovations often do not fit readily into the organizations into which they are to be transplanted. Such complications suggest that if the transfer of knowledge and innovations is to succeed, careful and sustained attention must be devoted to the linkage strategy.

Attributes of the Linkage Strategy

Key attributes of the linkage strategy that have been found to predict successful transfer are: (1) clear messages through which the advantages of the innovation are made visible; (2) personal contact and informal communication; (3) early involvement of members of the user system; (4) adaptation of the innovation to the local context; (5) technical assistance and a supportive approach; (6) sufficient time to implement new approaches; and (7) strong diffusion channels.

For innovations to be adopted widely, they must be presented simply and clearly, and their advantages must be made apparent. The language of research, however, is often unintelligible to policymakers and program managers (Orosz 1994). Researchers usually have a trained incapacity to communicate in practical, clear, succinct language.

Even though written materials are relevant, research on the transfer of innovations has consistently demonstrated the power of interpersonal contact, both formal and informal. For example, Rogers (1995:18) has argued that “People learn about new ideas, products and processes not necessarily through a rational and directive information seeking process, but often through serendipity and personal contact.” The mass media can make people aware of an innovation, but interpersonal channels of communication are more effective in persuading individuals to accept new ideas or practices (Rogers 1995; Gladwell 2000). Glaser (1983: 305) notes that “Con-
in quality of care and other aspects of reproductive health should not be considered a simple or mechanical process. These innovations cannot flourish in the organizational environment that characterizes most public-sector programs; they require change in organizational culture and orientation. Scaling up quality-of-care innovations in reproductive health, therefore, must be considered an institutional change task of major proportions.

Seven Key Lessons for Scaling Up

Scaling-up examples from the family planning and related reproductive health literature and experience provide a number of useful lessons. Insights from the political and organizational sciences are drawn upon here because political, institutional, and organizational factors and not predominantly resource constraints are major barriers to scaling up (Satia et al. 1985).8

A complete review of what can be learned from either the family planning or the political and organization sciences would be too formidable a task to undertake within the confines of one article.9 Examples are presented here that illustrate central issues and provide seven key lessons for scaling up. These lessons demonstrate that systematic attention to the process of scaling up can yield positive results even in difficult environments.

Using the insights from the family planning experience and the policy and organization sciences, we present a second framework (see Figure 2). The innovations with which we are concerned relate to providing access to quality reproductive health services for women, men, and adolescents, to user orientations, gender and reproductive rights perspectives, and empowerment. Figure 2 builds on Figure 1, offering a conceptual framework that identifies key elements in the resource and the user systems that facilitate scaling up of innovations designed to improve quality of care. It also identifies a process of participatory organizational development that enables potential change agents in both systems to work together to scale up innovations. The innovation, the resource system, and the user system are again placed inside an oval that represents the social, cultural, political, and economic environment within which scaling up takes place.

Lesson One

Do not rely on spontaneous transfer; make scaling up a concern from the time pilot projects are initiated. Skeptics might argue that sustained attention to the use of research findings is unnecessary. Ample evidence exists, they might assert, that many kinds of innovations spread spontaneously from individual to individual and from inno-

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**Figure 2** Participatory organization development (OD) framework for scaling up quality-of-care innovations

- **Environment**
  - Cycle of diagnosis, intervention, and evaluation
  - Systems and contingency thinking
  - Community involvement
  - Training and development of shadow training/intervention teams
  - Phased implementation, adaptation, and learning
  - Appropriate packaging of information and dissemination
  - Benchmarking and networking
  - Policy advocacy

- **Innovation**
  - Access to quality reproductive health services for women, men, and adolescents
  - User orientation
  - Gender and reproductive rights perspective
  - Empowerment

- **Resource system**
  - Skilled reproductive health trainers
  - Organizational development practitioners
  - Commitment to social justice
  - Service-delivery researchers
  - Donor support

- **User system**
  - Policy windows
  - Policy entrepreneurs
  - Political support
  - Demand/interest
  - Ownership
  - Quality of care/reproductive health champions
  - Points of organizational strength

- **Participatory organization development**
  - Policy windows
  - Policy entrepreneurs
  - Political support
  - Demand/interest
  - Ownership
  - Quality of care/reproductive health champions
  - Points of organizational strength
Innovations in community-based family planning and primary health care initiated by the Navrongo Health Research Centre (NHRC) in Ghana have been spontaneously replicated in other regions of the country by health officials who visited the project. A quality-of-care pilot project undertaken by the State Family Planning Commission of China in one county in each of six provinces has generated much interest in replicating these innovations in other counties of these provinces without project leaders’ deliberate efforts to generate such interest. Indeed, other provinces and regions of the country have shown considerable interest in becoming part of the pilot project (Gu Baochang 1998; Zhang Erli 1998).

The spontaneous transfer of research innovations from experimental settings to larger program units is an important process. As the literature indicates, it is likely to occur when the innovations address a clearly felt need within the program or when a focusing event draws attention to a need (Shiffman 2000). In China, for example, a heavy-handed and tightly administered population-control program increasingly encounters complaints from local people, demonstrating that the program is incompatible with the climate of personal initiative and entrepreneurship that is encouraged by economic reforms. The program is also likely to become redundant in regions where fertility preferences are already low and couples have access to other sources of contraception than those provided by the government. Improving the quality of care and incorporating a range of reproductive health services also address managers’ desire to follow the consensus established at ICPD and the 1995 Beijing Women’s Conference (Simmons et al. 2000).

In areas where a strongly felt need for change—or other factors—generates a spontaneous expansion, ensuring that the essence of the innovation remains intact is important. In Ghana, conversations with regional directors of health have revealed that where the diffusion of the Navrongo model has occurred in an unguided, spontaneous way, only one major element of the approach is being replicated: posting a community health nurse at the village level. Such a spontaneous replication misses the point that the model’s success has depended largely on the mobilization of community leaders and elders and on a participatory approach that involved these leaders in program implementation (Nazzar et al. 1995). Incomplete or superficial transfer of reproductive health innovations will not produce the desired results. As evidence mounted in Ghana that scaling up was associated with partial implementation and poor service quality, a formal program was launched to coordinate the scaling-up effort.

An even more important reason why we must pay systematic attention to scaling up is that without such attention, small-scale research innovations remain mostly irrelevant for policy and program development. Spontaneous and complete diffusion of such innovations is extremely rare, precisely because the quality-of-care innovations are not often congruent with the institutional practices of public-sector programs. A process of learning is necessary about what works and what does not and about what needs to be adapted or changed as innovations are implemented on a larger scale. To ensure that such learning occurs and is widely shared among the relevant stakeholders, scaling up must be intentional, directed, and supported.

Family planning field experience suggests that a concern for scaling up should guide the very design of pilot projects (Pyle 1980; Cernada 1982; Simmons et al. 1997). As described above, the literature on the diffusion of innovation argues that those who will later implement results on a broader scale should be involved in the early stages of the project planning process. Moreover, innovations should be tested under realistic institutional conditions and within the resource constraints of public-sector programs.

**Lesson Two**

*Acknowledge the political nature of the task and value incremental change.* Most observers know that public-sector bureaucracies, especially those in resource-poor societies, are complex political organizations, frequently more concerned with power struggles than with the provision of quality services. Therefore, any attempt to scale up service-oriented innovations is likely to encounter political and other obstacles. The awareness of such barriers is rarely part of the official, professional, or even academic discourse. Scaling up, if considered at all, is treated as a technical task to be approached from the perspective of training needs, personnel, or the requirements of physical resources. Exceptions are Cernada’s 1982 review of Taiwan’s early experience with the use of research, Haaga and Maru’s review (1996) of the effects of operations research on program changes in Bangladesh, and Pyle’s analysis (1980) of why an integrated health and...
nutrition project was not scaled up. Haaga and Maru (page 85) concluded:

Policy advice that is consonant with existing power relations (between layers of the hierarchy, or among functional units) is the easiest to implement. Policy advice that disrupts longstanding relationships is especially liable to remain mere declaration.

Proposed innovations, particularly those likely to bring about major shifts in the way services are provided and managed, often threaten to interfere with existing power relations. As a consequence, large-scale expansion may succeed only partially. This point is well documented in an example from the Extension Project’s effort in Bangladesh in the late 1980s to assist with nationwide recruitment of community-based female family planning workers. When comparison of worker-to-population ratios between the Matlab project and the government family planning program revealed that the more favorable ratios in Matlab explained a fair amount of its success, the government embarked upon large-scale recruitment of additional workers. The Extension Project, the major goal of which was to transfer lessons from Matlab to the government program, provided technical assistance for this effort, using recruitment criteria that had been pretested in Extension Project subdistricts. Results demonstrated that such rational recruitment criteria as workers’ residence in their area of employment and their educational qualifications could be enforced (Simmons 1987; Haaga and Maru 1996). By contrast, monetary kickbacks to officials involved in recruitment could not be abolished. Such payments are as deeply rooted as they are deleterious for implementing results-oriented programs.

An understanding of the political dimensions of large-scale transfers of innovation generates realistic expectations about the extent to which large bureaucratic systems can be changed. The Extension Project demonstrated that a great deal can be accomplished despite the pervasive presence of dysfunctional power relations. The cumulative benefits of such incremental change must not be underestimated, although as noted above, if replication is incomplete, it may not produce the full range of desired effects.

Lesson Three

Benefit from policy windows and policy entrepreneurs. Insights from the political science literature concerning the policy process provide a more optimistic interpretation of the point made above. It suggests that although leadership and internal advocacy are essential for implement-
Any scaling-up initiative can benefit immensely from the support of policy or program entrepreneurs. For example, the Deputy Minister of Health of Ghana took great interest in the results of the community-based family planning and health service model developed and tested by the Navrongo Health Research Center until his replacement after the national elections in 2001. He saw this model as providing a mechanism for bringing primary health care to local communities—a goal that he had sought since the 1970s, and especially since the Alma Ata Declaration.13 Being senior and close to retirement, the deputy minister was not only a person with expertise, a formal position of authority, and many connections, but also someone who no longer had to be concerned about his professional or political career. As a result, he was able to devote his full attention to the pursuit of policy priorities. He considered the provision of primary health care an urgent necessity and viewed the Navrongo model as a viable solution to this need. With the change in government and the replacement of the deputy minister, political support for the scaling-up initiative has atrophied.

Scaling up benefits from the creation of coalitions of support, ideally across party-lines, so that the initiative does not depend on a single individual (Pyle 1980). Obviously, such broad-based support is not easy to achieve.

Lesson Four

Insist on phased implementation while simultaneously addressing broader dissemination of central ideas. Policy entrepreneurs willing to champion the cause of program innovations are major assets. The discrepant time perspectives of policymakers and researchers remains a problem, however. Policy entrepreneurs tend to have the short-term time horizons of the politician and little patience for a slower, incremental process of research and expansion.14 Successful development projects, by contrast, use a process of phased implementation that allows learning through gradual expansion and concurrent adaptation (Paul 1982; Rondinelli 1983).

Gradual expansion of research-based innovations is important because, in many instances, the determinants of success in experimental projects are incompletely tested or understood. For example, the Matlab project tested a community-based family planning service model showing that such a strategy can have significant impact on desired outcomes. In implementing the model, however, the project deliberately isolated itself from local political pressures that might have curtailed its ability to design an effective management and monitoring system (Phillips et al. 1988). As a result, only partial conclusions about the broader use of Matlab results for national program development could be derived. The project demonstrated that community-based and user-oriented services will succeed, but not how such a strategy could be implemented in a complex, bureaucratic, and resource-poor national program. Answers to those questions could only be obtained from the Extension Project organized later within the constraints of the public-sector program.

In Ghana, the current interest in scaling up the Navrongo model presents a similar predicament. Navrongo has demonstrated that a community-based and participatory model of service delivery could make inroads in a traditional and economically deprived setting. The push for nationwide expansion occurred before complex managerial dimensions of the innovation were functioning without the support of the research team. Therefore, no evidence-based advice could be given from the Navrongo Health Research Centre about how the public health system could be reoriented to provide supportive supervision or about which management information system would work within the context of the national program. A process of phased expansion of research innovations provides time to adapt and learn. Phased implementation also allows for the possibility of reinventing (Rogers 1995) or adapting innovations to variable conditions.

The Ghanaian example shows how the contradiction between the pressure for quick expansion and the need for gradual scaling up and adaptation might be reconciled. The current plan for expansion combines attention to national dissemination of the key lessons from the Navrongo experiment through consensus-building involving national and regional health leaders and a process of guided expansion of the model to a limited number of districts. This approach allows for the possibility that national and regional policymakers and program managers can move ahead with consensus-building and preparation for large-scale implementation. According to the plan, regional health directors can proceed with replication on their own. At the same time, the Navrongo Health Research Centre is undertaking a process of phased implementation in a limited number of districts. Work in these limited settings will encourage learning that can subsequently be used to inform a further expansion of the model.

Lesson Five

Scale up where there are points of strength. The transfer of small-scale innovations to larger systems is enhanced by capitalizing on points of strength. Large, complex nation-
regions within a program, these can serve as benchmarks for policymakers and program managers and build momentum for further expansion. Such a strategy was pursued in China. Leaders of the quality-care project felt that prior to expansion to poorer provinces, national policy commitment to quality of care needed strengthening. Doing so involved demonstrating success, which could be most easily accomplished in the more developed part of the country. Since national policy commitment is ensured, new quality-care pilots are being initiated in poorer, western provinces (Zhang Kaining 2001). This example serves to emphasize the point that scaling up refers not only to the expansion of service innovations but also to the building of policy support for quality of care in reproductive health services.

Lesson Six

Use participatory organization development and ensure long-term support from resource systems. Mainstreaming quality-care innovations in public-sector bureaucracies requires instituting management practices that support these innovations. Organization development is an applied behavioral science discipline that can be used for this purpose. Organization development has been defined by French and Bell (1995: 28) as

a long-term effort, led and supported by top management, to improve an organization’s visioning, empowerment, learning, and problem-solving processes, through an ongoing, collaborative management of organization culture . . . utilizing the consultant-facilitator role and the theory and technology of applied behavioral science, including action research.

It is a process of working collaboratively with people in organizations, helping them diagnose existing problems, design interventions, and evaluate their effectiveness. Experience in Bangladesh (Phillips et al. 1984) and Brazil has shown that use of such a process can be instrumental in promoting the transfer of innovations and the transition to quality of care in reproductive health services more generally.

Organization-development practitioners start with the assumption that substantial improvements in management processes, culture, strategies, and structure cannot be accomplished in a short period of time. Such change requires a commitment to a process of organizational improvement. Transferring quality-care innovations to public-sector bureaucracies can only succeed if there is such a commitment to required institutional needs and to the required investment in time (Phillips...
A “program” rather than a “project” perspective is needed, as well as donor support for such longer time horizons.\textsuperscript{18} Such institutional changes do not necessarily require the infusion of massive external resources. On the contrary, the pilot projects discussed here have undertaken quality-of-care innovations with minimal additional input. Moreover, the additional resources needed were generated mostly from within the bureaucratic system into which innovations were introduced (Díaz et al. 1999; Zhang Erli et al. 1999). Cost analysis of the widely discussed Matlab project showed that the relatively high-quality services provided by this project were not more expensive than those provided by the much weaker public sector (Simmons et al. 1991).

Emphasis in the organization-development approach on a cycle of diagnosis, intervention, and evaluation highlights the importance of information feedback to decisionmakers. Clear, parsimonious, and expeditious feedback about the operations of existing programs or health needs, ideally presented in concise indicators, are an essential ingredient in the successful transfer of innovations (Cernada 1982; Kingdon 1984).

A key characteristic of organization development is that consultants (in the framework presented here—members of the resource system) establish an egalitarian relationship with members of the organization with which they work. Their role is to help organization members identify new opportunities and solve their own problems (French and Bell 1995). As noted in Figure 2, members of the resource system must be experienced trainers who can impart to others the values that produced the successful innovations and be familiar with the principles of organization development and service-delivery research.

Moving to greater quality of care in reproductive health services constitutes a major new opportunity for public-sector health bureaucracies. To emphasize the egalitarian nature of the relationships and the need for local ownership by health authorities, we prefer to use the term “participatory organization development.”\textsuperscript{19} To ensure effectiveness and the local relevance of innovations, a participatory process also includes involvement of community members (Díaz et al. 1999).

In Brazil, the Reprolatina Project is currently expanding quality-of-care innovations previously tested in four municipalities to other municipalities. Participatory organization development is undertaken as a collaborative effort among health authorities, providers, community members, and members of the resource team. It focuses on: (1) assessments of local health service needs; (2) training in sexual and reproductive health; (3) restructuring of services to allow greater attention to reproductive health; (4) improvements in supervision, supply management, and information systems; and (5) the strategic use of information technology. In addition, local training and intervention capacity are being developed to ensure that innovations can subsequently be expanded to other municipalities within the region. The effectiveness of “shadow” replication teams, which continue to expand innovations in other areas once the original training and intervention team withdraws, has been documented in the scaling up of dairy cooperatives in India (Paul 1982). As innovations expand to more and more municipalities, networking among participating municipal partners serves to reinforce and sustain the movement to greater quality of care.

\textbf{Lesson Seven}

\textit{Appreciate the principle of contingency and the need for adaptation.} One of the most insightful lessons from the organization sciences is that no single best way exists to organize anything. This lesson is derived from contingency theory, which states that what works best organizationally depends on the particular context in which organizations function (Lawrence and Lorsch 1969; Donaldson 2001).\textsuperscript{20} Contingency theory encourages us to think of organizations as systems of interrelated elements, where change in one aspect has to be evaluated within a larger context (Katz and Kahn 1978). Such “systems thinking” is a major component of the strategic approach to contraceptive introduction in which attention to scaling up is heavily emphasized (Simmons et al. 1997).

Contingency theory suggests that service-delivery innovations may be feasible in one region of a country but may need to be adapted to work well in another. For example, the principle of proximity identified by the social science literature on the diffusion of innovations might be used to argue that the resource system should always be located close to the user system. This proximity worked well in Taiwan, for example, where the research and implementation teams were housed within the same organization. Scaling up benefited from the close association of these two systems (Cernada 1982). The Taiwan experience was successful because extensive capacity and motivation existed within the government system. Where such capacity is absent, too close an association can also entangle the resource team in bureaucratic red tape and inaction.

Reflecting the principle of contingency, the organization-development approach used by the Reprolatina Project requires that a diagnostic assessment must be undertaken in each new participating municipality. This assessment serves to familiarize the resource team and
key members of the user system with the practical realities of service implementation. It also provides an opportunity to assess how service innovations successfully implemented in other regions of the country should be adapted to the particular context. Such a focus on local needs and realities is also essential for health authorities and political leaders who want to ensure that new initiatives fit their policy agendas and requirements.

The principle of contingency is so important that it almost calls into question use of such a term as the “transfer” of innovations. General principles are transferable, but as Rogers (1995) points out, innovations have to be reinvented in each location so that they can be locally owned.

**Conclusion**

Referring to small-scale innovations in health and family planning as pilot or demonstration projects implies that such efforts will lead us somewhere or demonstrate something that is relevant beyond a limited setting. Yet there are many pilot projects that lead nowhere and many demonstrations that do not produce action on a broader scale. Experimental projects often provide good scientific data about what interventions have beneficial effects on fertility, mortality, or reproductive morbidity. Too often the science ends there. The predominant underlying assumption has been that the demonstration of success by itself would lead to the transfer of innovative approaches to large-scale programs and policy development. In the family planning field, investigation of the transfer of knowledge from small projects into large-scale programs typically has not been considered a relevant domain for research or other scientific analysis.

Pilots, demonstrations, and experimental projects are immensely valuable. They must be designed, however, not only to test what works to improve health or reduce fertility; they should also, from the outset, be concerned with the question of how the innovations can be put to practical use on a large scale. Rigorous study and analysis should not end with the pilot project or experiment. It should be extended to the process of transferring innovations into larger programmatic settings. This review of relevant literature suggests that doing so will be a difficult task, because a large gap exists between the attributes of user systems that predict success and the prevailing situation of large-scale bureaucracies charged with implementing reproductive health services. Past and current experience with scaling-up projects provides valuable lessons, and insights from the organization and political sciences have proved helpful in formulating the seven strategic lessons presented here. A focus on transferring innovations from small-scale projects to larger public-sector programs is an idea whose time has come.

**Notes**

1. This experiment, designed to bring family planning to the city of Taichung, was initiated in 1963 by the Taiwan Provincial Health Department. The rapid success of the project led to its extension to the whole of Taiwan one year later. This carefully documented experiment provided a model for programs in other parts of the world during the early years of the family planning movement.

2. The Matlab Project was initiated in 1977 in the rural field station of the ICDDR,B to test the hypothesis that an appropriate service delivery system can induce fertility decline even in an adverse socioeconomic setting (Bhatia et al. 1980; Phillips et al. 1982; Phillips et al. 1988). When the success of the project became evident, the Ministry of Health and Population Planning of Bangladesh requested the ICDDR,B to assist in transferring successful family planning and health-service innovations to the public-sector program. This request led to the initiation of the Extension Project in 1982, which initially operated in two subdistricts and was subsequently extended to other areas of the country (Phillips et al. 1984; Haaga and Maru 1996).

3. The Reprolatina Project’s main goal is to increase access to quality family planning services and related reproductive health services in public-sector programs in Brazil and other Latin American countries. It was initiated in 1999 as a partnership among three institutions: Reprolatina, a nongovernmental organization in Campinas, Brazil, the Population Council, and the University of Michigan.

4. The Community Health and Family Planning Project of the Navrongo Health Research Centre in northern Ghana was initiated in 1994 as a pilot project and scaled up to a districtwide experimental study in 1996. The project was guided by a Ministry of Health protocol for testing the impact of alternative strategies for community-based health and family planning services on fertility and child mortality (Binka et al. 1995; Nazzar et al. 1995). Preliminary results of the project demonstrated that service activities, community organization, and mobilization can improve primary health care and reduce fertility (Pence et al. 2001; Debpuur et al. 2002).

5. The number of attributes identified is immense. Only a few key attributes are selected here for discussion. For a major review of this literature, see Glaser et al. (1983).

6. Other authors identified other, overlapping attributes. For a fuller discussion, see Glaser and Taylor (1973) and Rogers (1995).

7. Several of these factors were originally enunciated by Davis (1971) and by Davis and Salasin (1975) (as cited by Glaser et al. 1983). Proximity and homophily were emphasized by Havelock and Lingwood (1973) and by Rogers (1995), and leadership by Glaser et al. (1983).

8. D’Alessandro et al. (1995) provide a contrary example, however, showing that although nationwide introduction of insecticide-treated bed nets in The Gambia would produce significant reductions in child mortality, the effort was not affordable.

