In Beijing (1902), hungry Chinese await distribution of rice by American relief groups. The developing world's poverty and hunger aroused sporadic concern in the West, but were not widely linked to population growth. Indeed, until the 1930s, population grew faster in the West than in the poorer countries.

Population and Economic Growth

The world's population, increasing by more than one million human beings a week, reached a total of five billion in 1986. Since the time of Thomas Malthus (1766–1834), scholars and philosophers have worried that population growth, if unchecked, would doom mankind to famine, disease, and dire poverty. Today, that threat seems acute among some of the rapidly growing peoples of the Third World. Here, Harvard's Nick Eberstadt examines the diverse economic effects of the much-publicized "population explosion." His surprising conclusion: The size and growth rate of a poor country's population are seldom crucial to its material prospects. What matters most, he contends, is how well a society and its leaders cope with change.

THE THIRD WORLD

by Nick Eberstadt

The world's poorer nations are in the midst of an unprecedented "population revolution." The revolution is occurring not in the delivery room, but in the minds of men who run governments. In Africa, Asia, and Latin America, political leaders of the Left and Right have variously agreed that one thing is crucial: shaping the size and growth rate of their populations.

These officials, along with many Westerners, have come to embrace the idea that slowing the birthrate in the Third World is essential to economic progress, and, indeed, will foster rapid modernization. As early as 1967, President Lyndon B. Johnson endorsed this view. "Five dollars in family planning aid," he said, "would do more for many less-developed countries than $100 of development aid."

Family planning programs, directed by governments and implemented on a massive scale, seemed feasible only after the 1957 invention of the birth control pill by Gregory Pincus, an American scientist at the Worcester Foundation for Experimental Biology. Third World governments, however, were long reluctant to make population control a top priority: They rebuffed U.S. efforts to win backing for the idea at the 1974 United Nations (UN) World Population Conference in Bucharest. A delegate from Communist China, the planet's most populous nation, declared that "the large population of the Third World is an important condition for the fight against imperialism." Many Third World delegates argued that Washington and its well-to-do Western allies were simply trying to divert attention from their obligations to the poor nations. To Washington's chagrin, the conference voted, as an Algerian delegate put it, "to restore the paramountcy of development over the matter of negatively influencing fertility rates."

A Plea for Modesty

"After the brouhaha of Bucharest, however," recalls Charles B. Keely, of the Population Council in New York, "the population establishment, led by the United Nations Fund for Population Activities, set about its business; and soon family planning programs and a government role in them became the accepted wisdom in most developing nations."

Today, with UN encouragement, more than 40 Third World regimes, including the governments of six of the world's 10 largest nations, are developing or implementing "population plans." Overall, some 2.7 billion people live under regimes committed to carrying out such policies. They comprise about three-quarters of the population of the less-developed regions of the earth, and nearly three-fifths of the entire world population.

In the past, national governments often performed tasks with demographic consequences—the regulation of immigration, for example, or the eradication of communicable diseases. But the demographic impact of such efforts was always secondary to their intended purpose (e.g., the preservation of national sovereignty, the promotion of public health). The policy of harnessing state power to the goal of altering the demographic rhythms of society per se suggests a new relationship between state and citizen.

In South Asia, for example, General Hossain Mohammad Ershad's regime in Bangladesh is committed to reducing the fertility

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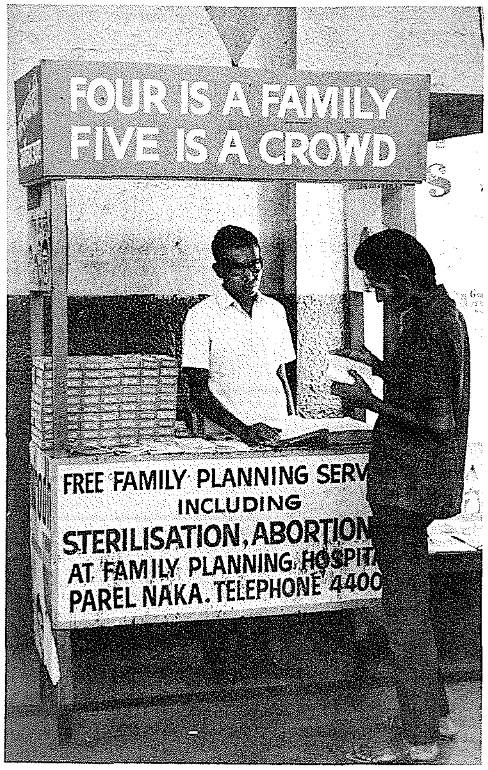