9. For an earlier review of literature on organizational factors and political, economic, and sociocultural processes, see Glaser et al. 1983.
Health officials’ frequent visits to the Navrongo field site produced spontaneous replication of some aspects of the model in other regions of the country. Because such replication was haphazard and incomplete, a formal project seeking to scale up the model for the country as a whole was initiated by the Ministry of Health.

The expansion of the WARMI methodology from Bolivia to Peru experienced a similar problem (Gonzales et al. 1999).

This informal program is known as the Community-based Health Planning and Services Initiative.

In 1978, the Alma-Ata Declaration approved at the International Conference on Primary Health Care at Alma-Ata, Kazakh, USSR, established that by the year 2000, all peoples should have attained a level of health that permits them to lead socially and economically productive lives. Primary health care was seen as a key to attaining this goal.

As an example of this point, in Taiwan research results were not implemented because the project’s findings were not yet available when critical program decisions had to be made (Cernada 1982).

For a discussion of benchmarking, see Boxwell (1994).

For a discussion of various types of scaling up, see Uvin (1995 and 1999) and Uvin and Miller (1996).

The WARMI project in Bolivia (Gonzales et al. 1999) used a “community-action cycle” consisting of auto-diagnosis, planning, implementation, and participatory evaluation, which is similar to organization development as described here.

For a similar point, see also Gonzales et al. 1999.

The importance of this point was also discussed extensively in the social science literature on the diffusion of innovation (Have-lock 1971).

This point was also made in the research-utilization literature. Glaser et al. (1983: 11) argue that “one who plans to undertake a particular utilization effort must keep in mind the many considerations and circumstances affecting the particular case. . . . [E]ach application of any principle that may evolve from a summation of individual studies of innovation is contingent on various characteristics that pertain to that application.”

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Acknowledgments

The authors gratefully acknowledge the support of the UNDP/UNFPA/WHO/World Bank Special Programs of Research, Development and Research Training in Human Reproduction’s Strategic Component on Technology Introduction and Transfer and the Bill and Melinda Gates Foundation. We also greatly appreciate the assistance of Max Heirich, Laura Ghiron, Cindy Colen, and Shailaja Maru, who provided extensive research support and manuscript review.
Sub-Saharan Africa will be the family planning frontier of the twenty-first century. Fertility levels and population growth rates are still high, and family planning programs suited to the region are still being developed. Nevertheless, by the end of the twentieth century, fertility transition was underway in Southern Africa and a few countries elsewhere. Successful regional family planning in the twenty-first century will depend upon stronger political leadership, the development of family planning programs that meet the needs of all segments of society and not only currently married women, assistance to the market, and a recognition of the central importance of hormonal methods, especially injectables. Problems include stagnation in economic growth and in child mortality decline, as well as the persistence of the AIDS epidemic. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 76–86)

Sub-Saharan Africa will constitute the most important family planning frontier of the twenty-first century because fertility is still high in all its subregions except Southern Africa, home to less than one-thirteenth of its population. Contraceptive prevalence is far lower than that of any other world region, partly because of low levels of socioeconomic development but also partly because of strong cultural resistance to family planning. In such circumstances, family planning programs modeled on those of Asia or North Africa have not been successful, and modified or alternative models have yet to be developed. The process has been slow because most governments, mirroring the outlook of their peoples, have not given it strong support.

This situation is changing, but even if family planning programs achieve greater efficiency and receive sufficient government and donor support to maintain the unprecedentedly steep fertility decline posited by the United Nations (1999 and 2000) medium population projection, the lateness of the sub-Saharan African fertility decline will mean that this region will treble its numbers and double its proportion of the world’s population from just over one-tenth to one-fifth during the twenty-first century. Given the poverty of the region’s agricultural resources and the limited changes in its type of agriculture, such growth may give rise to substantial problems. We now know, as we did not a decade ago, however, that the fertility transition has begun in some parts of sub-Saharan Africa. Those places include Ghana, Kenya, the southern half of Nigeria, all of Southern Africa, and Zimbabwe. We also know that a well-resourced family planning program in South Africa was instrumental in that country’s attaining a fertility level comparable with developing regions outside Africa.

The aim of this study is to assess the fertility and fertility-control situation as the twentieth century came to an end, and to use this evidence as a guide to what could be achieved in the twenty-first century. The first section assesses the demographic evidence, the constraints to greater family planning change, and the program situation at the close of the century. The second section places the movement toward more successful family planning programs in the twenty-first century in its socioeconomic, institutional, and human context.
Bongaarts and Watkins (1996) data. In every one of the

First, an important point should be made based on the

fertility decline in sub-Saharan Africa and the implica-

(2002) demonstrated that between

its fertility began to fall by 29 to 57 percent in these Asian countries, whereas

Asia (Bangladesh, Egypt, India, Indonesia, Morocco, Tunisia, and Turkey), a

national family planning program had been in place for a number of years. Elsewhere, where the onset

occurred without such a program or early in the deve-

opment of one (Hong Kong, Malaysia, Mauritius, Philip-

pines, Singapore, Sri Lanka, Thailand, and the whole

of Latin America), the index was higher, and its range

covers the HDI values of Botswana, Kenya, and Zimba-

bwe. This finding merely adds another item to the list of

those that set sub-Saharan Africa apart: Why was it im-

possible to develop such programs in the region? As it

happens, in South Africa (not included in the Bongaas-

t and Watkins 1996 analysis), a family planning pro-

gram was established that compared in intensity with those

of Asia and North Africa, and it probably played a de-

cise role in a black African fertility transition begin-

ning in the 1960s, parallel to the early Asian declines

(Caldwell and Caldwell 1993). It was, of course, estab-

lished by a political and bureaucratic minority working

within the apartheid system, and it was expensive.

When it finally began, the sub-Saharan African fer-

tility transition had other unique characteristics that

have important implications for successful twenty-first
century family planning programs there. Caldwell and

his colleagues (1992) predicted from research in Ibadan,

and in Ado-Ekiti, Nigeria, in the early 1990s, that the sub-Saharan African fertility transition

would be different from transitions elsewhere. In Eu-

rope and Asia, fertility control aimed at stopping fam-

ily growth at the desired size, hence early fertility de-

cline, was greatest among older women and those of

higher parity (Knodel 1977). In sub-Saharan Africa, how-

ever, we anticipated a similar decline at every age and

parity, because contraception was practiced initially both

to prevent premarital pregnancies and to maintain or

increase birth intervals. This prediction has since been

shown to be the case in Kenya (Brass and Jolly 1993),

Tanzania (Mturi and Hinde 1998), and Zimbabwe (Muh-

wava 1998).

Constraints to Fertility Declines and Successful Family

Planning Programs

The respect for high fertility, the horror of barrenness,

and the belief that births are necessary to reincarnate

one’s ancestors, central to most traditional African reli-

gions, at first impeded the family planning message and

caused governments to be uncertain about how success-

ful a program promoting contraception would be (Cald-
well and Caldwell 1987). Children were prized for these reasons and also for their economic value, enhanced by religious sanctions against disrespect for ancestors and against the failure to assist one’s parents materially (Caldwell 1982). Fostering of children on a scale unknown elsewhere weakened the relationship between biological parenthood and the economic burden of children. So did the extended family as the real economic unit, with obligations to nephews and nieces rivaling those to one’s own biological children. Communal landholding meant that, at the family level, no association was made between the number of surviving children and land inheritance or fragmentation. The region’s having the world’s highest levels of polygyny usually meant, especially in West Africa, that the most elementary economic unit was a mother and her children, thus weakening for men the link between the extent of biological fatherhood and the financial burden of parenthood. Both the traditional religion and imported European Christianity suggested that moral issues concerning family size and the practice of fertility control were matters about which individuals made decisions rather than abiding by the fiat of a moral elite or a government, similar to what had been the case in Europe and Latin America.

Confusing the situation further, most of the region had practiced a traditional method of birth spacing, postpartum sexual abstinence, that was intended primarily to maximize children’s chance of survival, but which depressed fertility. Its effect on completed family size was offset by pubertal female marriage; by a morality that demanded the quick remarriage of widows, often by the practice of widow inheritance (that is, remarriage to one of the deceased husband’s brothers); and by polygyny, which meant that the relative proportion of men to women did not present any bar to keeping all women of reproductive age in a married state.

This situation greeted the new, postcolonial governments of sub-Saharan Africa, which took office between 1957 and 1975. In those countries that had been British colonies, small private family planning associations often operated, but none existed in those countries that had been French, Portuguese, or Spanish colonies. The new governments necessarily had to focus on nation-building, and creating, even among politicians and the elite, a national consciousness overriding ethnic and family loyalties. Initially, for many of these small countries, nation-building implied larger rather than constrained populations. Many of the African governments felt that governments in the West had their own unstated agendas in wanting African population growth restrained. The main reason for their feeling uneasy about population policies, however, was the fear of failure, a belief that fertility-control programs were “un-African” and almost certainly doomed to failure. The most ambitious politicians and bureaucrats did not want to be associated with failure, and, even when programs were established, at first they tended to be administratively weak. In francophone countries, French laws restricting contraception remained in force.

Nevertheless, national family planning programs did emerge, as early as 1967 in Kenya and 1969 in Ghana. The reasons for their emergence were high rates of population growth, with the natural increase in the late 1960s being around 3 percent per annum in Ghana and 3.5 percent in Kenya. The establishment of these programs was encouraged by outside experts, by Western governments providing technical aid, by United Nations meetings, and eventually, by the United Nations Population Fund. Nevertheless, most African governments were suspicious of fertility control at the 1974 World Population Conference in Bucharest. Moreover, the first African family planning programs had only limited success, and nowhere could fertility be shown to be falling. Yet, by the end of the century, fertility had fallen decisively in a number of countries, with total fertility rates declining between 40 and 50 percent in Botswana, Kenya, South Africa, and Zimbabwe, and possibly around 20 percent in Ghana and Senegal. Admittedly, everywhere but in South Africa the total fertility rates were still above four children per woman of reproductive age. It is likely that some fertility decline was much more widespread in the region than this (Brass et al. 1997), and rates were falling in nearly all major urban areas. What had happened?

Bongaarts and Watkins would answer that the Human Development Index had reached the range 0.5–0.6, similar to the levels required in the first Asian declines (in Hong Kong, Singapore, South Korea, and Sri Lanka), in Mauritius, and in most Latin American declines. Certainly, until the mid-1980s, income per capita and educational levels rose in most countries while child mortality levels fell. Other important and more specifically African changes occurred. A demand arose for contraceptives to substitute for at least part of the postpartum sexual abstinence period (Caldwell and Caldwell 1981). Fosterage declined, at least in some areas (Caldwell et al. 1992). Other governments joined Kenya and Ghana in establishing national family planning programs.

After 1985, the rise of HDIs slackened or came to a halt, with unexpected effects on family planning and fertility. Across the region, economic growth faltered and income per capita ceased to grow. Most countries implemented structural adjustment programs recommended by the International Monetary Fund that, together with budgetary constraints, restricted the expansion of health
and education services and often imposed fees on the “user pays” principle. Life expectancy in the decade from 1985–90 to 1995–2000 climbed by only one-third of a year in West and Central Africa, and, with the additional burden of the AIDS epidemic, fell in both East and Southern Africa (United Nations 1999). Schooling costs hit the new urban populations hard, populations that had doubled in proportion from 1960 to 1995 from one-sixth to one-third of the region’s population (United Nations 1998).

This deceleration of the rise in the HDI seems to have intensified the impact that had previously resulted from its strong rise. The governments with more limited budgets feared rapidly growing populations and hoped that their containment would help economic recovery. The long-term trend toward concentrating expenditures within the nuclear family seems to have been strengthened, and parents became much more conscious of the financial burdens imposed by the education and medical treatment of their children. Unmarried girls and young women became much more conscious that pregnancy might result in premature motherhood and marriage, reducing their chances of sustained education or employment in the modern sector of the economy. With an increased demand for contraceptives, morale rose among family planning providers and among those bureaucrats and politicians responsible for them.

Two points should be noted: First, the use of contraceptives as a substitute for postpartum sexual abstinence may explain why a rising level of contraceptive use was not, at first, associated with declining fertility. Indeed, the substitution of fallible contraception for more certain abstinence may explain, partly at least, some moderate rises in fertility, which ceased once the duration of postpartum abstinence was as short as that of postpartum amenorrhea. The second point is that the East and Southern African AIDS epidemics have the potential to disrupt family planning programs and national population policies, although such a disruption does not seem to have happened yet.

**Current Successes and Failures of Family Planning**

Politicians, bureaucrats, and national elites, especially in the anglophone African countries, have become more certain that population growth will have to be curbed, but the message is not repeated as often, nor with the same certainty, as it is in Asia. They all believe that child spacing is the lever (Fatusi et al. 1998), and in 1981, the Family Planning Association in Zimbabwe renamed itself the “Child Spacing and Fertility Association.” Non-governmental organizations, usually with foreign funding sources, remain an important part of the family planning scene. Radio and television segments on family planning are becoming more common (compare with Piotrow et al. 1992).

Except in Kenya and Southern Africa, African national family planning programs do not provide comprehensive national services. Tanzania’s program is not among the poorer ones, yet in rural areas, nearly half the communities have no family planning services, and, perhaps a decade ago, only 40 percent of Tanzanian women had a family planning service within 30 kilometers (19 miles) of home (Mroz et al. 1999). In fact, the first perceptible national fertility decline occurred in the early 1990s, coincident with the program’s being greatly strengthened in rural areas (Mturi and Hinde 1998). The availability of contraceptives is of paramount importance. The analysis of contraceptive use in Kenya by Brass and Jolly (1993) showed use to be most closely associated with the availability of services (followed, in order, by literacy and the availability of electricity). Mroz et al. (1999) found that, with regard to contraceptive use, the availability of a range of contraceptives and the services provided were even more important than was the distance from services. Thomas and Maluccio (1996) found in Zimbabwe that, although the services of fixed centers met the needs of younger and more educated women, mobile clinics raised the practice of contraception among older and less-educated women.

Most studies agree on who is more likely to practice family planning (Beegle 1994; Thomas and Maluccio 1996; Mturi and Hinde 1998; Shapiro and Tambshe 1998; Tuoane et al. 1998). A greater demand is found among urban than among rural women. Contraceptive use increases steeply with female educational levels. Couples in stable, monogamous marriages are more likely than others to practice family planning. Among the married, little use occurs before the birth of the first child, and subsequently, because of the dominance of use for birth spacing, little difference is found according to parity. Uniquely, in sub-Saharan Africa, little difference exists in demand for contraception between the single and the married, as is shown by studies ranging from Gambia (Kane et al. 1993) to Lesotho (Tuoane et al. 1998), although the clinics may make it difficult for the unmarried to obtain services (Mturi and Hinde 1998).

The main problem with many family planning clinics is the contraceptive methods available. Beegle (1994), working in Tanzania, found that higher levels of contraceptive use were associated with the pill’s being stocked by local providers (the pill was, in fact, available in 83 percent of government dispensaries and 93 percent of government hospitals) and with the availability of injectables (then to be found in only 16 percent of government dispensaries and 36 percent of government health cen-
Women prefer to go to well-stocked clinics and also to new, or newly painted, attractive clinics. In a major study of Kenyan family planning clinics, where most of the demand was for oral contraceptives and injectables, only 1 percent were found to have no oral contraceptives in stock at the time of the visit; 15 percent had no condoms (in spite of the AIDS epidemic); 20 percent had no injectables; 20 percent had no vaginal foam; and 40 percent had no IUDs (Miller et al. 1991).

Problems arise in basing family planning programs largely on a clinic system. In Nigeria, the only people who could mingle comfortably with each other at a family planning clinic were married women with children and those with children who had experienced a substantial interval since the last birth (Caldwell et al. 1992). Men, the single, and those having recently given birth preferred to go to pharmacies or medical stores, often waiting to be served until they were the only customers. To achieve this privacy they were willing to pay three to five times as much as contraceptives cost in the clinics. The Demographic and Health Surveys (DHS) in Cameroon and Nigeria found that about half of all respondents obtained their contraceptives in this way. Beegle (1994) concluded that family planning levels in Tanzania would rise if more pharmacies provided pills and injectables.

Even married women may seek greater privacy than clinics can provide. Sub-Saharan African studies, which may well underestimate the level, have found 6 to 20 percent of women surveyed to be covert users, usually because they experience difficulty in discussing such matters with their husbands rather than because of male pronatalism (Biddlecom and Fapohunda 1998). They fear that their use of the IUD will be detected or their pills discovered, so they prefer to use injectables, for which covert use may rise to 50 percent. Biddlecom and Fapohunda believe that clinics can easily make contraceptive use difficult for such women, a regrettable situation, because the proportions of covert users are highest when use levels are low, and meeting such women’s needs is particularly important in the critical early period of program implementation.

African family planning clinics have not moved far toward the vision of the reproductive health provision propounded at the International Conference on Population and Development (ICPD) at Cairo in 1994. Most do not have the resources to do so (Arkutu 1995). Even as family planning providers, many African clinics are accused of not being helpful or understanding (Arkutu 1995; Fatusi et al. 1998). They have been accused both of not mentioning side effects (Miller et al. 1991) and of frightening clients by exaggerating these effects when they do mention them (Stanback et al. 1997). Almost all researchers agree that meeting the needs of the high proportion of adolescents who are sexually active is essential, but that little effort is made to do so. The DHS program has reported that sub-Saharan Africa has the world’s highest level of teenage sexual activity compared with other developing regions, and that the length of the period between first sexual activity and marriage is increasing. Although contraceptive use is greater among unmarried than married teenagers in most countries of the region, most sexually active unmarried teenagers do not use contraceptives, and, of those who do, few use modern methods (Blanc and Way 1998). Bledsoe and Cohen (1993) noted growing adolescent sexual activity in which adolescent boys increasingly compete with older men for sex with adolescent girls. Meekers (1994) analyzed the DHS data to report sexual activity levels among unmarried women of 81 percent in Liberia, 61 percent in Togo, 50 percent in Kenya, and 47 percent in Ghana. He found lower levels in Burundi, Mali, and Zimbabwe, with half to three-fourths of all single women aged 15–24 reporting that they would be unhappy if they became pregnant.

Yet unmarried teenagers rarely receive adequate help even from clinic systems that officially welcome them. In Nigeria, adolescents are frozen out of clinics and must buy their contraceptives at pharmacies (Konje et al. 1998). Those involved in a Nigerian adolescent mystery-client trial, in which paired adolescent researchers pretending to be sexual partners sought contraceptive help from clinics, met hostility and religious preaching, and learned that unmarried adolescents hardly ever visit the clinics (Olowu 1998). A similar situation has been reported in Lesotho (Tuoane et al. 1998), Tanzania (Mturi and Hinde 1998), and for the whole sub-Saharan African region (Arkutu 1995). Hughes and McCauley (1998) concluded from a global study that help for adolescents is more likely to come from community centers designed to include teenagers than from family planning clinics.

Any attempt to provide evidence for likely successful routes for African family planning programs must take note of the South African experience over several decades that provides the most comprehensive program in the region (compare with Caldwell and Caldwell 1993; Kaufman 1997). Injectable account by region for 66 to 80 percent of black South African use, whereas oral contraceptives amount to less than 20 percent, and use of other methods is almost negligible. This pattern differs from that of other racial groups using these services, for whom sterilization is of greater significance.

In Kenya, where injectables are increasingly available, they are now the preferred method of modern contraception, accounting for 39 percent of current modern-
method use, compared with 29 percent for the pill (DHS 1998). Significantly, female sterilization in Kenya makes up almost 20 percent of modern contraceptive use, whereas male sterilization is, as throughout the region, negligible. By 1996, injectables were rapidly overtaking the pill as the most commonly used contraceptive in Tanzania, especially among married women (Mturi and Hinde 1998). In Tanzania, too, female sterilization is acceptable. In Nigeria, pills usually have been provided, but in urban clinics, the IUD is now competing and female sterilization is acceptable (Konje et al. 1998). As early as 1990, van de Walle and Foster pointed to the acceptability of female sterilization, which then made up 41 percent of contraceptive use in Kenya, 19 percent in Ghana, and 14 percent in Liberia, although it accounted for only 1 percent in Ondo State, Nigeria.

Access to legal abortion is more limited in sub-Saharan Africa than in any other major region of the world, but little attempt is made to suppress illegal abortion. The situation in most countries is probably similar to that reported for Nigeria (Caldwell and Caldwell 1994). In southern Nigeria, self-induced abortions, usually attempted with abortifacient pills or mixtures, have been steadily replaced by abortions performed by private doctors. Indeed, abortion provides a substantial proportion of most private doctors’ incomes (the authors’ research in Ibadan in 1991, which included a meeting of doctors, produced this finding; see also Guillaume 2000). The rate of abortion is higher among single than among married women, and dangerous abortions are often attempted by desperate schoolgirls who want to stay in school. If a girl remains in school, she may obtain sufficient education to become part of the modern social and economic sectors; her alternative is to remain a traditional woman. By 1996, injectables were rapidly overtaking the pill as the most commonly used contraceptive in Tanzania, especially among married women (Mturi and Hinde 1998). In Tanzania, too, female sterilization is acceptable. In Nigeria, pills usually have been provided, but in urban clinics, the IUD is now competing and female sterilization is acceptable (Konje et al. 1998). As early as 1990, van de Walle and Foster pointed to the acceptability of female sterilization, which then made up 41 percent of contraceptive use in Kenya, 19 percent in Ghana, and 14 percent in Liberia, although it accounted for only 1 percent in Ondo State, Nigeria.

The Twenty-first Century

Now is the time to design the sub-Saharan African family planning programs of the twenty-first century. The situation in this region differs greatly from that in most other parts of the developing world, where the fertility transition began decades ago and where most existing family planning programs are fully developed. The total fertility rate is still six children per woman or higher in East, Central, and West Africa, higher than has been the case in Western Europe or possibly in China or Japan for centuries. Only in Southern Africa is a subregional transition well under way. Except for that of South Africa, only a few family planning programs have had long experience with mass demand, and their experiences so far can be regarded almost as pilot schemes for developing regional models.