Promoting male contraceptives at a Bombay railroad station. India's population, target of the world's first formal government family planning program (1952), is still growing rapidly (2.3 percent annually). By the turn of the century, its population will top one billion.

rate of the nation's 95 million people to 2.5 births per family by the year 2000. In West Africa, the government of Ghana (pop. 13 million) is aiming for 3.3 births per family. Parents in Bangladesh, however, seem to be having an average of six children and Ghana's parents an average of perhaps seven children. Statistics on Third World nations are unreliable, but the families of Bangladesh today appear to be as large as ever, and Ghanaians seem to be having *bigger* families than in the recent past. If Bangladesh and Ghana are to attain their targets, both governments must oversee a 50 percent reduction in their people's fertility during the next 15 years.

How such a radical alteration of personal behavior in so intimate a sphere—the bedroom—is to be achieved is not clear. But if these governments are serious about meeting their goals, they will need to resort to direct, far-reaching, and possibly even forceful intervention into the daily lives of their citizens. Among the nations that already have turned to coercion is India, where hundreds of thousands of men and women were sterilized against their will during the mid-1970s.

Unfortunately for the ordinary people in all of the 40 countries devoted to activist population plans, their governments have acted on the basis of a serious misconception.

The fact is that there is much less to the "science" of population studies than most politicians realize or proponents concede.

Do slower population gains *cause* economic development, or vice versa?

What other factors are involved?

None of the studies done by population specialists answer these questions. In the same year that Lyndon Johnson voiced his faith in family planning, Simon Kuznets, Harvard's late Nobel laureate in economics, called for "intellectual caution and modesty" on population issues. Scholarship, he declared, "is inadequate in dealing with such a fundamental aspect of economic growth as its relation to population increase." Kuznets's plea was, as we know, largely ignored.

I

THE PERILS OF DEMOGRAPHY

Writers and thinkers have debated the "population question" for centuries. Plato argued that the ideal community would limit itself to exactly 5,040 citizens; Aristotle warned that overpopulation would "bring certain poverty on the citizens, and poverty is the cause of sedition and evil." John Locke, on the other hand, suggested in 1699 that large numbers were a source of wealth. In 1798, Thomas Malthus, the spiritual father of today's pessimists, published *An Essay on the Principle of Population*, the famous treatise in which he argued that population would inevitably outstrip "subsistence." During the 1930s, John Maynard Keynes and other economists warned that *falling* birthrates would exacerbate unemployment, erode living standards, and spark a food crisis—precisely the threats that pundits see in today's high birthrates in the Third World.*

Few of the basic issues in this centuries-old debate have been resolved. One lesson that can be drawn from the recurring arguments, however, is that the population question has usually engaged man's fervor more than his intellect.

That is not surprising. After all, the debate involves many matters of deep personal conviction. To talk about population issues is to

*Among the less-heralded intellectual forebears of today's "science" of population studies are the 19th-century social Darwinists, who warned that "inferior" nations, ethnic groups, or social classes might outprocreate their betters. Toward the turn of the century, an English anthropologist named Francis Galton founded the pseudoscience of eugenics, claiming that he could identify individuals and entire "races" endowed by heredity with superior qualities. One eugenicist, Madison Grant, president of the New York Zoological Society, urged America to "take all means to encourage the multiplication of desirable types and abate drastically the increase of the unfit and miscegenation by widely diverse races."

touch upon the nature of free will; the rights of the living and the unborn; the roles of the sexes; the obligation of the individual to his society or to his God; the sanctity of the family; society's duties to the poor; the destiny of one's nation or one's race; and the general prospects of mankind.

These are fundamentally questions of conscience or creed, not of science. Avowed political ideology is not always a reliable indicator of a country's stance on "population policy." Communist China's "one-child" policy, with its harsh penalties for large families, represents the contemporary world's most drastic current effort to curb population growth [see box, p. 125]. But Prime Minister Lee Kuan Yew of Singapore, who governs a nominally open society with a nominally democratic government, has embraced policies with many of the same precepts.

Around the world, today's campaign against "overpopulation" resembles nothing so much as a religious crusade. Faith, far more than facts, inspires the politicians and intellectuals, North or South, who fervently believe that they have found a "magic bullet" solution to the problems of economic development.