One danger is that the successful Asian family planning programs will be used as a model for sub-Saharan Africa. A United States Academy of Sciences study (Working Group 1993) suggests such a model. Sub-Saharan Africa differs greatly from both Asia and North Africa, where the classic national family planning program was developed. In sub-Saharan Africa, a major program requirement is to provide services for unmarried adolescents, although, as noted above, most clinics react in this regard as do Asian or North African ones. Indeed, older single women—widows, the divorced, and the separated—are also in need of services. Substantial numbers of women in all these categories are sexually active, but many are sensitive about being seen at clinics. The sub-Saharan African demand is dominated not by a desire to stop or limit childbirth as in Asia, but by a desire for assistance in birth spacing, especially as the duration of postpartum sexual abstinence declines. Young people’s demand for help in preventing pregnancies that might force them to leave school and marry is also increasing. These demands should be seen as leading to a real fertility transition. The evidence from Southern Africa and Kenya is that contraceptive practice, whatever its motivation, drives fertility down and eventually decreases the size of the completed family. Sub-Saharan Africa differs, too, in the preferred methods of fertility control. To date, legalized abortion has been unacceptable to nearly all governments. Vasectomy is unacceptable to most men, and probably will long remain so. Hormonal contraceptives are widely acceptable to a population that is generally prepared to tolerate side effects. Injectables have an advantage over the pill in that they do not have to be stored or administered daily. Furthermore, they facilitate covert use in circumstances where such use has advantages but is not, for most women, dangerous. The problem in sub-Saharan Africa is less the likelihood that husbands will coerce wives than it is the difficulty that spouses experience in talking with each other about sexual matters, including contraceptive use.

Socioeconomic Change

In the longer run, socioeconomic change has been, and will be, the engine of fertility decline. Yet the economic
cared, white-collar workers now regard unrestricted costs of schooling and medical treatment. Most education and the experience at the family level of meeting the induced by a decade and a half of grim economic news of life did not encompass opportunities for women to that way the African way of life, which they felt to be different from, if not antithetical to, Western lifestyles. That way of life did not encompass opportunities for women to practice contraception. Families needed children, and a stronger Africa would be built on larger populations from, if not antithetical to, Western lifestyles.

The fear of failure is already fading as regional fertility transition is observed to be happening. In the 1960s, only foreigners spoke of the need for family planning and fertility transition. The elites of the new African nations were confident of their countries’ futures and of the African way of life, which they felt to be different from, if not antithetical to, Western lifestyles. That way of life did not encompass opportunities for women to practice contraception. Families needed children, and a stronger Africa would be built on larger populations (compare with Caldwell 1982). The attitudes of elites—public servants, university teachers and students, and journalists—has changed, at least in the anglophone countries, faster than might have been anticipated. Part of the explanation for this change is the globalization of society, but most of it springs from a lack of confidence induced by a decade and a half of grim economic news and the experience at the family level of meeting the costs of schooling and medical treatment. Most educated, white-collar workers now regard unrestricted population growth as threatening national and individual prosperity.

The reversal has not been total. Most of the leaders, even the family planning administrators, do not have the dedication to lowering fertility levels that is widespread in Asia. Most would rather keep some distance between themselves and family planning programs, and would not like to appear too devoted to the cause. Changing such attitudes will be necessary if the region is to experience long-term replacement-level fertility within the next half-century.

**Leadership**

Few sub-Saharan African heads of state have identified themselves strongly with their countries’ family planning programs, and, until they do, the bureaucracy and the elites will not give full support to the programs. The leaders fear failure; they fear the opposition of the Catholic Church; and they fear being seen as “un-African.”

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**Family Planning Services**

A reasonably clear picture is already emerging of the types of family planning program most likely to succeed in the coming century. First, we are now clear about the type of demand that exists. Caldwell and Caldwell (1976) reported that in Ibadan City, Nigeria, the reported reasons for initial contraceptive use were to allow pregnancy-free premarital sex in 35 percent of cases, to space births in 31 percent, to replace terminal abstinence (among grandmothers who wished to remain sexually active) in 7 percent, and for ending childbearing in 4 percent. By the early 1990s, the situation with regard to all contraceptive demand in Ado-Ekiti, Nigeria, was largely the same: 44 percent for premarital sex, 27 percent for spacing, and 6 percent for stopping (Caldwell et al. 1992). Later in the decade, in the traditional setting of the northern villages of Ghana, it was 46 percent for spacing and 23 percent for limiting (Debpuru et al. 1998). In Nodola, Zambia, the demand for spacing is three times that for stopping (Biddlecom and Kaona 1998). This pattern is found nowhere else in the world, and it dictates the necessity for providing a range of temporary methods.

It is also clear that the density of services and the availability of suitable kinds of contraceptives are key determinants of fertility decline. Brass and Jolly (1993) identified density of services as the major determinant of contraceptive practice in Kenya, as did Feyisetan and Ainsworth (1996) in Nigeria. Most Africans are still far from an adequate family planning service-delivery point, a problem in many countries that is unlikely to be solved without an expansion of the rural health system, currently widely stalled. These service points must be efficiently staffed to meet clients’ contraceptive needs and organized and staffed even better so as to implement the ICPD reproductive health agenda. Nearly every study of African family planning services complains of poorly motivated staff who are inadequately led and supervised (Fatusi et al. 1998; Kim et al. 1998; Zulu 1998).

One solution to the problems of service density and motivation has been identified as social marketing, al-
though an assessment of such programs concluded that it was difficult to determine whether they had been successful (Phillips et al. 1998). Beegle (1994) concluded from her study of the situation in Tanzania that levels of contraceptive use could be raised if pharmacies dispensed pills and injectables. Caldwell et al. (1992) reported of Nigeria that the availability of pills, injectables, condoms, and foams at pharmacies and simple medical stores had raised levels of contraceptive practice substantially even though the costs were three to five times those charged by the clinics. The anonymous nature of the market, the fact that one could purchase a method privately, and the “no-questions-asked” approach resulted in the supplying of a much wider clientele. The client usually took the injectables to a private nurse to administer. The situation in Ado-Ekiti was fortuitous, and the small distributors did not have to bother about dealing with wholesalers, let alone imports. The same effect could be achieved, however, were the national family planning program to provide contraceptive supplies to such outlets. Whether the contraceptives are available through clinics or medical stores, higher levels of use can be attained by having a wide range of contraceptives available and having them always in stock (compare with Jain 1989, generally; Caldwell and Caldwell 1992, on Bangladesh). By 1994, 15 percent of contraceptives in Zambia were being obtained privately (Marindo et al. 1998).

The path to successful contraceptive service provision in the twenty-first century is clear. African women need methods of contraception that are temporary, are under their control, can be used covertly, and do not have to be stored at home. Where they have been universally available in South Africa, injectables have met this need for the majority of black women users. Injectables are beginning to take the lead in Kenya, although many clinics there run out of supplies periodically, whereas they maintain supplies of oral contraceptives. Nevertheless, the pill will probably remain the other major method for some time to come. In Kenya, injectables have been shown to have one-third the discontinuation rate of pills (Ferguson 1992).

We have also learned from the Southern African and Kenyan experience that the use of contraceptives for spacing leads to continuing fertility decline and to smaller completed families. Ultimately, the need will arise for methods designed to halt childbearing, and evidence is growing that both the IUD and sterilization are acceptable to African women. Equally clearly, expending much effort in encouraging vasectomies would be pointless.

Undoubtedly, abortion must be made easier and safer in sub-Saharan Africa. The present trend, although least obvious among the young, is toward medicalization, with private doctors performing an increasing share of abortion procedures. In the longer run, efforts toward greater legalization must be made, but most African governments do not wish to take the lead in legalization.

The single most serious problem with existing sub-Saharan family planning programs is their neglect of adolescents’ needs. Because of the high level of adolescent sexual activity, this neglect is disastrous. Even when programs instruct providers to treat every client equally, clinic staff do not accept adolescent clients readily. The solution may be greater privatization of services and provision of services through community organizations geared to work with adolescents.

## Threats to the African Fertility Transition

A potential threat to African family planning programs is the achievement of fertility declines throughout the rest of the world. African family planning programs, and the health systems upon which many of them depend, cannot be erected or extended without massive international aid that must be obtained in an era when global interest is on “the end of the population explosion” and the coming “population implosion.” Although the situation in sub-Saharan Africa is dire, Western governments may well continue to reduce their technical aid budgets for family planning even though decades may pass before the region’s economy can support fertility control services by itself.

Another threat, for a range of reasons, is the AIDS epidemic. In Southern and East Africa, where the fertility transition has been most successful, the epidemic is at its worst. In these countries, it may undermine government commitments to family planning, and also commitments at the family level. The epidemic tends to confuse family planning programs. One obvious solution would be to focus on promoting condom use for both fertility and AIDS control. However, such a focus would almost certainly be self-defeating. The condom is not the preferred method of fertility control anywhere in sub-Saharan Africa. To protect users from AIDS transmission, the condom must be used consistently, and such use would frustrate even planned fertility. Condoms are least likely to be used in sexual relations between spouses or long-term partners (Caldwell 1999; Varga 1999), the very relationships in which planned fertility is most likely to be required. Finally, both government and international assistance toward family planning and AIDS prevention is likely to come from the same “pot” of funds, and therefore, be competitive. Apparently, so far these threats have not materialized.

Finally, a minority of countries will experience war or civil disorder. Such events are incompatible with maintaining adequate health or family planning services.
Countries currently or recently in this condition include Angola, the Democratic Republic of Congo, Liberia, Rwanda, Sierra Leone, and Somalia, all of which have total fertility rates between 6.2 and seven children per woman, with little evidence of current decline.

The Way to the Future

The sub-Saharan African fertility transition has begun. Nevertheless, substantial decline has occurred only in countries where no more than 11 percent of births result in deaths by five years of age, where the great majority of girls go to primary school and 30 percent to secondary school, and where an efficient family planning program exists. Doubtless, the demographic and educational thresholds will decline slowly, probably faster where family planning programs are best organized. Nevertheless, many sub-Saharan African countries are still decades away from these levels.

If family planning programs are to accelerate the process, then the minimum requirements would be the following:

1. The heads of state and their ministers should be clear and outspoken in their support for the program. This support should extend throughout the bureaucracy.
2. International aid should be maintained and even increased.
3. Family planning service-delivery points should be densely located throughout each country.
4. A “cafeteria” of services should be provided, and stocks of injectables and oral contraceptives should be available at all times.
5. Services should be expanded increasingly to meet the ICPD criteria for an adequate approach to reproductive health care.
6. Contraceptives, including the pill and injectables, should be available without prescription from all pharmacies and medical stores.
7. Additional mechanisms, including the use of their own organizations and meeting centers, should be established to meet the needs of adolescents, males of all ages, and unmarried people of either sex.
8. Abortion should be legalized.

If these requirements were to be widely met, the sub-Saharan African fertility transition could move as rapidly as the United Nations’ (1999) low variant projection for the region: Long-term replacement fertility by 2030; annual population growth rate down to 0.5 percent by 2050; and an eventual stationary population around 1.5 billion, or only two and a half times its present level.

Note

1. The Human Development Index (HDI) was proposed by the United Nations Development Program (1990). The index combines measures of income (the log of parity purchasing power per capita), literacy, and life expectancy at birth. It ranges from 0 to 1, from no development to full development, and in the real world, from about 0.1 to above 0.9.

References


Acknowledgments

This article has benefited from assistance by Thomas Schindlmayr, Rachel Colombo, Wendy Cosford, and Elaine Hollings.
Bangladesh is considered a family planning success story: The national total fertility rate (TFR) fell from 6.3 births per woman of reproductive age in 1975 to 3.3 births in 1996–97 (Mitra et al. 1997). Many researchers credit the government family planning program with this success (Cleland et al. 1994; Phillips et al. 1996). The key aspect of this government program is the community-based distribution system, in which female field-workers are assigned to visit all married women of reproductive age within a designated area every two months.

Because the program is so labor intensive, the cost is high. Most of the funding for it comes from foreign donors, mainly the World Bank and the United States Agency for International Development (USAID). Currently, donors are not as willing to pay for family planning programs as they were in the 1970s. Moreover, because of the increase in the number of Bangladeshi women of reproductive age, program costs are mounting.

Therefore, under pressure from donors, the government of Bangladesh has started to scale back the field-worker program in favor of a system whereby women go to fixed sites to obtain their contraceptives. Researchers have made two suggestions: First, the program should encourage women to switch from nonclinical methods delivered by family planning workers to more cost-effective clinical methods such as sterilization, and second, field-workers should not be resupplying nonclinical methods, but should focus their attention on motivating nonusers to practice contraception. Longitudinal data from the Maternal and Child Health—Family Planning Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh, are analyzed to show that a better strategy might be to target visits to women according to their educational level and area of residence. For uneducated women living far from clinics, access to contraceptives is likely to be a problem, and home visits for resupply might have a larger impact on the contraceptive prevalence rate than would field-workers’ visits to motivate nonusers. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 87–102)

Reconsidering the Doorstep-delivery System in the Bangladesh Family Planning Program

Mary Arends-Kuenning

The government of Bangladesh is currently testing and implementing strategies to change its family planning program from a reliance on field-workers who conduct home visits to a conventional fixed-site delivery system. Researchers have made two suggestions: First, the program should encourage women to switch from nonclinical methods delivered by family planning workers to more cost-effective clinical methods such as sterilization, and second, field-workers should not be resupplying nonclinical methods, but should focus their attention on motivating nonusers to practice contraception. Longitudinal data from the Maternal and Child Health—Family Planning Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh, are analyzed to show that a better strategy might be to target visits to women according to their educational level and area of residence. For uneducated women living far from clinics, access to contraceptives is likely to be a problem, and home visits for resupply might have a larger impact on the contraceptive prevalence rate than would field-workers’ visits to motivate nonusers. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 87–102)

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The arguments used here are supported using data from the 1983 and 1985 Contraceptive Prevalence Surveys (CPS); the 1993–94, 1996–97, and 1999–2000 Bangladesh Demographic and Health Surveys (BDHS) (Mitra et al. 1997 and 2001); and longitudinal data collected from 1982 to 1989 by the Extension Project of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICCDR,B).
Field-workers could be employed more efficiently and equitably by targeting their visits to uneducated women and to poor women rather than to nonusers. Many women who live in poor areas and many uneducated women are already motivated to limit their fertility, but lack access to contraceptive methods. Regression analysis presented here shows that workers’ visits are an effective way to increase access for these women. In addition, field-workers’ visits have given to poor women the choice of using nonpermanent methods, promoting women’s equity and reproductive rights. Finally, from the standpoint of program efficiency, relatively fixed characteristics such as education and economic status are easier for workers to identify than are changeable characteristics such as contraceptive-method-use status. If identifying these factors on an individual basis proves to be too costly, the program could target geographic areas with high levels of illiteracy and especially poor areas.

Overview of the Program and Proposed Changes

In Bangladesh, married women of reproductive age increased their contraceptive use from 14 percent in 1983 to 42 percent in 1996–97 (Mitra et al. 1997). The increase in contraceptive prevalence is attributed to the work of the field-workers, who primarily distribute condoms and oral contraceptives, and who are charged with motivating women to practice family planning (Cleland et al. 1994; Phillips et al. 1996). The program was begun in the mid-1970s, and 13,500 field-workers were hired. After early successes, it was expanded and 10,000 additional field-workers were hired after 1986 (Hasan and Koblinsky, cited in Janowitz et al. 1999). Most of the increase in contraceptive prevalence was due to a rise in pill use. The proportion of married women of reproductive age who used the pill increased from 3 percent in 1983 to 21 percent in 1996–97 (see Table 1).

As noted above, despite its successes, the program is at risk because it is expensive and dependent upon external financing. One study reports that outside donors contribute more than 60 percent of the program’s funding (Kawnine 1995, cited in Levin et al. 1999). Costs are expected to increase as more Bangladeshi women reach reproductive age. Janowitz and her colleagues (1997) state that the total cost of salaries and benefits of field-workers was $23.5 million in 1994, and if the policy of hiring workers to maintain a ratio of couples to field-workers at the 1994 level were continued, their salaries and benefits would increase to $32.9 million in 2004. As noted above, donors are less willing to fund family planning programs than they were in the past. They would rather increase the program’s efficiency, so that contraceptives could be delivered at a lower cost to the government than under the old system. One key issue is to what degree different sources of contraceptives are substitutes for each other. If family planning workers are close substitutes for health clinics, switching to a clinic-based distribution system would lower costs without substantially lowering contraceptive prevalence. This issue can be examined using the ICDRR,B data.

One concern with regard to the proposed change in service delivery is whether it will have the effect of stalling the demographic transition, keeping contraceptive prevalence rates and fertility rates at current levels. Already, the government has begun to scale back the field-worker program, although the changes that have been implemented provide for selective home visitation. Data from the 1999–2000 BDHS suggest that the demographic transition has stalled. The extent to which the stalling is the result of changes in the family planning program is debatable. The total fertility rate has remained at its 1994–96 level of 3.3 children per woman of reproductive age. Prevalence rates for modern contraceptive methods increased by only 4 percent, from 41.6 to 43.4 percent between 1996–97 and 1999–2000 after having increased by 15 percent, from 36.2 to 41.6 percent between 1993–94 and 1996–97. The proportion of women who used an IUD or underwent sterilization remained small and declined from 1996–97 levels. The proportion of women who used the pill increased to 23 percent by 1999–2000. Although contraceptive prevalence rates did not decline as some researchers and policymakers had feared, the expansion of contraceptive use appears to have stalled, and women are still choosing to use nonclinical methods.

A consensus has not yet emerged about the causes of the standstill in contraceptive use. It appeared to have begun before the scaling back of workers’ visits. Bairagi (2001a and 2001b) argues that the decline in total fertility rates halted in Bangladesh because contraceptive use

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<td>Male sterilization*</td>
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na = Not available. *Sterilization rates are given cumulatively. Source: Mitra et al. (2001: Table 4.8).
has brought the actual fertility rates close to desired fertility. Cleland and his colleagues (1994) note that Bangladeshi couples’ desired fertility has long hovered at two sons and a daughter. Bairagi (2001a) points out that the contraceptive prevalence rate, encompassing use of both modern and traditional methods, increased from 45 percent to 54 percent between 1993–94 and 1999–2000, but that the TFR stayed at about 3.3 children per woman. In the Matlab experimental area, although contraceptive prevalence rates increased from 61 percent to 69 percent between 1991 and 1998, the total fertility rate remained constant at three children per woman. Bairagi concludes that further decreases in the TFR can only result from changes in socioeconomic status and gender preference and that the contribution of the family planning program to the decrease in TFRs has been exhausted.

If the total fertility rate stays the same despite rising contraceptive use, why should modern contraceptive methods be further promoted? Bairagi (2001b) compares contraceptive use and abortion rates in the experimental and comparison areas of Matlab and shows that women practice contraception and also rely on abortion to meet their reproductive goals. When contraceptive use increases, abortion rates decrease. For Bangladesh as a whole, contraceptive prevalence rates potentially could increase to Matlab levels, and fertility could fall to three children per woman, even with no decrease in desired fertility. As a result, women would have fewer unwanted pregnancies and would be able to control their fertility with less frequent recourse to abortion.

Evidence from the 1999–2000 BDHS suggests that field-workers remain important sources for contraceptive methods, although a smaller proportion of women relies on them to meet their needs (Mitra et al. 2001). For example, the proportion of women using oral contraceptives who obtained their pills from field-workers fell from 61 percent in 1996 to 47 percent in 1999. The proportion of those who obtained their pills from pharmacies and shops increased from 27 percent to 36 percent. In 1999, field-workers provided less than 30 percent of modern methods, whereas they had provided 39 percent in 1996. These findings suggest that people are switching from the public sector to the private sector to obtain contraceptives, and this switch may have negative implications for the poor.

The ICDDR,B is trying to help the public sector provide services efficiently by developing less expensive ways to deliver family planning and maternal and child health services. The ICDDR,B’s experiments are described in detail in a study by Levin et al. (1999), which covers rural areas, and in a study by Routh and Khuda (2000), which covers Dhaka city. Alternative delivery systems include cluster-spot delivery and enhanced clinic delivery. With cluster-spot delivery, workers visit one household in an area, and the women in the area come to that household for their services. The clinic-delivery strategy includes upgrading of clinics, hiring additional staff, and increasing the number of mobile (satellite) clinics in an area (Ashraf et al. 1997). The new programs retain selective home visitation. The studies examine contraceptive prevalence and also the cost-effectiveness of these delivery systems compared with home delivery.

Recent studies state that contraceptive prevalence rates have remained the same or increased in both the rural and urban experimental areas (Levin et al. 1999; Routh and Jahan 2000; Routh and Khuda 2000; Routh et al. 2001). The studies are limited, however, because they do not consider explicitly whether contraceptive prevalence would have increased in an area if the home-delivery system had continued. Neither study undertakes detailed analyses of contraceptive prevalence rates; instead they show only the rates in the comparison and experimental areas before and after the intervention. The most recent study by Routh et al. (2001) shows that in one rural area in Abhoynagar thana, prevalence increased from 52 percent in 1994 before the system changed to 57 percent in 1998 after the change to cluster-spot delivery. The jump in the prevalence rate occurred, however, between late 1994 and the first trimester of 1995, increasing from 52 to 56 percent. During that time, home visitation continued. The home-delivery system ended during the second trimester of 1996, and the prevalence rate stagnated. The study does not present evidence for a comparison area to show if contraceptive prevalence might have been higher had home visits continued, although it does present solid evidence that the cluster-spot approach can be implemented without decreasing the prevalence rate. Another limitation of the research conducted so far is that, with a few exceptions, the studies do not examine which groups of women are most affected by the change in the delivery system. Further analyses of the impact of this change are needed.

All of the studies conducted to date focus on the cost-effectiveness of the systems, defined as the cost per couple-year of protection or the cost per birth averted. In most cases, the cluster-spot system is found to be cost-ineffective compared with home delivery, because workers have to spend time telling women when and where the next cluster-spot delivery will be. Perhaps, with experience, the cluster-spot system is becoming more cost-effective, but the recent Routh et al. (2001) study did not present data concerning costs. Fixed-clinic site delivery is found to be most cost-effective, primarily because the IUD and sterilization are more cost-effective methods.
than are oral contraceptives and condoms delivered to women’s homes by the field-workers. The studies cited do not consider method access, however. Although the cost per service is cheaper in the fixed clinic, the field-workers typically deliver more services than do the clinic providers.

Few studies consider the differential impact of new delivery systems on educated women compared with uneducated women, or on relatively wealthy women compared with poor women. Routh and Jahan (2000) distinguish between the contraceptive adoption and discontinuation rates of slum-dwellers compared with those of people living elsewhere. Routh et al. (2001) find that in one rural area, the educational distribution of women who received services at cluster spots was similar to that of the general female population, whereas in another rural area, women who obtained contraceptives at the cluster spots were more likely to have one to five years of education and less likely to have no education than were those in the general female population. In both rural areas, women whose households owned 50–300 decimals of land (0.5–3 acres) were more likely than the general female population to use cluster-spot contraceptive services, whereas women whose households owned less than 50 decimals were less likely than the general female population to use such services. This finding suggests that access to services for poor women will be an issue with cluster-spot delivery. The studies cited do not compare the cost of women’s time to obtain methods under the new systems with that of the home-delivery system. If poor women have to give up much productive time to obtain a method that previously they had obtained at their doorsteps, this cost might be considered a negative outcome in terms of their equity.

Method Choice and Socioeconomic Differentials

The focus on costs of couple-years of protection and on contraceptive prevalence implies that the goals of the family planning program are to deliver a unit of protection at the lowest cost per unit while maintaining contraceptive prevalence rates at least at the levels achieved by means of the doorstep-delivery system. This type of evaluation will favor the IUD and sterilization, because discontinuation rates for these two methods are low. Some of the biggest problems with the family planning program in Bangladesh have been high discontinuation rates for nonclinical methods. In the Extension Project experimental areas from 1983 to 1989, after one year of contraceptive adoption, only 38 percent of adopters of injectables were still using the method, and 36 percent of those who chose to use oral contraceptives were still using them. The proper way to look at continuation rates, however, is to focus on the use of any of the methods the workers provide, because of switching behavior. The continuation rate increases to 43 percent of adopters still using a method after one year when the pill, condom, and injectables are considered together. In a family planning program, having the lowest possible cost per unit of protection as the primary goal can be counterproductive. As Cleland and Mauldin (1991) argued, when a government promotes sterilization aggressively, it can create a backlash against all family planning.

An alternative goal of the program in Bangladesh might be to increase access to contraceptive methods so that poor women and women with no education are able to control their fertility easily. Currently, equalizing access to methods is not an explicit goal of the program, but at this stage of the demographic transition, good reasons can be given for why it should be. Cutting back on workers’ visits to women who live in wealthier areas and who have higher levels of education can help to cut costs. Policymakers might want to focus their efforts on poor and uneducated women, because with fewer children, such parents will find it easier to invest in their children’s schooling, so that they may be able to break out of the cycle of poverty. Public health programs can act as a substitute for women’s education, as Rosenzweig and Schultz (1982) showed in a study conducted in Colombia. The health program could work this way in rural Bangladesh, because field-workers’ visits are found to have larger effects on the behavior of uneducated women than on that of educated women, as discussed in detail below.

The standard for high-quality contraceptive services includes providing women with a choice of methods (Bruce 1990). Because methods such as the pill and the condom are delivered to women at their doorsteps, these nonclinical methods have become cheaper relative to clinical methods and also accessible to all women. In the 1970s, the government of Bangladesh began to pay women who chose to undergo sterilization to compensate them for lost time. They were also provided with a new sari. The payments persist today and are worth approximately US$6 in addition to the value of the sari (Rob 2001). Therefore, elimination of sterilization payments cannot explain the changes in method mix. The program has encouraged women to use oral contraceptives rather than IUDs or sterilization. Table 1 shows that in 1983, the most popular method was female sterilization, used by 6 percent of married women of reproductive age, and the second most popular was the pill, used by 3 percent of the women surveyed. By 1996–97, 21 percent of women surveyed were using the pill, 8 percent (cumulatively)
had been sterilized, and 6 percent were using injectables. Preliminary data analysis of the 1999–2000 data shows that these trends continued, with 23 percent of women using the pill, 7 percent being sterilized, and 7 percent using injectables. The argument could be made that women have revealed by their choices their preference for the pill over longer-acting methods.

Some evidence that women prefer nonclinical methods is shown in that those with low levels of education have been able to make choices similar to those made by women with higher levels of education. Nevertheless, poor women and uneducated women are more likely to decide to be sterilized than are wealthy and educated women (Amin et al. 1996; Ali Khan and Rahman 1997). Cleland and Mauldin (1991) argued that one reason for these educational differentials is that the payments given to those who choose to be sterilized are clearly of more importance to poor and uneducated women than to educated women. Using the 1989 Bangladesh Fertility Survey, Amin et al. (1996) find that 13 percent of women with no education were sterilized, compared with 5 percent of women with a secondary education. Only 22 percent of women with no education used a modern contraceptive method, compared with 42 percent of women who had a secondary education. By 1996–97, the educational differential had diminished. Table 2 shows that during that year, 40 percent of women with no education used a modern contraceptive method, compared with 45 percent of women who had a secondary education. The proportion of women who had been sterilized had also fallen: 10 percent of women with no education were sterilized, whereas 3 percent of women with a secondary education were sterilized. As a result of the field-workers’ visits, among other factors, the differentials among educational groups in contraceptive use and sterilization rates have narrowed since the late 1980s. The 1999–2000 BDHS data show that educational differentials have remained about the same since 1996–97.

These nationwide trends were also noted in the Extension Project data, described in detail below. Table 3 presents the proportion of women who were using modern methods and of those who were using nonclinical methods, by round and region. The experimental areas had a more intensive exposure to field-workers’ visits than did the comparison areas. Nonpermanent methods increased in popularity relative to sterilization, especially in the poor experimental area, where 82 percent of women using a method were using nonclinical methods in 1989, compared with 42 percent in 1984 (not shown).

The Extension Project data also show that the educational differentials in contraceptive use that existed in 1984 had narrowed by 1989. For example, in the poor experimental area in 1984, only 6 percent of women with no education were using any modern method, and 56 percent of those women were sterilized (not shown). In the same area, 11 percent of women who had completed primary schooling were using a modern method, and 10 percent of those women were sterilized. By 1989, 28 percent of women with no education were using a contraceptive method, and only 12 percent of those women were sterilized. Of women who had completed primary schooling, 36 percent were using a modern method, of whom 3 percent were sterilized. In the poor control area, 10 percent of women with no education were using a method in 1984, of whom 62 percent were sterilized. Of women who had completed primary schooling, 20 percent were using a modern method, of whom 34 percent were sterilized. By 1989, 23 percent of women with no education were using a modern method, of whom 34 percent were sterilized. Contraceptive prevalence rates increased most rapidly for women with no education in all four areas, and this increase was more rapid in the experimental areas than in the control areas.

Table 2 Percentage of women surveyed who reported using a contraceptive method, by year and level of education, according to method used, Bangladesh, 1996–2000

<table>
<thead>
<tr>
<th>Year and educational level</th>
<th>Any modern method</th>
<th>Pill</th>
<th>IUD</th>
<th>Injectables</th>
<th>Condom</th>
<th>Female sterilization</th>
<th>Male sterilization</th>
<th>Norplant&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996–97</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>39.5</td>
<td>18.3</td>
<td>1.3</td>
<td>7.0</td>
<td>1.6</td>
<td>9.7</td>
<td>1.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Some primary</td>
<td>43.9</td>
<td>22.5</td>
<td>1.2</td>
<td>8.3</td>
<td>2.7</td>
<td>7.9</td>
<td>1.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Completed primary</td>
<td>41.9</td>
<td>23.7</td>
<td>2.6</td>
<td>4.8</td>
<td>4.9</td>
<td>4.8</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>45.1</td>
<td>24.7</td>
<td>3.1</td>
<td>3.0</td>
<td>10.7</td>
<td>3.1</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>1999–2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>41.5</td>
<td>20.0</td>
<td>1.2</td>
<td>8.3</td>
<td>1.0</td>
<td>9.6</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Some primary</td>
<td>44.0</td>
<td>24.1</td>
<td>0.9</td>
<td>8.5</td>
<td>3.4</td>
<td>6.2</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Completed primary</td>
<td>41.5</td>
<td>23.4</td>
<td>1.0</td>
<td>8.1</td>
<td>4.3</td>
<td>4.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Secondary</td>
<td>47.0</td>
<td>27.2</td>
<td>1.7</td>
<td>4.2</td>
<td>10.2</td>
<td>3.2</td>
<td>0.1</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Sources: For 1996–97, Mitra et al. (1997: Table 4.9); for 1999–2000, Mitra et al. (2001: Table 4.9).
Women’s choice of nonclinical methods over clinical methods is not solely motivated by relative costs. In a situation where child mortality is high, women might be reluctant to give up altogether their ability to have children, even those who state in surveys that they do not desire any more children. Unfortunately, surveys are limited. They do not ask, for example, how sure women are that they do not want any more children; they do not ask respondents if they would want to have another child if one of their living children should die. Some Bangladeshi women may decide not to be sterilized because they feel Islam prohibits it; permanent methods are more controversial among religious leaders than are temporary methods (Amin et al. 1996). Sobhan et al. (1999) argue that women have misconceptions about the side effects of clinical methods and that if accurate information were available to them, they would decide to use such methods. Women’s reluctance to relinquish the possibility of having children is an issue separate from their concern about the possible side effects of the procedure, however. In the 1996–97 BDHS, 10 percent of women surveyed who had been sterilized regretted having had the operation (Mitra et al. 1997). Cleland and Mauldin (1991) reported that 10 percent of women in their rural sample had experienced the death of a child since their sterilization. They also noted that women who have experienced a child’s death are three times more likely to express regret about their sterilization than are women who have not had that experience.

Promoting the use of IUDs is also a dubious strategy for the national family planning program. The IUD has never been a popular method in Bangladesh. Only 2 percent of married women of reproductive age used the IUD in 1996–97, and 1 percent used the IUD in 1999–2000 (as shown in Table 1). Only 3 percent of women with secondary education, who have more information about methods and who have greater freedom to act on their contraceptive choices, choose to use the IUD (see Table 2).

Moreover, the IUD might not be the best method to promote in terms of reproductive health, in light of the current quality of care provided in the clinics of Bangladesh. A recent study found evidence that IUD insertion involves a risk of infection. It stated that IUD candidates should be screened for reproductive tract infections (RTIs), and that “failure to identify infected women may pose avoidable risks” (Grimes 2000: 5). In a study conducted in the Dhaka district of Bangladesh, Chowdhury et al. (1999) found that among 18 women who had received an IUD, only six were screened for RTIs. Providers did not follow basic procedures such as changing gloves between patients during pelvic examinations. Schuler and Hossain (1998) also report unsanitary conditions in the clinics that they visited in Bangladesh. Performing IUD insertion under such conditions places women at risk of infection. Moreover, procedures to diagnose and treat RTIs are lacking in Bangladesh. Because nonclinical methods appear to pose a lower risk of transmitting RTIs than do clinical methods, encouraging the use of nonclinical methods promotes reproductive health.

Another reason why the IUD might be so unpopular is that women report difficulties when they want to have them removed. Women interviewed for a study by Schuler and Hossain (1998) reported that they were treated harshly when they went to clinics and requested IUD removal. Providers told them that the effectiveness of the IUD had not expired yet, and they refused to remove it. From the standpoint of reproductive rights, women who choose a method such as the injectable or the pill are choosing logically, because these methods give them greater control over their fertility than does the IUD in circumstances where IUD removal is denied them.

### Data

The analyses presented below are based on longitudinal data collected from 1982 to 1989 by the Maternal and Child Health–Family Planning (MCH–FP) Extension Project of the ICDDR,B. Although the data used here were collected during the 1980s, they are still useful for showing how the program operated. Data are available before and after the program was expanded in 1986, when additional family planning field-workers were hired. No major program expansions have occurred since that time. The availability of data from the program’s two experimental and two control areas allow for comparative analyses.
How Workers Decide Whom to Visit

Were workers more likely to visit women with no education and women who lived in poorer areas? Workers responded to government program goals, which did not include expanding access to the poorest women or to uneducated women. Field-workers were evaluated according to the contraceptive prevalence in their areas. In 1984, workers were assigned between 1,250 and 2,000 women in their area; they chose which women to visit according to observable characteristics related to the women’s propensity to use contraceptives. For example, workers were less likely to visit pregnant women, young women, and women with no children than they were to visit other women (ICDDR,B 1988). In the Extension Project, workers were reprimanded if they did not visit some minimum number of women during a round.

In light of the way in which they were evaluated, workers wanted to maximize the number of contraceptive users they served in the time available and given the minimum number of women they were required to visit. Therefore, they were more likely to visit women who had used a method in the past than they were to visit nonusers, because visits to past users had a larger marginal impact on the contraceptive prevalence rate than did visits to nonusers. Workers were also less likely to visit women who lived far away than those who lived close by.

When the government hired additional workers in 1986, it did not hire more workers in the areas perceived to have greater need; the number of original workers was simply doubled in each area. For example, the average workload in 1988 in the poor area was 821 women per worker, compared with 644 in the wealthy area.3

Through regression analysis, we can determine how the expansion affected women in different educational groups and in different areas. Table 4 presents the results of a regression analysis where the dependent variable is whether or not a woman received a visit in the current round. Predicted probabilities are presented in Table 5.6 For each regression analysis, the data are treated as a cross section and not as longitudinal data. The first regression uses data from a 1985 round, when a distance survey was conducted measuring the travel time between family planning workers’ houses and their clients’ houses, as well as travel time between the clients’ houses and the locations of other government family planning providers. The second regression uses data from a 1988 round, two years after the government had expanded the program. By comparing the two regressions, we can determine who benefited from the program expansion. The comparison captures the effect of hiring more workers. The third regression uses the data from the 1988 round, including a set of worker-dummy variables. By comparing the second and third regressions, we can distinguish between effects resulting from the placement of more workers and effects due to the workers’ propensity to focus on women with some particular characteristic. With the worker-dummy variables, the regression coefficients are identified from the variation “within” each worker’s area. In other words, they reflect the propensity of individual workers to be more likely to visit some women in their area than others. Without the fixed effects, the coefficients reflect this propensity of the individual workers as well as the impact of adding more workers to the study areas. For example, workers might be hired to work in areas with a high proportion of un-
educated women, but these workers might prefer to visit the educated women within their area.

After the expansion of the program, women were more likely to report having received a visit in the previous round. For example, the probability that a woman with no education would be visited increased from 35 percent in 1985 to 50 percent in 1988 (see Table 5).

Workers were more likely to visit women who were using contraceptives in the previous round than women who were not using contraceptives. The differential increased over time: In 1985, contraceptive users were 6 percentage points more likely to be visited than nonusers, and by 1988, the differential had increased to 10 percentage points. The differential is smaller than expected, given the emphasis that other researchers have placed on workers’ propensity to visit users over nonusers (see Phillips et al. 1996; Janowitz et al. 1999; and Arends-Kuenning 2001).

<table>
<thead>
<tr>
<th>Table 4  Probit models showing determinants of family planning workers’ visits and measures of travel-time costs, Bangladesh, 1985 and 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Used modern contraceptive in previous round</td>
</tr>
<tr>
<td>Costs to workers of visits to clients</td>
</tr>
<tr>
<td>Travel time from worker's house to client's house (minutes)</td>
</tr>
<tr>
<td>Population density of married women in village (per acre) (1982 census)</td>
</tr>
<tr>
<td>Number of married women in village (per thousand population) (1982 census)</td>
</tr>
<tr>
<td>Travel time to other contraceptive sources</td>
</tr>
<tr>
<td>Thana health complex</td>
</tr>
<tr>
<td>Family welfare clinic</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Age squared</td>
</tr>
<tr>
<td>Education (years)</td>
</tr>
<tr>
<td>None (r)</td>
</tr>
<tr>
<td>1–4</td>
</tr>
<tr>
<td>5–9</td>
</tr>
<tr>
<td>10+</td>
</tr>
<tr>
<td>Husband’s education (years)</td>
</tr>
<tr>
<td>None (r)</td>
</tr>
<tr>
<td>1–4</td>
</tr>
<tr>
<td>5–9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>No data</td>
</tr>
<tr>
<td>Muslim</td>
</tr>
<tr>
<td>Region (thana)</td>
</tr>
<tr>
<td>Low SES control area (Gopalpur) (r)</td>
</tr>
<tr>
<td>Low SES experimental area (Sirajgong)</td>
</tr>
<tr>
<td>High SES experimental area (Abhoynagar)</td>
</tr>
<tr>
<td>High SES control area (Fultala)</td>
</tr>
<tr>
<td>Includes set of worker dummies</td>
</tr>
<tr>
<td>(N)</td>
</tr>
<tr>
<td>Log-likelihood</td>
</tr>
</tbody>
</table>

*Significant at p≤0.05; **p≤0.01. SES = Socioeconomic status. na = Not available. — = Not applicable. (r) = Reference category.

Note: Dependent variable is equal to one if woman reported receiving a visit within the previous three months.
Because more family planning workers were first hired in the experimental areas, the probability of receiving a visit increased the most in those areas. In 1985, the differentials were narrow across the areas, but by 1988 they had become wide. The probability of receiving a visit was highest in the wealthy experimental area, so the program expansion benefited this area most.

Finally, are workers’ visits substitutes for or complementary to other government-provided family planning services? The 1985 data included the distance between women’s houses and the thana health complex and the family welfare clinic. Each thana has one complex and several clinics. The complex provides more services than do the clinics. In 1985, the family planning workers’ visits were substitutes for the complex, because the women who lived farthest away from the complex were more likely to receive a visit. In both 1985 and 1988, the family welfare clinics served to complement the family planning workers’ visits, because the women who lived farthest away from the clinics were less likely to receive a visit. Evaluated at the mean travel time (66 minutes), the predicted probability of a visit in 1988 using the fixed-effect estimates is equal to 48 percent, and evaluated at one standard deviation less than the mean (21 minutes), the predicted probability is equal to 55 percent. This effect might be the result of the workers’ daily patterns. The workers went to the clinics for supplies and often began their workday at the clinic. The program might be made more efficient if women who lived close to the clinics could obtain their contraceptives there so that the workers could focus on women who lived farther away.

**Table 5** Predicted probabilities of receiving a family planning worker’s visit, Bangladesh, 1985 and 1988

<table>
<thead>
<tr>
<th>Variable</th>
<th>1985 Distance survey</th>
<th>1988 Distance survey</th>
<th>1988 Distance survey with worker ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonuser in previous round</td>
<td>0.35</td>
<td>0.49</td>
<td>0.49</td>
</tr>
<tr>
<td>User in previous round</td>
<td>0.41</td>
<td>0.59</td>
<td>0.58</td>
</tr>
<tr>
<td>Education (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.35</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>1–4</td>
<td>0.38</td>
<td>0.52</td>
<td>0.52</td>
</tr>
<tr>
<td>5–9</td>
<td>0.37</td>
<td>0.54</td>
<td>0.54</td>
</tr>
<tr>
<td>10+</td>
<td>0.42</td>
<td>0.51</td>
<td>0.51</td>
</tr>
<tr>
<td>Husband’s education (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.35</td>
<td>0.51</td>
<td>0.51</td>
</tr>
<tr>
<td>1–4</td>
<td>0.39</td>
<td>0.51</td>
<td>0.51</td>
</tr>
<tr>
<td>5–9</td>
<td>0.39</td>
<td>0.52</td>
<td>0.52</td>
</tr>
<tr>
<td>10+</td>
<td>0.40</td>
<td>0.57</td>
<td>0.56</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor experimental</td>
<td>0.36</td>
<td>0.54</td>
<td>0.73</td>
</tr>
<tr>
<td>Wealthy experimental</td>
<td>0.39</td>
<td>0.73</td>
<td>0.61</td>
</tr>
<tr>
<td>Poor control</td>
<td>0.28</td>
<td>0.04</td>
<td>0.00</td>
</tr>
<tr>
<td>Wealthy control</td>
<td>0.31</td>
<td>0.29</td>
<td>0.29</td>
</tr>
<tr>
<td>Travel time to family welfare clinic</td>
<td>0.35</td>
<td>0.50</td>
<td>0.48</td>
</tr>
<tr>
<td>66 minutes</td>
<td>0.41</td>
<td>0.52</td>
<td>0.55</td>
</tr>
</tbody>
</table>

**Note:** Predicted probabilities are based on coefficients presented in Table 4.

**Differential Impacts of Visits by Education and Region**

The data reveal that field-workers’ visits have the greatest impact on both the contraceptive-adoption behavior and the contraceptive-continuation behavior of women having no education, compared with other women. Visits also have larger impacts on contraceptive behavior in poorer areas than in wealthier areas. Therefore, reallocating workers so that they reach more women with no education and those who live in poorer areas would enhance the efficiency and the equity of the program. If the purpose of the program is to keep contraceptive prevalence high, workers should visit users as well as nonusers.

An issue that arises from an analysis of the Extension Project data is whether coefficients for workers’ visits are overestimated because workers can choose whom they visit, subject to the program goals described above. Workers have heavy workloads, and although they are supposed to visit all the women assigned to them, they must set priorities. For example, they are more likely to visit women who are using oral contraceptives, injectables, and condoms than women who are not using these methods. Bias in the research findings results, however, if workers target their visits to women based on information known to them and not known to the researcher. The researcher can condition analyses on women’s past contraceptive behavior, which is available in the longitudinal data. In a previous study (2001), the author presents the results of hazard-model regressions for contraceptive adoption and for contraceptive discontinuation, using data from the Extension Project collected between 1984 and 1989, which show that when clients’ previous use of a method and their use in the last round are considered in the hazard model, workers’ visits are found not to be targeted according to unobserved characteristics. If workers’ visits were targeted at women who are inclined to use contraceptives, past workers’ visits would have positive and significant impacts on the probability that a woman will adopt a method, and negative and significant impacts on the probability that she will continue to use a method. Past workers’ visits are found to be insignificant in the adoption and discontinuation hazard-model regressions. Workers’ visits are effective because they lower the costs to women of practicing contracep-
tion and increase their access to methods, not because workers persuade women to use methods.

The equation for the discrete time-hazard-rate models is estimated by the following logistic model (Arends-Kuenning 2001):

$$y_{idt} = \alpha_0 + \alpha_1 V_{it} + \sum_{k=1}^{K} \alpha_{k+1} V_{it-k} + \beta_1 X + \mu_t + e_{idt},$$  

where $y_{idt}$ is equal to one when woman $i$, who has chosen not to adopt contraception for duration $d$ finally adopts a contraceptive in round $t$. Ideally, duration $d$ would refer to the time between when the woman decides she does not want children soon, given that she is at risk of becoming pregnant, and the current round. The point in time when she makes her decision is not observable in the data, however. Therefore, the variables age and time since last birth stand as a proxy for duration. The variable $V_{it}$ equals one when the woman received a visit this round and zero if no visit occurred, while $V_{it-k}$ equals one if the woman was visited in the previous round, $V_{it-2}$ equals one if the woman was visited two rounds ago, and so on. Statistical significance of the $\alpha_k$ coefficients provides evidence that family planning workers’ visits are affecting women’s demand for contraceptives or that visits are targeted. The variables represented by $X$ are control variables that affect the benefits and costs of using contraceptives and include education, region of residence, and so forth.

The observations used in the adoption regressions come from women who are at risk of adopting a contraceptive method (they are not pregnant and have never used a modern method); when a woman adopts a method, she is no longer included in the sample in subsequent rounds. For the models of contraceptive discontinuation, $y_{idt}$ is equal to one when a woman who has been using a nonpermanent method for $d$ rounds reports that she is not using a method in round $t$. Observations come from women who used a nonpermanent contraceptive method in the previous round. Multiple spells of contraceptive use can be included in the discontinuation hazard for each woman.