This zeal emerges in the messianic pronouncements of some of today's most influential thinkers on population control. They often evoke the specter of a population apocalypse—and justify the enormous sacrifices they favor by holding out the prospect of demographic salvation. Thus, Stanford biologist Paul Ehrlich began his 1968 best seller *The Population Bomb* with the prophetic words: "The battle to feed all of humanity is over. In the 1970s the world will undergo famines—hundreds of millions of people will starve to death in spite of any crash programs embarked upon now."

Changing the Date

That dire prediction was echoed in 1972 by an international group of researchers gathered under the aegis of the Club of Rome. Their much-publicized report, *The Limits to Growth*, predicted a population "collapse" more devastating than that caused by the Black Death in medieval Europe unless global ecological and population trends were reversed. A feat of that magnitude presumably could only be accomplished with far-reaching and praetorian social controls. And in 1973, Robert McNamara, then president of the World Bank, warned that "the threat of unmanageable population pressures is very much like the threat of nuclear war.... Both threats can and will have catastrophic consequences unless they are dealt with rapidly and rationally."

Few of these true believers are nonplused when events prove them wrong. Like disappointed prophets of the millennium, they simply move the day of reckoning forward or refashion their dire predic-

"More Sex—Fewer Babies: Are the Germans Dying Out?" asked West Germany's Der Spiegel *in 1975. Northern Europe's population "implosion" has created new woes: a shortage of young workers and military personnel.*

tions in terms too vague to be disproved.

In recent years, faith in such prophets has waned somewhat in Western official and academic circles. In 1986, for example, the U.S. National Research Council, which had published an alarmist assessment of global population trends in 1971, issued a much more sober-minded study, *Population Growth and Economic Development: Policy Questions*. Family planning programs, it concluded, "cannot make a poor country rich or even move it many notches higher on the scale of development."

But Third World governments are still attracted by the prospect of "scientifically" advancing their national welfare through population control. And Charles Keely's "population establishment"—at the UN, in academe, and in numerous private think tanks in America and Western Europe—is still sounding the alarm. Almost always, popular journalism reflects their convictions. "The consequences of a failure to bring the world's population growth under control are frightening," *Time* declared in 1984. "They could include widespread hunger and joblessness.... heightened global instability, violence, and authoritarianism."

Population studies cannot be expected to provide solutions to such problems. Just as no one would demand that historians create a unified "theory of history," it is asking too much of demographers to expect them to provide overarching "laws of population." For all the mathematical rigor of some of its investigations, population studies is a field of social inquiry, not a natural science. Researchers may uncover relationships between population change and prosperity, poverty, or war in particular places at particular times, but none of these findings can be generalized to cover the world at large.

Indeed, it is difficult even to forecast the long-term growth rates of human populations with any accuracy. During the 1920s, Raymond Pearl, one of America's leading population biologists, predicted that U.S. census-takers would not count 200 million Americans until the start of the 22nd century. In fact, the United States passed that mark during the 1960s. During the 1930s, France's foremost demographers agreed that the French population was certain to fall between five and 30 percent by 1980. However, despite the losses it sustained during World War II, France's population *rose* by about 30 percent.

An Embarrassment of Theories

Some long-range estimates of population trends have been quite accurate. But long-term forecasts for particular regions or countries are still frequently wrong. In 1959, for example, the UN's "mid-range" prediction envisioned India's 1981 population at 603 million, too low by nearly 20 percent.

Despite improvements in the software and computers that demographers use, it is actually getting harder to foresee the demographic future. One reason is that new medicines and public health programs have enabled even the poorer nations to make deep cuts in their death rates quickly and inexpensively—if their governments choose to spend the money.

The unpredictable "human factor" also affects fertility. In England and Wales, it took almost 80 years during the 19th and early 20th centuries for the birthrate to fall by 15 points, from about 35 to 20 births per 1,000 people. Following World War II, Japan experienced a 15-point drop between 1948 and 1958 without any aggressive government intervention, and birthrates may have dropped by 20 points in China during the 1970s.

So every nation follows its own path: Personal choice and national culture seem stronger influences than any pat structural parameters of social science.

Low fertility, for example, is often said to go hand in hand with high levels of health. Yet life expectancy in contemporary Kenya, where women now seem to bear more than eight children on average, is almost exactly equal to that of Germany during the mid-1920s, when that country's total fertility rate was only 2.3 children per woman. Nineteenth-century France experienced a drop in fertility even though the nation's death rates were considerably higher than those in Bangladesh today.