Table 6 presents selected coefficients from the adoption hazard-rate model; Table 7 presents selected coefficients from the discontinuation hazard-rate model; and Table 8 presents predicted probabilities of contraceptive adoption and discontinuation. The hazard-rate models include interactions between family planning workers’ visits and both educational level and region. The regression shows, therefore, whether visits have differential impacts by education and by region and allows for statistical tests of significance.

The results of the adoption and discontinuation hazard models indicate that workers’ visits have the largest impact for women with no education and for women who live in the poor experimental area. The lack of significance of any of the lagged-visit (prior-round) variables indicates that workers are not targeting visits at women with unobserved propensities to use contraceptives. The direct effects of education on adoption indicate that women with higher levels of education are more likely to adopt a method than are women with no education. These effects are shown to be statistically significant by a Wald test. The predicted probabilities from Table 8

### Table 6 Contraceptive-adoption model showing selected coefficients and education and region interactions, Bangladesh, 1984–89

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Odds ratio</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit data missing for last round</td>
<td>0.65**</td>
<td>1.92</td>
<td>0.08</td>
</tr>
<tr>
<td>Interactions with education (years) and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>family planning workers’ visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education, visit</td>
<td>0.96**</td>
<td>2.62</td>
<td>0.16</td>
</tr>
<tr>
<td>1–4, visit</td>
<td>0.67**</td>
<td>1.96</td>
<td>0.20</td>
</tr>
<tr>
<td>5–9, visit</td>
<td>0.49*</td>
<td>1.63</td>
<td>0.19</td>
</tr>
<tr>
<td>10+, visit</td>
<td>0.07</td>
<td>1.08</td>
<td>0.45</td>
</tr>
<tr>
<td>No education, lag visit</td>
<td>0.19</td>
<td>1.21</td>
<td>0.15</td>
</tr>
<tr>
<td>1–4, lag visit</td>
<td>0.31</td>
<td>1.36</td>
<td>0.18</td>
</tr>
<tr>
<td>5–9, lag visit</td>
<td>0.06</td>
<td>1.07</td>
<td>0.18</td>
</tr>
<tr>
<td>10+, lag visit</td>
<td>-0.26</td>
<td>0.77</td>
<td>0.43</td>
</tr>
<tr>
<td>Interactions with region (thana) and visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor experimental area, visit</td>
<td>1.01**</td>
<td>2.73</td>
<td>0.18</td>
</tr>
<tr>
<td>Wealthy experimental area, visit</td>
<td>0.35</td>
<td>1.42</td>
<td>0.18</td>
</tr>
<tr>
<td>Poor control area, visit</td>
<td></td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>Wealthy control area, visit</td>
<td>0.18</td>
<td>1.20</td>
<td>0.22</td>
</tr>
<tr>
<td>Poor experimental area, lag visit</td>
<td>-0.16</td>
<td>0.85</td>
<td>0.16</td>
</tr>
<tr>
<td>Wealthy experimental area, lag visit</td>
<td>-0.14</td>
<td>0.87</td>
<td>0.17</td>
</tr>
<tr>
<td>Poor control area, lag visit</td>
<td>-0.07</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>Wealthy control area, lag visit</td>
<td></td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>Education (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (r)</td>
<td>—</td>
<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>1–4</td>
<td>0.42**</td>
<td>1.53</td>
<td>0.13</td>
</tr>
<tr>
<td>5–9</td>
<td>0.75**</td>
<td>2.12</td>
<td>0.12</td>
</tr>
<tr>
<td>10+ years</td>
<td>1.95**</td>
<td>7.00</td>
<td>0.38</td>
</tr>
<tr>
<td>Husband’s education (years)</td>
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<tr>
<td>None (r)</td>
<td>—</td>
<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>1–4</td>
<td>0.10</td>
<td>1.10</td>
<td>0.07</td>
</tr>
<tr>
<td>5–9</td>
<td>0.06</td>
<td>1.06</td>
<td>0.07</td>
</tr>
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<td>0.23*</td>
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<td>0.11</td>
</tr>
<tr>
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<td>0.95</td>
<td>0.07</td>
</tr>
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<td>Region (thana)</td>
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<td></td>
</tr>
<tr>
<td>Poor control area (r)</td>
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<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>Poor experimental area</td>
<td>-1.66*</td>
<td>0.19</td>
<td>0.66</td>
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<tr>
<td>Wealthy experimental area</td>
<td>0.64</td>
<td>0.53</td>
<td>0.98</td>
</tr>
<tr>
<td>Wealthy control area</td>
<td>-0.87</td>
<td>0.42</td>
<td>0.81</td>
</tr>
<tr>
<td>Village-level dummy variables</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N (women-rounds of observations)</td>
<td>75,169</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N) (number of women)</td>
<td>(6,373)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-8,871,615</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at p≤0.05; **p≤0.01. (r) = Reference category. — = Not applicable.

Note: Regression also includes control variables for age, age squared; number of three-month rounds since woman last gave birth; number of living children; distance to family welfare clinic, thana health complex, and the nearest source for oral contraceptives; lagged community-level contraceptive use and lagged community discontinuation rates; season of the year; and dummy variable indicating rounds since 1986.

Lag visit = Visit in the previous round. b Variable dropped because of multicollinearity.
show that without a visit, only 1 percent of women with no education are likely to begin using a method, compared with 7 percent of the women having at least a secondary education. The interactions between visits and educational levels show, however, that the marginal effect of a visit on contraceptive adoption is greatest for women with no education and least for women having a secondary education or higher. As shown in column 3, with a visit, the probability that a woman with no education will adopt a method increases to 4 percent, which is 2.4 times greater than the probability that she will adopt a method without a visit. The relative difference decreases as the educational level rises. A woman having a secondary-school education is 32 percent more likely to adopt a method when she is visited than when she is not. Field-workers’ visits tend to equalize the probability of adoption across educational groups.

As shown in Table 7, discontinuation rates do not vary significantly by educational group, but the interactions of visits with educational level indicate that visits to uneducated women lower the probability that women will discontinue contraceptive use by a greater amount than do visits to better-educated women. The predicted probabilities for discontinuation presented in Table 8 show that when women with no education are visited by a family planning worker, they are about half as likely to discontinue contraceptive use compared with women with no education who were not visited (see column 3).

### Table 7: Contraceptive-discontinuation model showing selected coefficients and education and region interactions, Bangladesh, 1984–89

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Odds ratio</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit data missing from two rounds ago</td>
<td>-0.44**</td>
<td>0.64</td>
<td>0.17</td>
</tr>
<tr>
<td>Interactions with education (years) and family planning workers’ visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education, visit</td>
<td>-0.45</td>
<td>0.64</td>
<td>0.26</td>
</tr>
<tr>
<td>1–4, visit</td>
<td>-0.23</td>
<td>0.79</td>
<td>0.29</td>
</tr>
<tr>
<td>5–9, visit</td>
<td>-0.18</td>
<td>1.20</td>
<td>0.27</td>
</tr>
<tr>
<td>10+, visit</td>
<td>-0.16</td>
<td>0.85</td>
<td>0.50</td>
</tr>
<tr>
<td>None, lag visit</td>
<td>0.24</td>
<td>1.27</td>
<td>0.49</td>
</tr>
<tr>
<td>1–4, lag visit</td>
<td>0.30</td>
<td>1.34</td>
<td>0.51</td>
</tr>
<tr>
<td>5–9, lag visit</td>
<td>-0.16</td>
<td>0.85</td>
<td>0.50</td>
</tr>
<tr>
<td>10+, lag visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education, lag 2 visits</td>
<td>0.19</td>
<td>1.21</td>
<td>0.24</td>
</tr>
<tr>
<td>1–4, lag 2 visits</td>
<td>0.13</td>
<td>1.14</td>
<td>0.28</td>
</tr>
<tr>
<td>5–9, lag 2 visits</td>
<td>0.20</td>
<td>1.23</td>
<td>0.26</td>
</tr>
<tr>
<td>10+, lag 2 visits</td>
<td>0.31</td>
<td>1.37</td>
<td>0.48</td>
</tr>
<tr>
<td>Interactions with region (thana)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Poor experimental area, visit</td>
<td>-0.65*</td>
<td>0.52</td>
<td>0.27</td>
</tr>
<tr>
<td>Wealthy experimental area, visit</td>
<td>-0.41</td>
<td>0.66</td>
<td>0.28</td>
</tr>
<tr>
<td>Poor control area, visit</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Wealthy control area, visit</td>
<td>-0.57</td>
<td>0.57</td>
<td>0.31</td>
</tr>
<tr>
<td>Poor experimental area, lag visit</td>
<td>-0.13</td>
<td>0.88</td>
<td>0.49</td>
</tr>
<tr>
<td>Wealthy experimental area, lag visit</td>
<td>0.08</td>
<td>1.08</td>
<td>0.49</td>
</tr>
<tr>
<td>Poor control area, lag visit</td>
<td>-0.51</td>
<td>0.60</td>
<td>0.53</td>
</tr>
<tr>
<td>Wealthy control area, lag visit</td>
<td>0.16</td>
<td>1.18</td>
<td>0.52</td>
</tr>
<tr>
<td>Poor experimental area, lag 2 visits</td>
<td>-0.08</td>
<td>0.93</td>
<td>0.26</td>
</tr>
<tr>
<td>Wealthy experimental area, lag 2 visits</td>
<td>-0.14</td>
<td>0.87</td>
<td>0.26</td>
</tr>
<tr>
<td>Poor control area, lag 2 visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealthy control area, lag 2 visits</td>
<td>-0.22</td>
<td>0.81</td>
<td>0.30</td>
</tr>
<tr>
<td>Education (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (r)</td>
<td>—</td>
<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>1–4</td>
<td>-0.22</td>
<td>0.80</td>
<td>0.19</td>
</tr>
<tr>
<td>5–9</td>
<td>-0.07</td>
<td>0.94</td>
<td>0.16</td>
</tr>
<tr>
<td>10+</td>
<td>-0.22</td>
<td>0.81</td>
<td>0.40</td>
</tr>
<tr>
<td>Husband’s education (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (r)</td>
<td>—</td>
<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>1–4</td>
<td>-0.07</td>
<td>0.93</td>
<td>0.10</td>
</tr>
<tr>
<td>5–9</td>
<td>-0.18*</td>
<td>0.83</td>
<td>0.09</td>
</tr>
<tr>
<td>10+</td>
<td>-0.08</td>
<td>0.92</td>
<td>0.12</td>
</tr>
<tr>
<td>Data missing</td>
<td>0.11</td>
<td>1.11</td>
<td>0.10</td>
</tr>
<tr>
<td>Region (thana)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor control area (r)</td>
<td>—</td>
<td>1.00</td>
<td>—</td>
</tr>
<tr>
<td>Poor experimental area</td>
<td>-0.33</td>
<td>0.72</td>
<td>0.90</td>
</tr>
<tr>
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<td>-0.86</td>
<td>0.42</td>
<td>1.17</td>
</tr>
<tr>
<td>Wealthy control area</td>
<td>-0.10</td>
<td>0.90</td>
<td>1.09</td>
</tr>
<tr>
<td>Village-level dummy variables</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N (women-rounds of observations)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(N) (number of women)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-4,265.715</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at p≤0.05; **p≤0.01. (r) = Reference category. — = Not applicable.

### Table 8: Predicted probability of adopting and discontinuing a contraceptive method, by educational level and region of residence, rural Bangladesh, 1984–89

<table>
<thead>
<tr>
<th>Variable</th>
<th>No visit (1)</th>
<th>Visit (2)</th>
<th>Relative difference (percent change) (3)</th>
<th>Absolute difference (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adoption</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.01</td>
<td>0.04</td>
<td>236.4</td>
<td>0.03</td>
</tr>
<tr>
<td>1–4</td>
<td>0.02</td>
<td>0.04</td>
<td>147.1</td>
<td>0.03</td>
</tr>
<tr>
<td>5–9</td>
<td>0.02</td>
<td>0.05</td>
<td>95.8</td>
<td>0.02</td>
</tr>
<tr>
<td>10+</td>
<td>0.07</td>
<td>0.09</td>
<td>32.4</td>
<td>0.02</td>
</tr>
<tr>
<td>Discontinuation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.24</td>
<td>0.13</td>
<td>-47.1</td>
<td>-0.11</td>
</tr>
<tr>
<td>1–4</td>
<td>0.20</td>
<td>0.13</td>
<td>-38.2</td>
<td>-0.08</td>
</tr>
<tr>
<td>5–9</td>
<td>0.23</td>
<td>0.20</td>
<td>-14.0</td>
<td>-0.03</td>
</tr>
<tr>
<td>10+</td>
<td>0.21</td>
<td>0.13</td>
<td>-34.6</td>
<td>-0.07</td>
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<tr>
<td>Region (thana)</td>
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<td></td>
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</tr>
<tr>
<td>Adoption</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.01</td>
<td>0.03</td>
<td>328.6</td>
<td>0.02</td>
</tr>
<tr>
<td>Wealthy experimental area</td>
<td>0.02</td>
<td>0.04</td>
<td>121.1</td>
<td>0.02</td>
</tr>
<tr>
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<td>0.04</td>
<td>0.05</td>
<td>54.3</td>
<td>0.02</td>
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<td>0.05</td>
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</tr>
<tr>
<td>Discontinuation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Poor experimental area</td>
<td>0.26</td>
<td>0.14</td>
<td>-47.5</td>
<td>-0.12</td>
</tr>
<tr>
<td>Wealthy experimental area</td>
<td>0.18</td>
<td>0.11</td>
<td>-39.2</td>
<td>-0.07</td>
</tr>
<tr>
<td>Poor control area</td>
<td>0.32</td>
<td>0.28</td>
<td>-12.2</td>
<td>-0.04</td>
</tr>
<tr>
<td>Wealthy control area</td>
<td>0.30</td>
<td>0.17</td>
<td>-41.8</td>
<td>-0.13</td>
</tr>
</tbody>
</table>

Notes: Predicted probabilities are calculated by changing the variable of interest for each observation, holding the other variables at their actual values, calculating predicted probabilities for each observation, and taking the mean predicted probability over the sample. Coefficient values come from the regressions presented in Tables 6 and 7.
The effect is smaller for women who have higher levels of schooling. Without visits, women with no education are found to be much more likely to discontinue than are women in other educational groups, but with visits, the discontinuation rates become almost equal.

For the interactions between visits and region, visits have the largest impact on adoption rates in the poor experimental area. The effect is statistically significant at the 1 percent level. As shown in Table 8, column 3, women who live in the poor experimental area are 3.3 times more likely to adopt a method when they are visited than are women who are not visited. In the wealthy experimental area, women who are visited by a worker are 1.2 times more likely to adopt a method than are women who are not visited. Visits are also least effective in the poor control area, a result that might be related to the availability of other sources for family planning services such as nongovernmental organizations.

For discontinuation rates, column 3 in Table 8 shows again that visits have the largest impact in the poor experimental area. Visits have similar impacts in the other three areas. Visits reduce the probability that a woman will discontinue contraceptive use by 48 percent in the poor experimental area, by 12 percent in the poor control area, by 39 percent in the wealthy experimental area, and by 42 percent in the wealthy control area.

If workers hired in 1986 had been assigned to visit uneducated women and those living in poor areas, perhaps the impact of the program would have been greater than it was.

Should Workers Visit Users or Nonusers?

Some studies recommend that the field-workers focus their attention on nonusers of contraceptives as well as on groups that they have not visited frequently in the past, such as young women and women with no children (Janowitz 1999; Routh and Jahan 2000). Whether family planning workers can convince nonusers to adopt a contraceptive method is an empirical question. Arends-Kuenning et al. (1999) find no evidence that workers’ visits affect women’s fertility preferences. In her previous study (2001), the author argues that past visits have no effect on contraceptive-method adoption, so that women are not convinced by repeated visits to adopt a method. Women adopt methods when workers visit because their visits lower the costs of obtaining contraceptives to the lowest possible levels. Routh and Jahan (2000) found, however, that workers were effective when they were instructed to visit nonusers selectively and to motivate them to use methods. In one area of Dhaka, one-third of the nonusers visited were persuaded by the workers to adopt a method, compared with 5 percent in a home-delivery area where nonusers were not targeted selectively. This result is striking, but unfortunately it is not explored in depth, so it is not entirely convincing. The article does not mention whether these nonusers who began practicing contraception were women who had previously indicated an interest in limiting or spacing their births. Women who say that they want no more children are more likely to use contraceptives than are women who want more children (Phillips et al. 1996). How did field-workers determine which nonusers to visit? Some nonusers might be resistant to adopting new methods, so that trying to motivate them could prove to be a waste of time.

The predicted probabilities presented in Table 8 can be used to determine which women family planning workers should visit if the goal of the program is to maximize contraceptive prevalence. To maximize impact, field-workers should visit the women for whom a visit would make the largest absolute difference in contraceptive behavior. For example, if a family planning worker is deciding whether to visit a hundred uneducated women who are nonusers or a hundred uneducated women who are using nonpermanent methods, she could calculate the net gain in contraceptive use that would result from both choices. The predicted probabilities with and without a visit in column 4 of Table 8 indicate that if workers visit 100 nonusers with no education, three women are likely to adopt a method. If workers visit 100 uneducated users of contraceptives, 11 women will probably continue to use methods who otherwise would discontinue use if no visit had occurred. Comparing women at all educational levels, the net increase in contraceptive users is higher when workers visit past users rather than nonusers. For adoption, the absolute difference does not vary greatly by education. Visits to 100 nonusers of any educational group will result in a gain of two to three users. For discontinuation, however, visits to 100 users with no education would result in 11 users who continue to practice contraception, whereas visits to 100 users having secondary-school education would result in enabling seven users to continue practicing contraception. These parameters might be changing as the program evolves and doorstep delivery is scaled back. The results suggest that researchers should test the assumption that visits to nonusers have bigger impacts on the contraceptive prevalence rate than visits to users.

Results are similar for predicted probabilities of adoption and discontinuation by region. In the poor experimental area, a gain of two new users would result
from 100 visits to nonusers, whereas 12 users would continue to practice contraception as a result of 100 visits to current users. These results suggest that family planning workers should target their visits at women who are already using contraceptive methods. In light of the estimates, visits to contraceptive users have a greater impact on the contraceptive prevalence rate in an area than do visits to nonusers.

Even if workers can persuade nonusers to use a method, and the parameters change so that the impact of visits becomes greater for adoption than for continuation, changing the program so that workers visit only nonusers might not be practical. Workers might know who the nonusers are, because in the past, the program required them to visit all married women of reproductive age who lived in the area every two months and to record demographic data for them. If field-workers stop visiting all of these women and focus on nonusers, over time their knowledge of who is using a method and who is not will become less accurate. It would become difficult for a worker to figure out whether a nonuser wants to limit or space births and is, therefore, more amenable to adopting a contraceptive than is a nonuser who wants more children. With a fixed-clinic system and selected visitation, demographic and family planning information would be less complete than it was under the home-visit system. Therefore, targeting workers’ visits by characteristics that do not change as rapidly as contraceptive-use status, such as education or economic level, might be more practical. The workers already know their clients’ characteristics, and they need to update their information only every few years or so. To keep track of women’s contraceptive-use status, family planning workers would have to update surveys several times a year.

**Conclusions**

Although the Bangladesh family planning program has been successful at increasing contraceptive prevalence rates and in lowering fertility, donors consider the program unacceptably costly, and most of the costs are attributable to the system of having field-workers deliver contraceptives to women at their doorsteps. Therefore, the government of Bangladesh has begun to change the program from a doorstep-delivery system to fixed-site delivery. Reliance on field-workers to distribute nonclinical methods has declined, while reliance on the private sector has increased. This switch from public to private sector has important implications for poor women, and future research should focus on whether poor and uneducated women are able to obtain contraceptive methods using the new system. The public sector and the remaining field-workers might play an even more important role in ensuring access to contraceptive methods for poor women than they did in the past.

Two strategies are considered here: (1) encouraging women to switch from nonclinical methods such as oral contraceptives to clinical methods such as the IUD and sterilization, and (2) requiring field-workers to visit only women who are not currently using a contraceptive method. Both of these strategies might have harmful effects on the efficiency and the equity of the family planning program. As a result of the field-worker program, the contraceptive choices of uneducated women and of women who live in poor areas are similar to the choices of women who are better off. Women in both circumstances prefer temporary nonclinical methods to the permanent clinical methods. These choices are reasonable: Women are reluctant to forgo the possibility of bearing children in a context of high child mortality, and, with the current service-delivery system, clinical methods offer women greater control over their fertility and a lower risk of acquiring reproductive tract infections than do nonclinical methods.

Field-workers continue to be an important part of the service-delivery system, but they might be used more efficiently. Rather than requiring workers to visit only women who currently are not contraceptive users, the government should consider targeting workers’ visits according to characteristics that include women’s educational levels and the economic circumstances of the regions where they live, which are easier to verify and target than is their past contraceptive use. Regression analyses described here indicate that workers’ visits are most effective when they reach women who have no education and women who live in poor areas. Visiting women who were using a method in the previous round is found to have a larger marginal impact on contraceptive prevalence rates than is visiting women who have never used a method, so that the government might want to continue method resupply through the field-workers. Finally, although data showed that visits to uneducated women and to those living in poor areas were most effective, the program did not take this effectiveness into account when it expanded, nor when it set up workers’ incentives. Redistributing workers from rich areas to poor areas would enhance efficiency and equity. Workers could be encouraged to target visits to uneducated women and to women who live farther away from other sources of contraceptives, without regard to past contraceptive-use status. If determining women’s educational levels were too expensive, workers could be assigned to neighborhoods.
and regions where levels of female illiteracy are known to be especially high. Further research is needed to determine if field-workers’ visits continue to have differential impacts on women, and to see if the program could be made more equitable and sustainable by focusing visits on poor women and uneducated women.

The demographic transition in Bangladesh appears to have stalled, with a TFR of 3.3 children per woman. Current UNFPA estimates project that the population of Bangladesh will increase from 140.4 million in 2005 to 265.4 in 2050 (UNFPA 2001), based on a TFR of 3.56 children per woman, an increase that would put an enormous strain on the resources of a country that is already the most densely populated in the world. If desired fertility remains at two sons and a daughter, further reductions in fertility may not occur. To reduce desired fertility, programs that increase women’s status could have an impact, if parents come to perceive that daughters are of equal value to sons (Bairagi 2001a). Policies to discourage dowry payments at the time of marriage, if successful, could have a large impact. These policies might include enhancing girls’ education, supporting microcredit initiatives that lend to women, and increasing employment opportunities for women.