Another demographic truism is that people in poor nations have

MEXICO

"Poor Mexico, so far from God, so close to the United States," mourned President Porfirio Diaz a century ago. Yet the proximity that he lamented has, in one way, proved a godsend to his successors and to millions of Mexicans.

Every year, an estimated one to six million *mojados* (wets) illegally cross the Rio Grande in search of work on farms or in factories. After saving the lion's share of their earnings for a few months, most return to their villages; later, they head north again. The unemployment rate in Mexico officially averages 8.5 percent, but "underemployment" is said to reach 40 percent. In a land of some 79 million people, the working-age population grows by 3.2 percent annually.

Those statistics, argue many U.S. scholars and politicians, are all one needs to know about the causes of illegal immigration. "With unemployment increasing and hundreds of thousands of field hands moving illegally into the United States, the crisis nature of Mexico's annual population increase became evident" in 1972, writes Marvin Alisky, an Arizona State University political scientist. The "crisis" prompted Mexico's government to mount an expensive family planning campaign, publicized in a TV soap opera, "Maria la Olvidada" (Maria the Forgotten One), a victim of her husband's machismo. Officials were helped by the Mexican Catholic Church, which broke with Rome to implicitly endorse the program. With their priests' consent, millions of Mexicans felt free to begin using modern contraceptives. Within 10 years, overall annual population growth slid from an estimated 3.6 percent—very high for such a relatively prosperous nation—to 2.3 percent, or about the same rate as in Egypt.

The fact is that many Mexicans would trek north even if there were no "population pressure." One big reason: Wages in the United States are three times as high as those in Mexico.

Even so, the illegal influx probably would be smaller were it not for Mexico's long series of wrong turns in economic policy. In some ways, Mexico is one of Latin America's success stories, with a record of rapid economic growth since World War II surpassed only by Brazil's. But growth has not created a corresponding number of jobs. During the 1960s, the Mexican economy expanded by more than six percent annually; yet, according to one study, its demand for labor rose by only 2.3 percent per year.

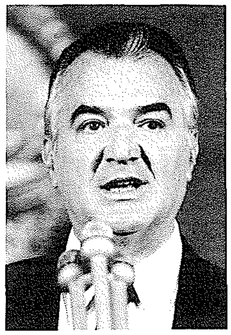
Under President Miguel Alemán Valdes (1946–52), Mexico, like many other Third World nations, adopted a policy of "import substitution," seeking

more children than those in wealthier lands. The limits of that generalization are suggested by the World Bank's *World Development Report 1985*. According to those statistics, Zimbabwe's level of output per capita and its birthrate are *both* about twice as high as the corresponding measures in Sri Lanka.

Demographers have, in a sense, an embarrassment of theories. As historian Charles Tilly puts it, they offer "too many explanations to nurture steel, chemicals, and other industries to reduce the need to buy manufactured goods from abroad.

Alemán and subsequent presidents imposed stiff tariffs on foreign goods, exempting only the foreign-made tools and machinery that Mexico's infant industries needed to get started. They offered cheap loans to Mexican entrepreneurs. Bowing to labor union pressure, the government also required industrial employers to contribute heavily to new pensions, schooling, and profit-sharing programs for their workers.

All of these measures artificially boosted the cost of labor relative to capital, encouraging Mexico's industrialists to replace workers with machinery.



Miguel de la Madrid Hurtado

At the same time, protectionism eased competitive pressures on Mexican factory managers, especially those in state-run enterprises, to control costs and improve quality. Mexico's exports suffered; more jobs were lost. To make matters worse, the government neglected Mexican agriculture, which employed the bulk of the nation's workers. As the wage gap between farmers and factory workers widened, many Mexicans deserted the countryside, subsisting in the city slums without work or in marginal occupations—shining shoes, peddling fruit or flowers—in the hope of landing the elusive "high-paying job." The population of greater Mexico City soared to 17 million.

Paradoxically, the discovery of vast new oil reserves in Mexico in 1976 hurt its basic economic health. As in Nigeria and Venezuela, swelling oil revenues made it easy to import foreign products without relying on exports of domestic goods to pay the bills. Succumbing to the "oil syndrome," President José Lopez Portillo (1976–82) went on a spending spree, borrowing heavily, expanding the government payroll, and boosting industrial subsidies.

Today, five years after world oil prices began to fall, Mexico is $98 billion in debt. Despite its continuing promises of reform to the World Bank and other lenders, the government of President Miguel de la Madrid Hurtado appears to have done little to relieve the productivity-constricting restraints it has imposed upon the national economy.

Encouraging citizens to seek jobs in the United States may simply be seen, in Mexico City, as a substitute for taking painful economic measures at home.

—*N. E.*

in general terms which contradict each other to some degree, and which fail to fit some significant part of the facts."

There is also a "fact" problem, evident, for example, in the treatment of Somalia in the *World Development Report 1985.* The report presents an estimate of 5.1 million for Somalia's 1983 population—implying a margin of error of 100,000, or about two percent. It also puts Somalia's birthrate at 50 per 1,000 for both 1965 and

1983—again implying a two percent margin of error. The unhappy surprise is that Somalia has no registration system for births whatsoever, and has never conducted a census. The World Bank's numbers were essentially invented: guesses dignified with decimal points.*

Somalia, of course, is an extreme example. Almost every modern nation has by now conducted at least one census of its people. Even so, it would be a mistake to take for granted the precision of estimates by the World Bank or by the many other international organizations that publish them. Only about 10 percent of the Third World's population lives in nations with near-complete systems for registering births and deaths. And the published economic data on most poor nations are even less reliable.

What Is Overpopulation?

Nevertheless, the general outlines of the population trends that some scholars and political leaders call a "crisis" are not hard to sketch. Until the 20th century, births and deaths were roughly balanced in most of the Third World, with both at relatively high levels. During this century, improved sanitation and health care have cut death rates dramatically, especially among children, while birthrates have stayed relatively high. As a result of these changes, the Third World did indeed experience a "population explosion," growing from two billion souls in 1960 to 3.6 billion in 1985, according to the UN's best estimates.

Based on the West's experience, some specialists assume that Third World birthrates will now begin to fall until a new equilibrium between births and deaths, and more stable population growth, is achieved. That interpretation seems consistent with current trends, for example, in many of the nations of Latin America. But it is far from clear that such a "demographic transition" will occur quickly or even of its own accord. That uncertainty has spurred political leaders from Karachi to Mexico City to try to curb "overpopulation" by government action.

But what is overpopulation? There are no workable demographic definitions. Consider these possible indicators:

- *A high birthrate.* The U.S. birthrate during the 1790s was about 55 per 1,000 people, more than 20 points higher than the latest World Bank estimates of the birthrates for India, Vietnam, Indonesia, or the Philippines.
- *A steep rate of natural increase (births minus deaths).* By this measure, the United States was almost certainly overpopulated between 1790 and 1800. Its annual rate of natural increase then was

*Over the years, the World Bank also issued seemingly precise data on Ethiopia. In 1985, after Ethiopia conducted its first census, the Bank was obliged to drop its estimate of the nation's birthrate by 15 percent and to boost its figure for Ethiopia's population by more than 20 percent.

three percent—almost exactly the rate that the World Bank ascribes to Bangladesh today, and considerably higher than the rates prevailing in Haiti and India. Today, population is growing faster in the United States than it is in Cuba, Eastern Europe, or the Soviet Union, all of them in economic torpor.

- *Population density*. By this measure, in 1980 France was more overpopulated than Indonesia, and the United Kingdom was in worse shape than India. The world's most densely populated nation in 1980: Prince Rainier's Monaco.
- *The "dependency ratio" (the proportion of children and the elderly to the "working-age" population)*. According to 1980 World Bank data, the world's *least* overpopulated lands were crowded Singapore and the United Arab Emirates, where immigration was helping to achieve an ultrarapid population growth rate of 11 percent a year.
- *Poverty*. Inadequate incomes, poor health, malnutrition, overcrowded housing, and unemployment are the unambiguous images of poverty. But it is a profound error to equate these social and economic ills with problems of population. Upon closer examination, it becomes clear that many of these Third World woes are closely related to ill-advised government policies, such as those that discriminate against farmers in favor of city dwellers or stifle private initiative. More generally, what are often mistaken for "population problems" are usually manifestations of state-imposed restrictions that prevent ordinary individuals from pursuing what they see as their own welfare and the welfare of their families.