In the theory of fertility transitions, decreases in child mortality drive decreases in fertility. The impact of child mortality on Bangladesh’s contraceptive prevalence rate is not well understood, however. Cleland and his colleagues (1994) note that child mortality rates declined markedly during the late 1980s as a result of vaccination campaigns. This decline corresponded with an increase in the contraceptive prevalence rate and a fall in the TFR, but the authors did not analyze this relationship. According to UNICEF, between 1990 and 1996, the under-five mortality rate in Bangladesh fell from 140 to 112 and the infant mortality rate fell from 104 to 83. These decreases should have an impact on fertility rates, but it will not be immediate, because couples require some time to determine that child mortality rates have fallen (Montgomery 1997). The recent decline in child mortality may be starting to have an impact on fertility rates. Even if the relationship is not large, reducing child mortality is a goal in itself. Studies have shown that access to clean water has a great impact on child mortality (Kabir and Amin 1993). The government of Bangladesh might want to focus attention on providing clean water sources and enhancing prenatal care. Lowering child mortality might also increase women’s willingness to use nonclinical contraceptive methods.

The scope of family planning programs to lower desired fertility is limited. Past studies conducted in Bangladesh show little impact of workers’ visits on fertility preferences, even during the period of intensive visitation schedules in the 1980s and 1990s. The family planning program will continue to play an important role in the lives of Bangladeshi women, however, by allowing them to meet their reproductive goals in a safe manner and by lowering the obstacles to contraceptive use. Higher rates of contraceptive use are associated with lower abortion rates. Poor women and uneducated women are especially responsive to family planning programs and can least afford to bear unwanted children, and therefore, in the twenty-first century, the program should focus attention on these women.

Notes

1. The thana is a regional administrative unit in Bangladesh. The thanas included in the Extension Project data ranged in population from 90,000 to 205,000 inhabitants.

2. Another reason sterilization rates have fallen, according to Cleland and Mauldin (1991), is that in 1983, government family planning workers were subject to monthly targets of two sterilization referrals and one IUD referral per month. Workers could be fired or lose their salaries if they did not reach this quota. The government also provided payments to people who referred clients for sterilization. The monthly targets were eliminated in 1987 because of concerns that women were being coerced by government workers to undergo sterilization or have an IUD inserted. Women who were uneducated and poor might be more susceptible to coercion than women who were well educated and relatively wealthy. Payments to referrers were discontinued in 1988 because of concerns about unofficial sterilization agents who, primarily, were recruiting poor men to have vasectomies without giving the men complete information about the risks and benefits of other contraceptive options.

3. A discussion of the Sample Registration System and the interviewing procedures appears in Clark et al. (1986) and in Mozumder et al. (1991).

4. The project was intended to be a pure experiment, but the experiment was contaminated (Haaga and Maru 1994). Nongovernmental organizations (NGOs), perceiving that the comparison areas were underserved, stepped up their involvement in these areas. Few data were collected about the other projects. For example, NGO volunteers’ visits were not recorded in the Sample Registration System. Women’s reports of where they obtained contraceptives can be compared in ten of the data-collection rounds, however.

5. This figure was calculated by using the Bangladesh census to find out how many married women lived in the project areas in 1981 and 1991, and projecting the population in 1985 (Bangladesh Bureau of Statistics 1985a, 1985b, 1985c, 1986, and 1993).

6. Predicted probabilities are calculated by changing one characteristic at a time for the entire sample, calculating predicted probabilities for each woman in the sample, and then calculating the mean predicted probability for the entire sample.

7. This result cannot be explored because no data were collected concerning activities of nongovernmental organizations.
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**Acknowledgments**

This study was supported by a training grant from the National Institute for Child Health and Human Development, a Hewlett Foundation grant, and a Rackham grant from the University of Michigan. The author would like to thank the staff of the MCH–FP Extension Project (Rural) of the ICDDR,B for providing technical assistance and access to the data. Sajeda Amin, Charles Brown, Al Hermalin, Barkat-e-Khuda, David Lam, Mark Montgomery, Jim Phillips, and Aye Aye Thwin all provided helpful comments on earlier drafts. A previous version was published by the Population Council as *Policy Research Division Working Paper* No. 101.
On 1 October 1999, China celebrated the fiftieth anniversary of the founding of the People’s Republic—a half-century of Chinese-style communism. China’s demographic developments are of special interest for three reasons: First, because of its massive share of the world population: 22 percent in 1949 with 541.7 million people, and a slightly smaller proportion in 1999, 20 percent, with 1.26 billion; second, because of its huge growth: adding 718 million people and multiplying 2.3-fold in 50 years; finally, because of its unique and controversial birth-control policy, pursued unremittingly since the early 1970s.

This article provides a broad overview of the key trends and goals of China’s family planning policy from 1970 to the 1990s at the national and provincial levels. Special attention is paid to the administrative, economic, cultural, and other forces that have assisted and impeded the family planning effort, to the impact of the program in the provinces, and to its sociodemographic consequences and future prospects.

Fertility-control Policy Since the 1970s

In 1971, China launched a third family planning campaign that, unlike its two forerunners (1956–57 and 1962–66), was pursued relentlessly during the following decades. The slogan wan, xi, shao, popularized from 1973, embodied the three fundamental planks of the campaign: late marriage and childbearing (wan = late), birth spacing (xi = spaced), and fertility limitation (shao = few) (Banister 1987; Peng 1991). The most stringent rules were applied in the cities where couples were encouraged to delay marriage until age 25 for women and 28 for men and to have no more than two children. The rules for those living in rural areas were more accommodating: The minimum age for marriage was set at 23 and 25, respectively, and maximum family size was set at three children. Urban and rural couples alike had to abide by a birth-spacing period of at least three to four years.

These early measures failed to limit the population to 1.2 billion by 2000, the official target. As a result, a major policy revision occurred in 1979: the draconian rule of one child per family, urban or rural (Croll et al. 1985). Soon after the adoption of the one-child policy, however, popular resistance forced the government to relax its most stringent rules. From 1984 on, rural couples have been allowed a second child, subject to province-specific conditions (Attané 1998; Merli and Raftery 2000). Although ethnic minorities also are affected by birth-control policy, the rules are, by and large, less strict for them than for the general population (Attané and Courbage 2000).

Fertility control became a constitutional duty in 1982: “The State promotes family planning so that population growth may fit the plans for economic and social development” (article 25); “Both husband and wife have the duty to practice family planning” (part of article 49). The Marriage Law of 1980 lays down the same obliga-
tion: “Family planning shall be practiced” (part of section 2). No legislation has been passed, however, that applies the principles of family planning policy nationwide, because China’s vastness and diversity make its leaders seek to regulate fertility on a provincial basis in order to accommodate local conditions. Therefore, in the 1980s, each province enacted its own self-contained family-limitation regulations, leading to great variations in the content of regulations among provinces (Short and Zhai 1998). At the same time, the State Family Planning Commission (SFPC) drew up an official indicator of the maximum completed fertility called for by the family planning policy (Yin 1995). Set at an average of 1.62 children ever born per woman nationally in the mid-1980s—a number that has remained virtually unchanged since then—it ranges from 1.3 in the most highly developed and urbanized provinces (Beijing, Shanghai, Tianjin) to 2.4 in Xinjiang, where ethnic minorities account for more than 60 percent of the total population.

Based on legal provisions enumerated in the provincial regulations and on the prescribed maximum fertility (see Yin 1995), the provinces are divided here into three groups, according to the permissiveness of their regulations as of the late 1980s (see the map in Figure 1). The first group comprises provinces with fairly strict regulations concerning having a second child: Authorization is limited to 20 to 50 percent of women.1 This group includes Hubei and the provinces lying along a narrow coastal strip running from Heilongjiang to Zhejiang (where a third of the total population lives). A second group comprises the central and southern provinces (55 percent of the total population) where a second child is permitted if the first is a girl or the parents “are experiencing significant hardship” because they have only one child (the definition of “hardship” being left to the discretion of the local cadres); these conditions allow 50 to 70 percent of women in these provinces to have a second child. Provinces with high proportions of ethnic minorities (Guangxi, Guizhou, Hainan, Ningxia, Qinghai, Tibet, Xinjiang, and Yunnan) have the most permissive rules: At least 70 percent of women are allowed to have a second child, and in Xinjiang, approximately 40 percent of women are allowed a third. Clearly, policy implementation varies widely among provinces.

Impact on Reproductive Behavior

Traditionally, Chinese women marry at relatively young ages. The mean age at first marriage of women in the 1939–40 birth cohort was younger than 20 (21.4 years for urban women and 19.2 years for rural women), although with high between-province variability. The campaign of the 1970s led to rapid changes: From 1970 to 1979, the mean age at first marriage of rural women rose 2.5 years (from age 20.1 to 22.6), whereas that of urban women rose three years (from 21.5 to 24.4). This trend toward deferred marriage in the 1970s was reversed decisively in the early 1980s. Although the second Marriage Law (1980) raised the minimum age for marriage by two years, it prompted a turning away from late marriage, which had become the norm during the 1970s. In 1985, mean age at first marriage had fallen to 21.4 years in the countryside and 23 years in the cities. These variations in marriage behaviors are linked to local variations in fertility decline and to the process of resistance to family planning policy.

Fertility Decline

Nationally, fertility declined sharply in the 1970s: The total fertility rate (TFR) fell from 5.4 children per woman of reproductive age in 1971 (2.8 in urban areas and six in rural areas) to 2.8 children in 1979 (3.1 in rural and 1.6 in urban areas). Sharp differentials between provinces remained. The TFR ranged from two to 2.5 children per rural woman in the provinces along a narrow coastal strip running from Liaoning to Zhejiang, to more than four children in provinces with a high proportion of ethnic minorities (Guangxi, Guizhou, Hainan, Ningxia, Qinghai, Tibet, Xinjiang, and Yunnan), as well as in Guangdong and Jiangxi.

These fertility differentials persisted throughout the 1980s (see Table 1). Although fertility dropped to very low levels in some of the country’s most developed regions (1.2 children ever-born per woman in Shanghai in 1990), it remained comparatively high in some provinces: 2.9 in Henan in 1990 (which has a population of more than 90 million people); 2.6 in Fujian and Jiangxi; and 3.2 in Xinjiang (not shown). The differentials are even more marked between ethnic groups: 1.8 children ever born per woman among Chinese Koreans in the northeast (1.9 million in 1990), but still 4.6 among the Uighurs (7.2 million) and 5.6 among the Kyrgyz (1.1 million) in the northwest in 1989 (Attané and Courbage 2000).

In the 1990s, estimates based on official birth data (see Table 2) reveal an abrupt fertility decline over the first two years of the decade: by 6 percent between 1990 and 1991, by 9 percent between 1991 and 1992, and leveling off thereafter at an average of just over 1.8 children. This finding implies that China’s fertility remains higher than the levels of Hong Kong (1.1), Singapore (1.6), South Korea (1.6), and Taiwan (1.4).
Contraceptive Prevalence

The compulsory practice of contraception led to rapid increases in prevalence. Official data show that 71 percent of the total number of married women aged 15–49 were using a contraceptive method at the time of the 1982 survey and that 75 percent of them were using a long-term method (the IUD—compulsory after the first birth—50 percent, and sterilization—compulsory after the second birth—35 percent). Ten years later, at the 1992 fertility survey, 83 percent of married women aged 15–49 were officially practicing contraception, and the prevalence of sterilization exceeded that of the IUD: Respectively, 53 and 40 percent of married women aged 15–49 were using these methods. At the last family planning survey in 1997, contraceptive prevalence reached more than 85 percent, with male and female sterilization remaining the main methods (at 50 percent) used.

Resistance to Birth Control

In most provinces, actual fertility exceeds substantially the SFPC’s projected fertility levels. In 1988, women aged 25–29 had already attained or exceeded the number of children authorized in three-fourths of the provinces. In nine of them (Anhui, Fujian, Gansu, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, and Shaanxi), cumulative fertility to date that year was at least 30 percent higher than authorized completed fertility. It had fallen below official targets in only seven provinces: Beijing, Jiangsu, Jilin, Liaoning, Shanghai, Sichuan, and Tianjin (see Table 3).

Similarly, the total number of reported births indicate substantial noncompliance. In rural areas especially, more than 40 percent of annual births—that is, seven to eight million—were in breach of the plan in the 1980s (SFPC 1988 and 1992). Between-province variability is high, however: In rural Zhejiang, on the eastern seaboard, 15 percent of births in 1989 were unauthorized, as opposed to 60 percent in the provinces bordering on Fujian and Jiangxi. In the cities, by contrast, where birth limi-
tation was more relevant to urban lifestyles and social controls more rigorous, program compliance was higher (approximately 15 percent of births were unauthorized).

Clearly, the political aim of stopping births of third and higher order among the population at large was far from being achieved. In 1980, just after the implementation of the one-child policy, such fertility levels still accounted for more than 35 percent of total fertility nationwide, and for around 25 percent by 1988. They still accounted for around 20 percent in 1995 (Attané and Sun 1999). Active enforcement, therefore, failed to quell resistance to the family planning program.

To measure resistance in the provinces, an indicator has been devised, termed the indicator of family planning policy resistance (IFPPR) (Attané 1998). It is a rating scale based on indicators regularly published by the State Family Planning Commission and by the State Statistical Bureau that describe the marriage and reproductive behavior of couples, and it includes: (1) the ratio of lifetime fertility to date among women aged 25–29 according to the 1988 fertility survey3 to the mean completed fertility authorized by the SFPC in 1988 (see Yin 1995); (2) the proportion of marriages that occurred before the minimum age set by the Marriage Law; (3) the proportion of births that occurred before the minimum age for marriage; (4) the proportionate excess of births over the plan; and (5) the proportion of women not practicing contraception, thereby breaking the law. Using the values given by these indicators, provinces were classified into five groups by respective position. The respective rankings occupied by each province in each of the five classifications were used to construct an overall rating of resistance to the program, with the values expressing the degree of resistance on a scale from 0 (least resistance) to 140 (greatest resistance).

The between-province differentials in the IFPPR values reflect widely varying intensities of resistance. Three broad areas can be identified: (1) an area of lesser resistance (where the IFPPR was between 61 and 94), which comprises two provinces in the extreme northeast (Heilongjiang and Jilin) and those within a central north–south strip running from Hebei to the island of Hainan and Yunnan; and (3) an area of high resistance (IFPPR ≥ 95) containing the northwestern provinces (Gansu, Ningxia, and Xinjiang) and three southern provinces (Fujian, Guizhou, and Jiangxi) (see Figure 2).

Resistance is generally found to be lowest in cities, where social and economic factors favored family planning—cramped and costly housing, women’s having in-

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Number of births and birth and fertility rates, China, 1990–98</th>
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</thead>
<tbody>
<tr>
<td>Births (thousands)</td>
<td>24,078</td>
</tr>
<tr>
<td>Birth rate (per thousand)</td>
<td>21.1</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>2.18</td>
</tr>
</tbody>
</table>

Sources: Numbers of births for 1990–97 were calculated from the 1998 nian zhongguo renkou tongji nianjian (State Statistical Bureau 1998); those for 1998 from Ouzhou shibao 14–16 February 1999. Numbers of women were estimated from 1990 national census data, taking mortality into account. The estimate of the total fertility rate is the author’s.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Among women aged 25–29, ratio of incomplete fertility to completed fertility authorized by the State Family Planning Commission (SFPC), by province, 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
<td>Completed fertility authorized by SFPC (1)</td>
</tr>
<tr>
<td>Anhui</td>
<td>1.61</td>
</tr>
<tr>
<td>Beijing</td>
<td>1.33</td>
</tr>
<tr>
<td>Fujian</td>
<td>1.61</td>
</tr>
<tr>
<td>Gansu</td>
<td>1.58</td>
</tr>
<tr>
<td>Guangdong</td>
<td>1.85</td>
</tr>
<tr>
<td>Guangxi</td>
<td>1.57</td>
</tr>
<tr>
<td>Guizhou</td>
<td>1.74</td>
</tr>
<tr>
<td>Hainan</td>
<td>1.97</td>
</tr>
<tr>
<td>Hebei</td>
<td>1.67</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td>1.44</td>
</tr>
<tr>
<td>Henan</td>
<td>1.56</td>
</tr>
<tr>
<td>Hubei</td>
<td>1.55</td>
</tr>
<tr>
<td>Hunan</td>
<td>1.84</td>
</tr>
<tr>
<td>Jiangsu</td>
<td>1.52</td>
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<tr>
<td>Jiangxi</td>
<td>1.52</td>
</tr>
<tr>
<td>Jilin</td>
<td>1.50</td>
</tr>
<tr>
<td>Liaoning</td>
<td>1.50</td>
</tr>
<tr>
<td>Nei Menggu</td>
<td>1.80</td>
</tr>
<tr>
<td>Ningxia</td>
<td>2.06</td>
</tr>
<tr>
<td>Qinghai</td>
<td>2.08</td>
</tr>
<tr>
<td>Shaanxi</td>
<td>1.64</td>
</tr>
<tr>
<td>Shandong</td>
<td>1.55</td>
</tr>
<tr>
<td>Shanghai</td>
<td>1.28</td>
</tr>
<tr>
<td>Shanxi</td>
<td>1.69</td>
</tr>
<tr>
<td>Sichuan</td>
<td>1.57</td>
</tr>
<tr>
<td>Tianjin</td>
<td>1.35</td>
</tr>
<tr>
<td>Xinjiang</td>
<td>2.40</td>
</tr>
<tr>
<td>Yunnan</td>
<td>2.13</td>
</tr>
<tr>
<td>Zhejiang</td>
<td>1.54</td>
</tr>
<tr>
<td>China (total)</td>
<td>1.62</td>
</tr>
</tbody>
</table>
creasingly less time for family care, and a growing focus on children’s education and welfare. On the other hand, rural society remained attached to traditional values.

In rural areas in particular, son preference is motivated by a concern to ensure care of parents in later life, because no universal old-age pension or social security system exists. The folk saying “rear a son for your old age” (yang’er fang lao) expresses the awareness that girls generally leave the family home at marriage. Also, the system that holds farmers responsible for production means that the economic situation of families depends on their size and labor-force participation. Therefore, a child has a calculable economic value based on its ability to help work the fields, tend the cattle, and improve the farm’s output and the family income. Family productivity can also be increased by a son’s marriage: The earlier the marriage, the sooner the increase. Because families are allocated areas of cropland proportionate to their size, some farmers now hold that there are “three benefits from a son’s marrying early: the daughter-in-law, the grandchildren, and the land.”

Resistance to the family planning policy is stronger in regions with a large—especially a female—agricultural labor force. Such unskilled work reflects women’s low occupational status. Figure 3 shows the correlation between resistance to the program and the size of the female agricultural workforce: The larger the proportion of these women with a low level of education, the stronger the resistance. In Shandong and Sichuan, however, stricter enforcement of the family planning program has limited discernibly the effect of this factor on resistance.

In the 1970s and 1980s, however, advanced development was neither a necessary nor sufficient condition of rapid fertility decline. Sichuan, for instance, one of China’s poorest and least-developed provinces, led the way in implementing the family planning policy as a “pilot province,” and achieved a lightning transition from 6.4 children per woman in 1970 to two children in 1978.

Moreover, socioeconomic development is not consistently associated with fertility decline. The province of Guangdong best exemplifies this point. The sharp fertility decline of the 1970s, when the province was still underdeveloped, was not accelerated by its powerful economic growth in the 1980s. The total fertility rate remained unchanged across the province throughout the decade at around 2.8 children per woman. In fact, economic reforms were followed by fierce resistance to overstrict fertility limitation. Many families in Guangdong today deliberately flout the official rules on age at marriage simply because they are pressed for a male heir to inherit newly acquired family wealth (Siu 1993). The introduction of farmers’ responsibility for yields and land redistribution has brought a resurgence of the clan system, along with the internecine strife it creates as a result of economic competition (Ang 1989). Although clanism may no longer be the building block of social organization in modern-day China, clan feeling remains powerful. Family solidarities are strong, and the patriarchal culture still

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**Figure 2** Provincial disparities in the level of resistance to the family planning policy, China, 1980s

![Provincial Disparities in the Level of Resistance to the Family Planning Policy](image_url)
governs many aspects of everyday life: patrilineal relationship, patrilocal marriage, filiation, ancestor worship as a male responsibility, and the undervaluing of women. Resistance to the family planning policy is strongest in developed regions like Guangdong and Fujian, where clans and lineages are particularly in evidence.

During the 1970s, the push for birth limitation was greatly aided by the social and administrative organization of the country. Efficient public health and medical systems were created, and strict social control was exerted on individuals within production brigades, although local effectiveness varied. The rate of underregistration with the SFPC confirms that the higher the rate of underregistration, the stronger the resistance to the program. Higher density of public health, medical personnel, and facilities in the provinces generally correlated with lesser resistance to the program. The integrity of local cadres, their determination to enforce the family-limitation rules strictly, the rigor of social control, and the quality of support for couples were crucial to the local success of the family planning program in the 1980s.

**Effects of Strict Birth Limitation**

Gender differentials in China’s infant mortality have widened to the detriment of girls. Excess male infant mortality is a universal phenomenon, even in populations with son preference. Hill and Upchurch (1995) calculated the normal ratio of female-to-male infant mortality at 0.78 (in a population with a probability of male infants’ dying in the first five years of life being below 0.05). In China, according to our calculation, this advantage had already been lost by 1973–75, with a ratio of 0.88, and is increasingly waning: 0.95 in 1981, 1.16 in 1990, and 1.34 in 1994–95.

This excess female infant mortality is directly attributable to the birth-control policy, which caused the expression of son preference to escalate. In a country like China, where son preference is the product of ingrained social norms that “man is better than woman” (zhong nan qing nü), girls and women still occupy a marginal position in society, whereas having a male heir offers countless advantages. Because the family planning policy imposes a prior authorization for each birth and inflicts administrative, financial, and occupational penalties on noncompliant couples, having a girl becomes undesirable simply because she denies her parents authorization to have a son. This situation has led to growing discrimination against daughters, expressed in various ways: female infanticide, sex-selective abortions, and underreporting of births. Excess female infant mortality is one of the results of these discriminatory practices. Poor rural families, in particular, distribute more food and general care to a son than to a daughter and are more inclined to provide sons with costly medical care.

A rise in the sex ratio at birth provides further evidence that discrimination against female children survives. The sex ratio at birth, normally between 105 and 106 boys to 100 girls, increased from 108.5 in 1981 to 111.3 in 1989, and then to 117 in 2000. The national female birth deficit can be estimated from the 1989 ratio at nearly 640,000 births and from the 2000 ratio at 980,000 at least. The lack of reliable recent data concerning age means that...
the proportion of births not reported to enumerators because of neglect or fear of penalties for an unauthorized birth cannot be determined. If these girls have survived, however, they will eventually filter through into the statistics at older ages. The level of underreporting can be estimated after the publication of the full results of the 2000 census.

The other possible explanation for the “missing girls” is prenatal gender selection. An ultrasound scan taken early during pregnancy that reveals a female fetus may be followed by an abortion that, given the strict birth-limitation policy, offers a couple new hope of bearing a son. The frequency of this practice is mainly the result of son preference and, hence, the more or less acute “need”—depending on how strictly the family-limitation program is enforced—to influence the gender of the unborn child. It also depends, however, on available medical services.

Most of China’s rural districts are now equipped to carry out ultrasound scans, but the density of their availability remains low: 1.2 ultrasound B-mode scanners for 100,000 women, on average, in 205 districts studied in the early 1990s (Zhu Yaohua et al. 1994). Nevertheless, a 1987 survey conducted by the Beijing University of Medicine reports a sex ratio of 94.6 boys to 100 girls among legally terminated fetuses in the rural zones and 96.8 boys to 100 girls in the urban zones of the eight provinces surveyed (Zeng et al. 1993). Another survey in 1993 in the south of Zhejiang province revealed a legal abortion sex ratio of 86.7 boys to 100 girls (Gu and Roy 1995). In 1989, 10.6 million abortions were recorded by the State Family Planning Commission. A sex ratio of 96 boys to 100 girls applied to these legal terminations puts at approximately 5 percent over the period 1986–90 (Park and Cho 1995).

Female infanticide has long been practiced in China and may be likened to a form of low-cost sex-selective abortion. Although widely reported, the true extent of the current phenomenon is unknown and can only be guessed at. The calculated incidence of infanticide for the period 1851–1948 was estimated at 5 percent of female births and 2.5 percent of male births (Eastman 1988). A comparable incidence today—discounting any male incidence—would make infanticide the main cause of the female birth deficit (80 percent of the missing girls), which is unrealistic. An incidence of 1 percent limits the proportion to 15 percent, but even that seems excessive.

The total deficit of girls from all causes in the cohorts born since the end of 1970, estimated from sex ratios, amounts to at least five million in 1990. What demographic implications might this figure have? If underreporting of births outstrips other causes of the deficit, it will disappear as these girls gradually age and re-emerge into the statistics. If, on the other hand, these girls are indeed averted births, that is, victims of infanticide or sex-selective abortion, the impact could be substantial. Is a lack of girls of marriageable age likely to throw the marriage market into crisis? Ostensibly not, because however large the national deficit, it still represents only a small proportion of recent births. It is likely to bring down female age at marriage. As girls of marriageable age grow scarce, young men will have to turn to increasingly younger potential wives because of the stigma still attached to the remarriage of widows and divorcées in China. Nevertheless, local trafficking in girls and women for marriage as a consequence of the dearth of women of marriageable age in some remote areas already exists (Gauthier 1998), and is likely to grow in the future.

**Accelerated Aging**

The aging of the population attendant upon the falling birth and death rates is moving to the top of the Chinese government’s agenda. In 1998, those older than 60 accounted for just 10 percent of the total population. This proportion is rising rapidly and is now similar to levels in Singapore, 10.1 percent (1997), and South Korea, 9.3 percent (1993). Between 1982 and 1998, the proportion of the population aged 60 and older increased by more than 60 percent, rising from 76.6 to 124.4 million (see Table 4), making it the most rapidly growing age group.

The rising older population is a less immediately pressing concern in itself for the Chinese authorities than is finding the resources to care for them. No state retirement pension scheme exists other than that for a small proportion of former urban state-enterprise employees. The lucky ones are cared for by their families; the rest must keep working to survive. In 1990, approximately 60 percent of those aged 65 and older lived in three-or-more-generation households, compared with fewer than 20 percent who lived as couples or alone. Family solidarities are dwindling, however, partly under the influence of demographic effects (declining family sizes coupled with rising life spans) combined with social and economic changes, growing self-centeredness, and the rising cost of living. Changes in the family, hitherto the only source of care for older people, highlight the urgent need for government action.
The situation is becoming more and more pressing as pensions paid by state enterprises are no longer secure. Many of these companies are losing revenue or in the throes of restructuring and have stopped paying the pensions they hitherto paid from their own resources. In urban areas, private, joint-contributory funded pension schemes are developing. They are the final death knell of the collectivist system, but still only in their infancy. Other initiatives are well under way, especially for developing social protection for older people, but none is being created on a national scale (Wu 1997). The state is setting up some old people’s homes, but future demand is likely to outstrip supply.

Continued Relevance of Birth Limitation

China’s family planning policy has reduced the country’s population growth rate, which was its main goal. In 1998, for the first time in decades, the rate of natural increase dipped below 10 per thousand, confirming the slowdown in growth since the mid-1970s. Growth rates in urban and rural areas are now similar: 8.9 and 10.5 per thousand, respectively in 1997, but between-province variability remains pronounced: Beijing (8 per thousand) and Shanghai (6 per thousand) have the lowest birth rates; Guizhou, Qinghai, Yunnan, and Tibet have the highest at 20 per thousand. A marked between-province difference in natural increase is also observed. Two-thirds of provinces have rates below the national average; Shanghai even has negative growth: –1.3 per thousand. The remaining one-third tips the scales, with rates above two times the national average: +14.5 per thousand in Guizhou, +14.9 per thousand in Qinghai, and +16.0 per thousand in Tibet.

Despite the declines in growth rates, China’s fertility is still above the level prescribed by the family-limitation program, which has remained at 1.62 children per woman since the mid-1980s (Yin 1995). No relaxation in policy occurred in the 1990s. In fact, enforcement of the birth-limitation program has been tightened nationwide since 1991, which may have reduced the number of unauthorized births, and consequently total births. Moreover, since the mid-1990s, rural couples with the greatest opportunities for having a second child seem to have been forced to wait longer for their prior authorization in order to keep within quotas (Li Qin 1993; Hu Ying 1998). Assuming that this constraint has affected birth spacing, the two factors acting in conjunction could have maintained the fertility at a fairly low level.

Social and economic changes are crucial to the future evolution of China’s fertility decline and family planning policies. As mentioned above, the economic reforms that were begun in the countryside at the end of the 1970s increased resistance to fertility regulation, but they also ushered in socioeconomic changes more conducive to fertility decline. Since the turn of the 1980s, and especially during the 1990s, restrictions on internal migration have been relaxed. A rural migration of young people seeking work in urban areas is growing. They tend to stay in the cities if their employers sort out the official paperwork (Zhang Weimin et al. 1997). The isolation of these young transients, especially of women when they are unmarried or leave their family behind, inevitably will affect their fertility schedule.

Rapidly rising unemployment will also play a role. The development of the market economy with its effects magnified by the economic crisis, the long-term shedding of about a third of civil service jobs, and a turning away from unprofitable farm work have created a tight job market in China. Ten to 15 million young job-seekers enter the labor market every year, increasing the huge demands made on it by the approximately 150 million surplus peasant farmers. In addition, concealed unemployment includes huge numbers of workers still under contract who remain unpaid or are partially paid by their bankrupt employers (called xiagang). In 1995, 5.2 million people, which is 2.9 percent of the urban working population, were on the official urban unemployment registers (State Statistical Bureau 1996). Independent estimates, however, put the combined total urban unemployment of registered unemployed and concealed unemployment at closer to 26 to 31 million, that is, 18 to 20 percent of the urban labor force (Rocca 1999). Poverty is spreading: Chinese sources report that close to 40 million town dwellers are now living in poor families—approximately 10 percent of the total (Fabre 1997).

Job insecurity, rising unemployment, and poverty inevitably undermine family-building plans. Increased internal migration flows, women’s high workforce-participation rate, and the increased cost of educating children are all additional factors in deferred marriage and childbearing and, thereby, in the current fertility decline. Whether this trend will continue over the coming years, producing an effective decline in completed fertility, or

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**Table 4** Proportion of total population aged 60 or older, China, 1964–98

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<td>76,638</td>
<td>96,970</td>
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<td>Total population (percent)</td>
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<td>9.5</td>
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**Sources:** For 1964 to 1990, figures are taken from national census data. For 1995 and 1998, estimations are based on 1990 census data.
Toward a Relaxation of Family Planning Measures

While the pressure of population growth is relaxing, new demographic concerns are emerging. Most prominently, a debate is under way on the need to review the objectives of family limitation in order to curb the aging of the population.

Population projections by Li (1997) and the United Nations (2000) indicate that an immediate relaxation of family-limitation measures through an across-the-board permissive two-child policy will have limited impact on aging in the short run and will lighten the burden of aging only later in the twenty-first century. A two-child policy may thus be a palatable compromise in the long term. It may help to avert accelerated population aging while addressing incipient social problems such as the missing girls and urban couples’ intense focus on their only child.

No official clue about a possible future relaxation of the family planning policy has been forthcoming. Nevertheless, a de facto relaxation will occur because parents who have one child are allowed to have two children, and increasingly, urban couples will choose this option in the future. This trend will not endanger the slowing down of population growth at the national level, because the one-child norm, considered by the government as the best compromise for families under the current urban socioeconomic constraints, has widely been accepted in cities.

Even if the family planning policy as defined in the late 1980s remains strictly implemented countrywide, the nature of the official discourse is changing. In 1999, Yang Kuifu, Vice-Minister of the State Family Planning Commission, declared:

The government believes that the key solution to its population problem lies in its commitment to develop the economy vigorously, to enhance its comprehensive national strength, to integrate its population programs into a general strategy of sustainable development . . . . In recent years, we have given our special attention to combine our family planning program with a poverty-alleviation program, with rural economic development . . . and with uplifting women’s status.

This view is consistent with recent trends in the international debate on population policies. Following the International Conference on Population and Development held in Cairo in 1994 and the Fourth World Conference on Women organized in Beijing in 1995, new concerns about women’s status and about maternal and child care are emerging. Among others, the law on women’s and children’s health enacted in 1994 can be seen as a watershed. China seems now to be determined to promote a “human-centered population and family planning program,” focusing on the implementation of “human-centered reproductive health services.” The concept of reproductive health (funü shengyu jiankang), defined by the World Health Organization as taking into account not only physical but social and psychological well-being during the reproductive process, may be one of the main principles of Chinese family planning policy in the twenty-first century.
Conclusion

China’s fertility is moving into a phase of relative demographic stability. The population is expected to reach about 1.5 billion around 2030, before starting to decrease. Although China continues to have the world’s largest population, concerns about its population growth will be allayed somewhat in the coming decades.

This world giant is not entering the next millennium with all its population problems behind it, however. China’s fertility may now have attained levels unthinkable even 25 years ago—supposedly below the symbolic level of 2.1 children per woman—putting it, with neighbors like Taiwan and South Korea, at the forefront of the fertility transition in developing countries. New problems are emerging: accelerated population aging, a widening gap between rich and poor, and growing discrimination against girls. Furthermore, the old state-controlled, cradle-to-grave system is rapidly being rolled back, a transition that, as in the former USSR, could have repercussions on the quality of life of the Chinese people. Against this background, what does the twenty-first century hold for China? A prediction is difficult, especially because population concerns will be overlaid by such other pressing concerns as continuing environmental damage, widening social divides, rising poverty and unemployment, and increasing rural–urban migration.

China is not yet ready to give up its authoritarian birth-control program. Nevertheless, as controlling private decisions in the context of the economic reforms becomes increasingly problematic, a return to a less coercive policy is likely.

Notes

1 These percentages are estimated from the mean completed fertility officially prescribed in each province, calculated on the basis that never-married women are almost unknown in China and that births of parity three or higher are prohibited in most provinces, but assuming that all women have one child, and that all those authorized to have a second child do so.

2 Another method of estimation called “génération moyenne” and implemented by Gérard Calot (1978) leads to comparable fertility levels (see Attané 2000).

3 Among women older than 30, fertility levels decline sharply.

4 According to this system, farmers have a beneficial interest in the land leased to them, usually for a 15-year term. After paying the agricultural tax and supplying their set production quotas to the state, they are free to sell their surplus production.

5 Underregistration was calculated as the difference between the number of births observed at the 1990 census (babies born between 1 January and 31 December 1989) and the number of births registered by the provincial family planning commission in 1989.

6 This deficit is estimated on the basis of normal sex ratio at birth (105.5), assuming no missing male births.

7 These figures are calculated from the data published in the United Nations Demographic Yearbook (1997).

8 The “floating population” is estimated at 10 percent of the total population of the country, from 80 to 100 million workers (Cheng 1998; Cai Fang 2002).

9 Mean age at first marriage for women increased from 22.2 in 1991 to 23.4 in 1997 (State Statistical Bureau 1997).

10 This speech is extracted from the official website of the State Family Planning Commission: <http://www.sfpc.gov.cn>.

11 This speech is extracted from the official website of the State Family Planning Commission: <http://www.sfpc.gov.cn>.

12 Life expectancy at birth in the Russian Federation is now 2.5 years less than in the 1960s (66.5 years in 1995, against 69.0 years in 1965) (United Nations 1998).

References


Acknowledgment
The author wishes to thank Youssef Courbage.
Asia’s Family Planning Programs as Low Fertility Is Attained

Gavin Jones and Richard Leete

The dramatic demographic changes in Asia during the three decades from 1970 to the end of the twentieth century were matched by major changes in government population policies and programs. Fertility declines occurred in widely different economic, sociocultural, and political settings. The extent to which they were attributable to family planning programs, established in most countries of the region by 1970, is hotly debated. The 1970s were the heyday of family planning programs, which were created in a climate of urgency because of concerns over the “population explosion.” Issues faced by programs at that time are discussed. Over time, programs generally have moved to a simpler “service” approach. As increasing numbers of countries reach replacement-level fertility, and as policies are formed against the background of the 1994 International Conference on Population and Development held in Cairo, the role of family planning programs is increasingly debated and questioned. This article examines the responses of Asian countries and the population challenges that remain. (STUDIES IN FAMILY PLANNING 2002; 33[1]: 114–126)
fertility transitions are nearly complete. The long-term preoccupation with high population growth rates has increasingly given way to concerns about age structure, particularly with the rapid aging of populations. As the Asian experience demonstrates, programs required at the end of transitions bear little resemblance to programs required for fostering them.

Asia’s Demographic Transition

As Asia’s demographic transition gathered pace in the early 1970s, the population growth rate peaked following the sharp reduction in mortality, especially that of infants and children. Subsequently, as the fertility decline gained momentum, the growth rate almost halved (see Table 1), with the inertia of demographic momentum accounting for much of the current 1.3 percent annual growth. This level of population growth is now substantially lower than that of Africa (2.3 percent) and even that of Latin America (1.5 percent). The overall figures for Asia do, of course, conceal markedly different levels of growth in different parts of the region. For example, East Asia’s growth rate at 0.8 percent is half of that of South-Central Asia. Among the most populous countries, China has come closest to attaining population stabilization. Conversely, Pakistan’s current growth rate at 2.6 percent implies a doubling of its population by around the end of the first quarter of the twenty-first century.

Fertility Trends from the 1960s Onward

In the period from 1970 to the present, Asia has experienced a transition from high to low fertility of an unexpected magnitude and at an unprecedented speed (Leete and Alam 1993). In the early 1970s, Asian women were generally still marrying at young ages and bearing an average of five children (as shown in Table 2). Today, Asian women are marrying at a significantly later age than they were 30 years ago and are having an average of just 2.5 births—rapidly approaching population-replacement level. The timing and magnitude of this fertility decline has been variable, as shown by the contrast in the patterns of East Asia and South-Central Asia in Table 2, for example. An important factor in these differing patterns of fertility decline is the extent to which contraception was adopted, often a function of the efficacy of government-led family planning programs, a topic considered below.

Within Asia, only Japan had completed its transition from high to low fertility by the early 1960s. Japan’s fertility transition was facilitated by a massive shift to postponement of marriage and was accompanied by rapid reductions in marital fertility during the 1950s. The main method of fertility control was abortion, which had been

Table 1  Population growth rates, Asia, subregions, and selected countries, 1950–2000

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Source: Compiled from United Nations Population Division, Department of Economic and Social Affairs (1998).

Table 2  Total fertility rate (children per woman), Asia, subregions, and selected countries, 1950–2000

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Source: Compiled from United Nations Population Division, Department of Economic and Social Affairs (1998).
legalized there in 1948 as a result of public pressure rather than as part of a government policy to reduce fertility (Glass 1974). During the late 1950s and early 1960s, the populations in the city-states of Hong Kong and Singapore were starting on the path of rapid fertility decline, and a somewhat slower—and often overlooked—decline was under way in Sri Lanka. The Republic of Korea, Taiwan, and Thailand began their declines later in the 1960s, followed soon thereafter by China, and at a more modest pace by India and Indonesia. In these three vast countries, population policies were backed by rigorous family planning programs, especially in China with a one-child family policy (Coale and Freedman 1993). The Malaysian fertility decline also dates from the late 1960s, but its course has differed dramatically for Malaysia’s three main ethnic groups, as described below.

By the mid-1980s, several East and Southeast Asian countries had, or had nearly, completed the transition from high to low fertility. Fertility decline transcended political, economic, cultural, and religious boundaries. It occurred in poor agricultural settings at lower levels of development and, more predictably, in the newly industrialized nations. Culture, and through it the values attached to children, also supported the Asian fertility transition, although some cultural settings were more conducive than others to fertility regulation (Leete 1999). Indonesia became the first of the large, predominantly Islamic populations to undergo substantial fertility decline. Interestingly, fertility appears to have declined almost as rapidly in non-Islamic Myanmar as in Indonesia, without the Myanmar government’s providing any official support for family planning.

By the end of the 1990s, the women of Bangladesh and India were bearing an average of about three children—well along the road to population-replacement level. The largely unexpected rapid fertility decline in Bangladesh that occurred, particularly in the 1980s, contrasts sharply, however, with the much steadier change taking place in India (Das Gupta and Narayana 1997). Initial skepticism about the magnitude of fertility decline in Bangladesh, given its limited socioeconomic development, was swept aside by evidence from Demographic and Health Surveys of the 1990s showing increasing use of modern methods of contraception, with contraceptive prevalence rates rising above 50 percent by the end of the 1990s (see Table 3). Although the overall contraceptive prevalence rates reflect a rise in the use of modern methods, they conceal a decline in the use of the more efficient clinical methods, especially sterilization, and a rise in the use of traditional methods. The net result is that fertility decline in Bangladesh appears to have stalled during the 1990s, leaving the total fertility rate (TFR) slightly higher than three children per woman of reproductive age, still a considerable distance from replacement level, and also above desired family size, which stood at about 2.5 children in 2000.

By contrast, fertility levels in Pakistan and Nepal remain high, with women bearing an average of around five children. A key factor in the maintenance of high fertility in both countries appears to be the neglect of women’s education and their generally low status, together with a large unmet need for reproductive health services. A significant proportion of sexually active women in both countries reportedly want to avoid or postpone pregnancy, but do not use contraceptives.

### Population and Health Policies

Population and health policies, and through them public sector-led health and family planning programs, had a major influence in shaping the region’s demographic transformation (Asian Development Bank 1997), although the exact extent of that influence on both mortality and fertility remains contested. National family planning programs had their birth in South Asia—starting in India with a bold initiative in 1952—and spread quickly throughout Asia and elsewhere, reaching China a little over a decade later and most of the large countries of Asia by 1970.

The objectives of public health policies were ones with universal community support: the postponement of death and improvement of health. At the same time, however, the lowering of mortality that public health policies were helping to bring about was leading directly to increased population growth rates, soon understood to be a major threat to welfare. Thus parallel efforts were deemed necessary on the fertility side of the equation, particularly in view of the unprecedented speed of mortality decline and the resultant sharp acceleration of population growth rates. This situation brought about the development of family planning programs.

### Table 3 Percentage of respondents who reported that they use contraceptives, by type of method, Bangladesh, 1975–2000

<table>
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<tbody>
<tr>
<td>All</td>
<td>7.7</td>
<td>25.3</td>
<td>39.9</td>
<td>44.6</td>
<td>49.2</td>
<td>53.8</td>
</tr>
<tr>
<td>Modern</td>
<td>5.0</td>
<td>18.4</td>
<td>31.2</td>
<td>36.2</td>
<td>41.6</td>
<td>43.4</td>
</tr>
<tr>
<td>Clinical</td>
<td>1.6</td>
<td>11.3</td>
<td>17.4</td>
<td>15.8</td>
<td>16.9</td>
<td>16.1</td>
</tr>
<tr>
<td>Nonclinical</td>
<td>3.4</td>
<td>7.1</td>
<td>13.8</td>
<td>20.4</td>
<td>24.7</td>
<td>27.3</td>
</tr>
<tr>
<td>Traditional</td>
<td>2.7</td>
<td>6.9</td>
<td>8.7</td>
<td>8.4</td>
<td>7.7</td>
<td>10.4</td>
</tr>
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</table>

Family planning policies were more controversial than public health programs, however. Health arguments could be and were invoked in support of family planning programs, but the key motivation of governments (though to a lesser degree that of the International Planned Parenthood Federation and national family planning associations) for promoting family planning was the need to reduce birth rates. In many countries, religious beliefs and tradition could be invoked in support of large family size and in opposition to interference in the processes of reproduction through the use of contraceptive devices. Nevertheless, such beliefs and traditions could fight only rearguard actions against the policies perceived to be urgently needed to counter rapid population growth.

Population policies were often equated with family planning. Typically, they had as their key goal the rapid lowering of fertility rates and (at least implicitly) the stabilization of population size. Rarely, however, was such a goal expressed in terms of a particular population size. Pragmatism was the key, and the goals were usually a series of short-term ones. As the former president of the Population Council, Bernard Berelson, noted, “If your population growth rate is 3 percent, and you want to go to 1 percent or lower, you have to go through 2 percent.”

Family Planning Programs in the 1970s

In the 1950s and 1960s, family planning associations and other private groups took the lead in providing contraceptive services, but as concern over rapid population growth increased, governments, supported by bilateral and multilateral donors, became the prime movers in promoting and providing these services. This support developed largely because no alternative structure existed that had sufficient resources to finance and administer the programs.

The 1970s were the heyday of family planning programs in Asian countries. After an earlier beginning in India, Pakistan, the Republic of Korea, and Singapore, three key Southeast Asian countries initiated national programs just before or in 1970: Indonesia, the Philippines, and Thailand. In the early 1970s, these programs were operating in circumstances entirely different from those prevailing only three decades later. Fertility levels were still high, and international concern about what was often referred to as “the population explosion” was at a peak. Secondly, economic conditions in these countries were much worse than they are today, and levels of human development much lower still. The “threshold hypothesis” (the idea that there might be a threshold level of certain socioeconomic development indica-
ulation. It introduced an effective family planning program into the country’s extensive primary health-care system. The program, with hardly any external funding, has been remarkably successful in increasing contraceptive prevalence and reducing fertility.