II
THE POOREST OF THE POOR

The catchall term "Third World" conceals at least as much as it reveals about the 133 nations it encompasses. Any classification that lumps together Hong Kong and Chad, or Iran and Jamaica, or Cuba and South Africa, loses much of its meaning. Even within a single country, social, cultural, and economic differences can be profound. India, for example, has a single central government, but at least six major religions, six alphabets, and a dozen major languages. Life expectancy is thought to be 20 years greater in Kerala, India's healthiest state, than in impoverished Uttar Pradesh. The fertility rates in these two states of India differ by almost three children per woman.

Such variations, to say nothing of the dubious social and economic statistics available for many less-developed countries, suggest that the best way of gaining some insight into the population question may be to examine a few specific cases.

Let us begin by looking at the most troubled populations of the modern world: the nations at the low end of the national income spectrum. By the reckoning of the World Bank's *World Development Report 1984*, eight of the 34 nations that the Bank classifies as "low-income economies" were poorer in terms of gross national product (GNP) per capita during the early 1980s than they were in 1960. The unhappy eight were: Chad, Nepal, Zaire, Uganda, Somalia, Niger, Madagascar, and Ghana.

By the World Bank's estimate, these nations had a total of over 90 million inhabitants in 1982. Between 1960 and 1982, their economies grew, albeit slowly. Population, however, increased faster—indeed, the rate of population increase is said to have *accelerated* in five of the nations. The Bank's estimates of population growth range from just under two percent annually in Chad to more than three percent a year in Niger.

War, Politics, Chaos

Do these numbers mean that rapid population growth dragged these nations deeper into poverty?

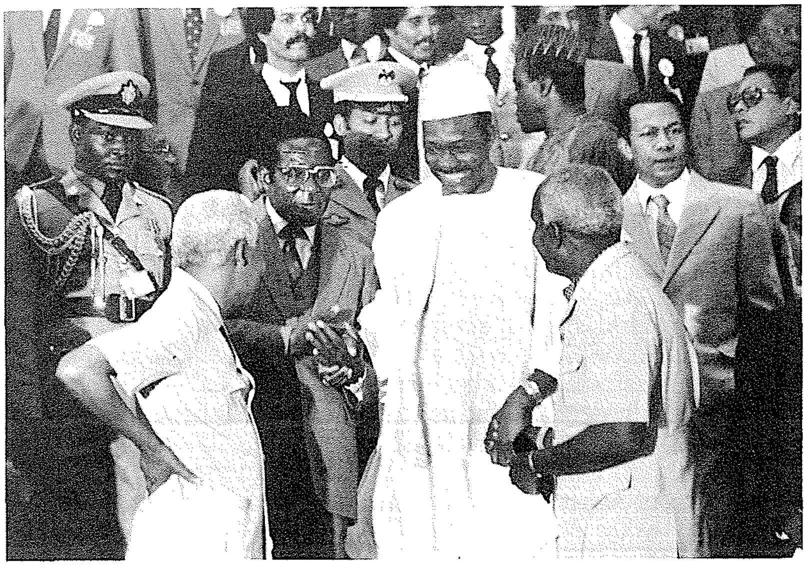
Not necessarily. For one thing, many of the statistics that point to a drop in GNP per capita are suspect or contradictory. Take the numbers for Niger: According to the *World Development Report 1984*, the former French West African colony's GNP per capita fell by about 29 percent between 1960 and 1982. According to other tables in the same report, however, private consumption per capita in Niger *increased* by about three percent during the same years, investment per capita jumped by over 35 percent, and government spending maintained a steady share of GNP. The only logical conclusion: GNP per capita must, in fact, have gone up.

Another set of figures from the same report supports that conclusion. Based on what the report's authors say about the growth of Niger's exports (which include uranium, peanuts, and cotton) and the share of its GNP derived from them, one comes to the conclusion that Niger's GNP per capita *grew* by almost six percent annually between 1960 and 1982. That would add up to a cumulative jump of 240 percent during those years.

What, in truth, are the correct numbers for Niger?

It is impossible to tell from the World Bank's figures.

Let us ignore such inexactitudes for the moment, however, and accept the World Bank estimates of growing poverty in these eight nations as accurate. Would they allow us to conclude that population growth was to blame? No. The figures show only that their economies grew more slowly than population, not *why* they did.



Julius Nyerere of Tanzania (far left), Robert Mugabe of Zimbabwe, Togo's Edem Kodjo, and Zambia's Kenneth Kaunda in 1983. Nyerere and Kaunda are among the African rulers who have recently embraced family planning.

Although the World Bank estimates that the rate of natural increase in these eight nations quickened between 1960 and 1982, the speedup, according to Bank numbers, was chiefly the result of a drop in death rates. In other words, their people suffered less sickness and disease. How could that have reduced their productivity?

The cause of the economic woes of these countries must lie elsewhere. In three of the eight nations—Chad, Somalia, and Uganda—the explanation seems clear enough. Chad has been convulsed by unending civil war since the late 1960s, with Libya joining in; Uganda remains in chaos even though Idi Amin's barbarous eight-year rule ended in 1979; Somalia has been fully mobilized for war against Ethiopia for nearly a decade. (The Somali government claims that it spends "only" 14 percent of GNP on defense; U.S. defense outlays are 6.5 percent of GNP.) Politics can fully account for the misfortunes of these three African nations. There seems to be no need in these cases to resort to demographic explanations.

What about the difficulties of Ghana, Madagascar, Nepal, Niger, and Zaire (formerly the Belgian Congo)?

Many development economists argue that rapid population growth retards economic progress by slowing the accumulation of capital needed to build factories, harbors, and roads. However, if the World Bank's figures are accurate, low investment was not a major problem in four out of these five stricken nations.

In Nepal, Zaire, and Niger, the investment ratios for 1983 were all reckoned at 20 percent or more—higher than those in many advanced industrial nations, including the United States (17 percent). Indeed, a number of Third World nations with higher rates of population growth and lower investment ratios outperformed this trio.

Ghana is the only one of the five suffering from capital scarcity today. But that was not always so. By the World Bank's reckoning, Ghana's gross domestic investment ratio in 1960 was 24 percent—more than twice as high as the 1960 estimates for Singapore or South Korea.

If the World Bank's numbers are correct, the economies of these five countries have been afflicted by an extremely low ratio of growth to investment. In other words, heavy capital outlays yielded very meager dividends. (Madagascar's ratio of economic growth to investment appears to be only half the U.S. rate; Zaire's seems to be less than a third as high as Spain's; Ghana's during the 1960s and '70s was about one-tenth that of South Korea.) To find out what has been going wrong in these countries, one must inquire into the economic policies of their political leaders.

A Reign of Error

Take Ghana. During the late 1950s and early '60s, it was one of a select group of nations (including Burma, Chile, and Egypt) that economists were touting as bright prospects in the Third World.

After the West African nation gained its independence from Britain in 1957, Kwame Nkrumah, the charismatic new prime minister, quickly embarked on an ambitious "reform" program. Casting aside such economic considerations as competitiveness and productivity, he decided to seek prosperity by political means. "The social and economic development of Africa," he declared, "will come only within the political kingdom, not the other way round."

Nkrumah aimed to transform Ghana into a prestigious industrial power at all costs. The nation's long-successful small farmers were to foot the bill.

Nkrumah forced the farmers to sell their cocoa, the nation's chief export, at a fixed price to the government, which then sold it abroad at a profit. The proceeds were poured into Nkrumah's industrial development schemes.* By the late 1970s, long after Nkrumah, the self-styled "Redeemer," had been deposed, Ghana's small cocoa farmers were getting less than 40 percent of the world price for their crop—an effective tax of over 60 percent. Not surprisingly, Ghana's cocoa output and cocoa exports plummeted.

As these new policies made their mark on agriculture, Nkrumah

*Nkrumah also received generous aid from abroad during his 10-year rule, including $145.6 million in economic assistance from the United States.

took aim at industry. Shortly after independence, he nationalized the nation's foreign-owned gold and diamond mines, cocoa-processing plants, and other enterprises. Ghana's new infant industries were also state-owned. The result was inefficiency on a monumental scale. According to one study, between 65 percent and 71 percent of Ghana's publicly owned factory capacity lay idle 10 years after independence.

To cut the price of imported goods, Nkrumah allowed the Ghanaian cedi to rise in the world currency markets. Unfortunately, that also drove up the price of the products Ghana was trying to sell overseas. The nation's trade balance tilted deeply into the red.

Under these diverse pressures, the nation's visible tax base began to shrink, even as the government budget swelled. Foreign aid did not solve the problem. Deficit spending increased: By 1978, tax revenues paid less than 40 percent of the government's budget. Inflation spiraled, climbing by over 30 percent a year during the 1970s, according to the World Bank. With annual interest rates fixed by law at levels as low as six percent (to reduce the cost of capital), it made no sense for Ghanaians to put their money in the bank.