Although the population problems facing the large countries of Asia had elements of comparability, the nature of the family planning programs put in place to deal with them was diverse. One of the key issues was whether the Ministry of Health could be relied on to do the family planning job (in cooperation with private family planning associations and other groups), or whether an organization needed to be created for the sole purpose of coordinating family planning efforts. No universally correct solution to this issue was at hand. As Freymann noted (1966), placing executive leadership of the program with the Ministry of Health had the advantages of legitimization by association with health and welfare activities and of direct access to medical resources. Its disadvantages, however, could be the lower status and priority of health ministries and the resistance of some health officials to accepting leadership for the many diverse aspects, not all of them medical, of a total family planning program. Freymann noted that if local health services are intensively organized throughout a country, they can provide an effective vehicle for many aspects of the program.

Several countries, including Pakistan, Republic of Korea, Sri Lanka, and Thailand, chose the Ministry of Health-centered program; Bangladesh, Indonesia, Malaysia, and Singapore used the coordinating board approach. The appropriateness or lack thereof of different models can only be assessed in the light of the particular circumstances facing each country at the time. Certainly, success can be claimed in particular countries for both approaches.

Another method of viewing the way national governments went about implementing family planning programs is to compare the extent of duress they applied (McNicoll 1997). In the family planning programs of China, Indonesia, and Vietnam, elements of coercion existed (strongest in the case of China’s one-child policy) (Greenhalgh 1986; Warwick 1986; Aird 1990; Goodkind 1995; Hull and Hull 1997). India’s family planning program was also characterized by elements of coercion during the 1975–77 period. In all of these cases, fertility declined substantially during the periods when duress was applied. The lack of basic human and reproductive rights was in question rather than demographic efficacy. The issue arose, also, of whether short-term demographic efficacy would be counterproductive over time, as negative reactions gained strength, an issue particularly per-

Family Planning Approaches Over Time

As programs evolved, functions were added and experiments were made with different administrative arrangements. The Bangladesh program illustrates the dilemmas faced by programs that have tried either to attach a relatively well-funded family planning program to a poorly funded health infrastructure or to provide a parallel infrastructure. In the late 1970s, the budget for family planning exceeded that for health—an unfortunate situation in which the population was poorly served in terms of basic health services, while the village-level functionaries of the family planning program (the field-workers who paralleled those of the health services) were not authorized to provide basic health services. Nevertheless, in the 1980s, this chaotic program succeeded in increasing immunization (thereby lowering childhood mortality), and in boosting contraceptive use. Even before programs were introduced that were designed to expand the health activities of family planning workers and to develop family planning roles for the male health workers, both the child health and the family planning arms of the program were in great demand.

The apparent stalling of the fertility decline in Bangladesh, noted above, may have reflected a desired family size that remained at around three children, with sons retaining their economic and social value, and from the substantial modification of the program that was credited with catalyzing the fertility transition. A more plausible explanation, however, is that during the 1990s a decline in the use of efficient contraceptives occurred, along with a rise in discontinuation rates and an increase in the inefficient use of the pill, apparently stemming from diminished quality of care. Further fertility decline in Bangladesh is likely to require strengthened program performance coupled with progress in the areas of gender equality and gender equity within the family.
Although Pakistan’s family planning program has a long history, nearly as long as India’s, it has conspicuously lacked impact (Robinson et al. 1981; Sathar and Casterline 1998), contrasting sharply with the successful program of Bangladesh, which has been able to overcome many traditional barriers (Caldwell et al. 1999). The program in Pakistan has suffered from a lack of consistent national (and provincial) political and administrative support, lack of policy focus, insufficient resources, and ambivalence within the society toward some of its goals and means. Of the relatively low proportion of couples using contraceptives (24 percent in 1996–97), the substantial proportion using traditional methods (7 percent as against 17 percent using modern methods) testifies to the ineffectiveness of the family planning program (Sathar and Casterline 1998).

South Asian family planning programs traditionally have placed more emphasis on permanent than on reversible methods, particularly on female sterilization, but recently they have done so to a lesser extent, especially in Bangladesh and Nepal. The emphasis on one-time methods is based on the consideration that they require little follow-up with acceptors, are not user-dependent for success, and are logistically convenient to deliver (Caldwell and Caldwell 1996). Serious resource constraints have hindered attempts to widen users’ choices and improve quality of care. Vietnam, too, has placed strong emphasis on one method—the IUD—since the early days of its family planning program (Van Phai et al. 1996). However, the reproductive health and reproductive rights emphasis in the Program of Action emanating from the ICPD (United Nations 1995) provided the impetus for a number of countries to rethink their strategies, de-emphasize demographic targets for family planning acceptors, and (to differing degrees) place more emphasis on quality of care and gender issues as well as on the provision of a wider range of choice of contraceptive methods.

Throughout Asia, a tendency has developed to counter increasing costs of family planning programs by emphasizing the role of the private sector in the provision of services. Although some analysts have interpreted this emphasis as reflecting a decline in interest in population control, the trend toward privatization of family planning services probably was based more on economic logic (why should public monies be used to provide services that people would presumably be willing to pay for?). The transition tended to coincide, however, with a reduction in the threat of rapid population growth, enabling decisions about the levels of subsidization to be made more dispassionately, in a climate freer of the earlier rhetoric.

Perhaps one fairly robust generalization can be made about the changing strategies followed in Asian family planning programs, a change influenced by Cairo but observable well before Cairo: In the early days of these programs, a wide range of approaches was used, including, on the supply side, clinic-based family planning programs, integrated service delivery, and community-based contraceptive distribution, and on the demand side, vigorous information, education, and communication (IEC) efforts, incentives in some cases, integrated rural development programs incorporating family planning, and so forth. The sense of urgency to reduce fertility rates led to a tendency for countries to try everything. As fertility approached replacement level, this complexity tended to be replaced with a relatively simple and passive service approach, integrated into primary health-care service delivery, along with privatization of services for the better-off. Of course, the evolution of family planning programs was country-specific, but the trend toward a service approach and away from a hard sell is widely observable.

Policy Responses to Below-replacement Fertility

Although high fertility continues to provide a major challenge to planners in some Asian countries, a new policy issue has emerged for others. As already noted, some Asian countries have reached fertility levels well below replacement, others slightly below replacement level, while others (Indonesia, Iran, Myanmar, and Sri Lanka) are not far above replacement level. As expected, in the first group of countries, these trends have generated pressure to change population policies that were adopted in the first place with a single-minded stress on reducing fertility and overall population growth rates. Because of its momentum, population has continued to grow despite below-replacement fertility, but the prognosis is now for the onset of population decline in both Korea and Singapore by about 2030, unless fertility recovers or net in-migration occurs. Perhaps more important, the numbers of people entering the young working ages (15–24) in both of these countries have already been declining for a decade.

Although the specifics differ by country, a number of changes accompanying the attainment of below-replacement fertility raise important policy issues. One of these is changes in family type and structure (postponement of marriage and family formation, compression of childbearing into a narrow reproductive span, replacement of large families by small families, and a tendency to greater individualism). Another is the aging of a population and a concentrated sharp decline in the
proportion of children. In an intermediate period, the proportion of population in the dependent age groups falls, but in terms of absolute changes, the number of people entering the workforce falls, even as the dependency ratio is falling, raising concern that shortages of workers will cause investment in labor-intensive industries to shift to countries with labor surpluses (McDonald and Kippen 2001).

These trends are not all likely to be seen as positive. How have the attitudes of planners and politicians, and of the public at large, been affected by the realization that fertility is below replacement level?

Singapore was the first of these countries to reach replacement level, but population policy was not modified for a decade, when an about-face occurred, and the IEC messages encouraging parents to have only two children suddenly were reversed in favor of their having more children. The Singapore Family Planning and Population Board was closed in 1986, and the pronatalist New Population Policy was announced in 1987 (Cheung 1989). Singapore’s 1987 policy placed emphasis on the need to prevent population decline, avoid an unbalanced age structure and rapid aging of the population, and ensure continued growth of the labor force. Policies adopted included substantial tax rebates for third children, other benefits to three-child families, improved leave provisions for working mothers to care for sick children, and attempts to raise the marriage rate, especially of the better-educated. Singapore’s planners have become acutely aware of the need for enough workers with the right skills to fuel the country’s economic boom, and are trying to generate a sufficient supply through strengthened pronatalist policies and guest-worker programs (Yap 2000).

Debate intensified in the Republic of Korea as fertility fell below replacement level, and antinatalist policies were eventually dismantled, although in an intermediate stage, some argued that because of Korea’s high population density and continued increase in the absolute size of the population, population-control measures should be maintained at all costs. Korea continued to experience high rates of abortion, and its program included an excessive emphasis on female sterilization. Clearly, considerable scope existed for improving the quality of family planning services, and one mechanism stressed to achieve improvement was a closer integration of family planning services with maternal and child health services (Greenspan 1994). In recent years, faced with labor shortages, Korea has made it easier for foreign workers to augment the country’s workforce, frequently by allowing workers brought by Korean firms operating in Southeast Asia for training programs to remain in the country after their training is completed.

A Population Policy Deliberation Committee was established by the Korean government in 1994 to work out new policy objectives. In 1996, the government officially adopted the new population policy, which emphasized quality of life and welfare. Specific provisions included preventing an imbalance of the sex ratio at birth and reducing the incidence of induced abortions. Other provisions were designed to tackle sex-related problems of youth and adolescents, to improve the status of women, and to provide adequate health and welfare services for the elderly (Cho and Lee 2000).

In Thailand, debate concerning population policy has increased for some years (Guest and Jones 1996). Some analysts warn of the dangers of depopulation, especially in the northern region, where low birth rates, high incidence of HIV/AIDS, and substantial immigration from poorer neighboring countries raise concerns about school closures, slowing economic growth, and the dilution of the local culture (Pardthaisong 1996). Others argue that fertility in Thailand is unlikely to fall much below replacement level (Knodel 1994), and that the family planning program should be maintained, not to foster lower fertility but in order to provide higher-quality reproductive health services. The antinatalist approach dies hard, and even as late as the mid-1990s, some family planning officials in the Ministry of Health were still arguing for continued vigorous family planning efforts, because an increase in the proportion of women of reproductive age would lead to a rise in the absolute number of births during the next five years unless fertility fell further. The Eighth Five-year Plan (1997–2001) maintained a mildly antinatalist tone, although it stressed the need for reducing fertility rates only in those regions where they were still relatively high.

In China, the policy debate has been of a different order. The common belief among Chinese planners that the total population is too large has meant that even the possibility of the onset of population decline some time in the future has not occasioned concern. Nonetheless, a softening of both the rhetoric and the administrative pressures for the one-child family has occurred since the mid-1980s. It is probably impossible to determine the extent to which this softening has resulted from a more relaxed attitude reflecting confidence that the back of the population problem has been broken or whether it results from local resistance to and foreign criticism of the one-child policy. Demographers’ analyses that stress the possibility of achieving China’s longer-term demographic goals (stabilizing the population size at 1.2 billion) without recourse to draconian measures (see, for example, Bongaarts and Greenhalgh 1985) also may have been influential. Nevertheless, other countries that have
reached replacement-level fertility have modified their policies far more fundamentally than has China. In retaining policies more typically associated with early demographic transitions, China can be considered an outlier among these countries.

Indonesia has not experienced debate regarding the need to reverse fertility decline, perhaps partly because the rhetoric in favor of small families was maintained so consistently over such a long period that it gained wide acceptance, and partly, too, because fertility remains half a child above replacement level and projected population growth is considerable. Changing rhetoric in Indonesia has had more to do with increasing emphasis on family welfare, of which the small-family norm is only part. Until the mid-1990s, the family planning program was increasingly identified with a range of social welfare programs that, in effect, diluted its emphasis on provision of high-quality services. This shift anticipated the Cairo de-emphasis on fertility reduction. Since the fall of the Suharto regime, family planning coordination activities have shifted from the Ministry of Population to the Ministry of Women’s Empowerment. A real change in approach has accompanied this shift, with greater stress on voluntarism, quality of care, and reproductive health, and a contraceptive prevalence target of 10 percent for male methods to be reached by 2010.

How has the actual supply of contraceptive services fared in these countries with below- or near-replacement fertility? Two general reactions have been common. The first is that a specific bureaucracy devoted both to providing contraceptive information and services and also to communicating the small-family norm is no longer necessary. The second (consistent with the Program of Action adopted at the Cairo conference) is an emphasis on improving the quality of reproductive health services and providing a client-centered perspective free of the “ulterior motive” of lowering fertility. These trends may have been accentuated by the increasing prosperity that has accompanied the attainment of below-replacement fertility. An educated, prosperous population hardly needs the kind of didactic family planning program of the past, but can be relied on to use the market to gain access to contraceptive services, thus freeing government budgets for other purposes.

In Korea, targets for government-supported sterilization have been greatly reduced, private-sector provision of family planning services encouraged, and government family planning services have focused more on target groups such as the low-income population and young unmarried adults (Greenspan 1994). The new 1996 policy gave some modified roles to the family planning program: to enhance the quality of contraceptive services in order to reduce the rate of induced abortion; to integrate reproductive health programs with other social welfare programs; and to strengthen social and institutional supports for a balanced sex ratio by improving women’s social status and gender equality (Cho and Lee 2000).

Family planning in Thailand had always been integrated with general public health services. Three kinds of recent adjustments have been made in family planning approaches, however (Ruffolo and Chayovan 2000). One is the closer integration of family planning with reproductive health services. A second is an increased emphasis in quality of services. A third is an intensifying debate about the merits of increased reliance on the private sector to provide contraceptives. The extent to which these modifications stem from the influence of the Program of Action adopted at Cairo, from the debate about changing population policy in the light of attainment of below-replacement fertility, from the increased prosperity of the Thai population, or, in more recent years, from budgetary pressures stemming from the economic crisis, is difficult to determine.

In Indonesia, despite its undergoing a more severe political and economic crisis since 1997 than that experienced by other countries of the region, no evidence is seen of a decline in contraceptive prevalence rates. The provision of family planning services by Department of Health personnel has continued, the private sector continues to serve the better-off, and the belt-tightening felt by most of the population in crisis conditions has tended to induce a cautious attitude toward childbearing.

**Political Embattlement**

Multiethnic Malaysia, with its three largest communities—Malays, Chinese, and Indians—provides a fascinating case study for an analysis of the effect of one country’s family planning program (Leete 1996). From the early 1960s onward, Malaysia experienced impressive gains across a wide range of socioeconomic indicators. It established a national family planning program in the mid-1960s, and within a decade, the program had led to a substantial decline in Malay fertility and also helped to accelerate an ongoing fertility decline among the more urbanized Chinese and Indians (see Figure 1). By the late 1970s, however, government enthusiasm for further fertility decline dissipated. In the early 1980s, the government de-emphasized the family planning program and established a pronatalist policy, setting a long-range target population size of 70 million (the population stood at less than 15 million at that time).

The immediate effect of this policy change was to reverse the fertility downtrend of the Malays, who tended...
to identify closely with the new government policy and its pronatalist messages. The fertility of the Chinese and Indians continued on a downward path. The reversal of Malay fertility was seen by some as contrary to the “logic of socioeconomic development and the momentum of demographic transition” (Hirschman 1986: 172; see also Jones 1990), but was consistent with cultural explanations of fertility change (Leete 1996). Although Malay fertility fell modestly in the 1990s, value systems less supportive of a small family-size norm continue to have an impact, especially in the context of increased awareness of the links between population size and political power. Interestingly, when multiethnic Singapore abruptly switched its population policy from antinatalist to pro-

Until about 1990, fertility trends of the Malaysian Chinese had been remarkably similar to other overseas Chinese communities in East and Southeast Asia. Fertility trends of the Chinese in Singapore and Hong Kong tended to foreshadow those of the Chinese in Malaysia and in Taiwan, suggesting that fertility of all these overseas Chinese communities was responding to the same influences, independently of population policy. Thus, by the late 1980s, Malaysian Chinese fertility had reached and gone below replacement level. Since 1990, however, their fertility has been increasing steadily, in sharp contrast with other overseas Chinese communities for whom it has remained substantially below replacement level.

Explanations of differential ethnic fertility trends in Malaysia and in Singapore must take into account the idea of political embattlement—a process whereby distinct ethnic groups increase their fertility so as not to diminish their political power (Leete 1996). This process may operate in settings where there are close links between ethnicity and political power and where a given group perceives itself to be politically embattled. This idea is closely linked with ideational explanations of fertility change, especially with the mechanisms of diffusion of ideas that shape reproductive behavior through social networking (Cleland and Wilson 1987; Watkins 1987; Caldwell 1993).

Challenges for the Twenty-first Century

Undoubtedly, Asia’s reproductive revolution has been one of the most significant and far-reaching changes in human behavior of the second half of the twentieth century. Arguably, population policy, working through family planning programs, was a key driving force, affecting both the magnitude and the speed of change. Within diverse socioeconomic and political settings, Asian cultures and religions were generally receptive to the spread of contraception. Pakistan and the Philippines, however, are two important examples of countries where Islam and Catholicism, respectively, generated considerable opposition to family planning in contexts of political volatility that gave the religious opposition to contraception more leverage than it might otherwise have had.

Family planning program successes were, in most cases, supported by changes in the demand for children caused by rapid social development, particularly the spread of basic education among boys and girls. Indeed, some commentators lay more emphasis on social development than on family planning programs (Gertler and
Molyneaux 1994; Pritchett 1994), stressing the enabling and facilitating role of these programs rather than viewing them as the basic engine of fertility change. As the Caldwells (1997:22) note, however:

The role of national family planning programs has been not only to make contraception easily accessible, but to publicize its availability, to legitimate its use, and to proclaim the advantages to both parents and children accruing from smaller family size.

They argue that in the arc of countries stretching from Korea and China down through Southeast Asia to Bangladesh and India, the declaration by national elites—used to providing moral leadership—that fertility control was a necessity was important in speeding up the process of fertility transition. McNicoll (1997) goes farther in pressing the case for aspects of governance (as he terms it, “regularity” and “duress”) as crucial in explaining the extent to which government-orchestrated family planning programs have been effective in lowering fertility.

The Asian demographic miracle cannot be taken for granted, as the impact of the recent economic crisis showed. The crisis, which began in mid-1997, caused an interruption and reversal of the region’s remarkable developmental gains. The effects of the crisis differed sharply. They were most marked in Indonesia, following one of the most dramatic economic collapses of this century, and also serious in Thailand. Elsewhere, reflecting the interdependence of countries in the global economy, even those countries not directly affected experienced indirect negative effects as a result of loss of trade and investment, for example. Declining exchange rates and substantial reductions in government budgets curtailed spending on reproductive health programs, including family planning programs, and set back efforts to tackle quality-of-care issues (Knowles et al. 1999; United Nations Population Fund and Australian National University 1998). In brief, the crisis exposed the vulnerability of programs in several Asian countries. The urban poor were particularly affected, in contexts where social safety nets were lacking and reliance had to be placed on traditional systems of family support. Strengthening and sustaining basic social services, and targeting them toward the poor and other underserved groups, remain challenges for the region’s lower-income countries.

In parts of Asia (for example, Nepal, Pakistan, and the Philippines), high population growth rates persist and exacerbate efforts to reduce poverty levels. Numerous surveys conducted in areas of high fertility provide evidence of considerable unmet need for family planning information and services (Sinding et al. 1994). Substantial proportions of women who have three or more living children want to stop childbearing but lack contraceptive options. In order to meet unmet need for reproductive health services, including family planning, governments have to remain involved in population programs. They will need to commit sufficient resources to increase access, that is, to expand the number of facilities and trained personnel providing relevant services. Programs must respond to the needs of individuals, especially the young and the poor, promote sustainability and, much more than in the past, take into account gender perspectives, including male involvement in family planning.

The number of Asian countries with below-replacement fertility is likely to increase. Three priorities may be discerned for population and reproductive health policies in these countries. The first is the need to turn over to the private sector the provision of contraceptive supplies and services and other elements of reproductive health care for the growing and increasingly educated middle classes. Governments will need to concentrate on setting guidelines for and monitoring the quality of services provided, and on enforcing standards. They must undertake information campaigns in the public interest and provide subsidized services to the poor.

The second priority is to ensure adequate and appropriate reproductive health information and services for the unmarried, again with an emphasis on the poor and disadvantaged. With significantly delayed age at marriage for women throughout the region, particularly in its large cities (Jones 1997), an increasing proportion of the unmarried are women in their twenties and thirties. The most vulnerable group continues to be unmarried adolescents for whom availability of information and services is necessary to protect them from unwanted pregnancies. Many Asian governments find adolescent reproductive health a difficult issue to address. Yet with rising ages at marriage, urbanization, and changing youth cultures, the exposure of adolescents to premarital sexual relationships is increasing, and their high-risk behavior is an important factor in the spread of HIV/AIDS. A major challenge facing Asian countries is preventing the HIV/AIDS pandemic from reaching the devastating proportions experienced in sub-Saharan Africa. Expanding information and services for adolescents and youth not affected by HIV, especially in the poorest communities, is a key strategy for meeting this challenge.

Finally, the greatest challenge that will face Asian countries during the early decades of the twenty-first century is that of meeting the needs of the growing number and proportion of older people in their populations. Pop-
Population aging in Asia is occurring much more rapidly than it did in Western countries. Already the majority of the world’s elderly live in Asia. Issues relating to the health, well-being, and social protection of older people, especially poor women, are particularly critical in those countries where few provisions for support exist outside of the family. One policy and program challenge is to prepare for this situation. Another is to encourage the positive contributions of older people to society so as to help strengthen intergenerational solidarity.

Notes

1 For an interesting discussion relating to mortality decline in Sri Lanka, see Barlow (1968).

2 The mix of donors offering support changed in interesting ways. In the late 1960s, private agencies such as the Population Council were still the most important donors, followed by the governments of Scandinavian countries and a newcomer to the field, the United States Agency for International Development (USAID). United Nations and World Bank funding built up during the 1970s, as did bilateral funding from other countries, resulting in greatly increased total funding for population programs by the mid-1970s (Jones 1979). The United States was the primary source of more than half of all donor funds for population assistance until the mid-1980s, and remained the primary source of more than 40 percent of these funds right up to the mid-1990s. The funds were channelled in roughly equal, although in changeable proportions, through bilateral and multilateral agencies and non-governmental organizations (Schindlmayr 1999).

3 The likelihood that fertility would adjust to declining mortality and to factors such as educational advancement was already appreciated. See United Nations (1953 and 1973).

4 The problem of the destitute, of those who are unable to pay for contraceptive services although they wish to restrict family size, remains. For these people, subsidization is required, not an across-the-board supply of free contraceptive services.

References


**Acknowledgment**

The authors are pleased to acknowledge the continued encouragement and advice of John Caldwell in the preparation of this article.