By 1982, only one percent of Ghana's GNP was devoted to investment. Black Africa's most promising former colony had become an economic disaster.

So Ghana's current economic travails can be explained without recourse to demographic theory. The nation's parlous economic straits are the result of Accra's 29-year reign of error. Rapid population growth may have compounded the woes caused by mismanagement, or it may have eased these pressures somewhat by creating a better-educated, healthier, and potentially more productive work force. It may have done both. But its overall impact on the course of events does not seem to have been great.

Food for the Hungry

The most haunting evidence of a Malthusian crisis in Africa—a growing number of hungry mouths to feed and ever-diminishing resources—is the images of hunger and starvation that regularly appear on TV news broadcasts. The U.S. Department of Agriculture estimates that farm output per capita in Black Africa dropped by nine percent between 1969–71 and 1979–81. In one African country after another, write Lester R. Brown and Edward C. Wolf of the Worldwatch Institute, "demands of escalating human numbers are exceeding the sustainable yield of local life-support systems—croplands, grasslands, and forests. Each year, Africa's farmers attempt to feed 16 million additional people."

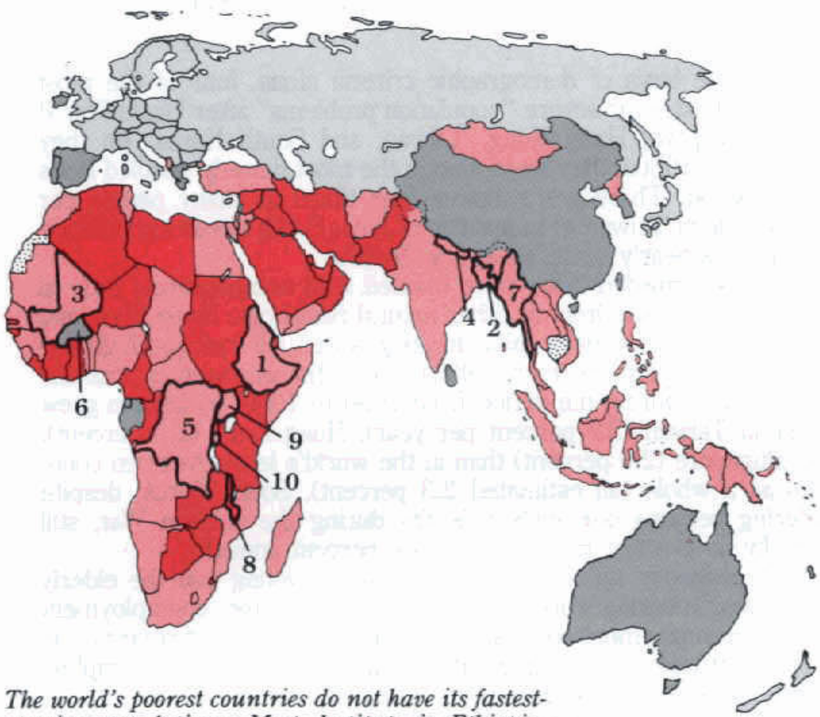
In this bleak view, population pressures are pushing people into marginal lands, which are eventually reduced to desert by overgrazing and deforestation. Indeed, the evidence of food shortages and

famine in the nations of the Sahel—from Senegal in the west to the Sudan in the east—is undeniable.

But does all of this mean that population growth per se is causing food shortages in sub-Saharan Africa?

In fact, none of the nations with the poorest records of farm output—Ghana, Mozambique, Uganda (where output per capita dropped by more than 30 percent between 1969–71 and 1979–81), and Angola (where it fell by more than 50 percent)—is in the drought-stricken Sahel. Several African nations have creditable records of improving farm productivity, and they are right next door to the nations with the most severe problems: Prosperous Kenya is contiguous to Uganda, Mozambique adjoins Zimbabwe (formerly Rhodesia), and a common border unites Ghana and the flourishing Ivory Coast. Since the climates and population growth rates of these na-

AROUND THE WORLD, 1973–1983



The world's poorest countries do not have its fastest-growing populations. Most destitute is Ethiopia, with a GNP per capita of $120, and a population growth rate equal to Hong Kong's.

tions were broadly similar, something else must have been at work.

In the overwhelming majority of cases, the food crisis in Black Africa has obvious political and economic causes. In Uganda, Mozambique, and Angola, coups or revolutions were followed by continuing domestic violence, persecution of minority groups, and, as in Ghana, destructive economic policies. In Ethiopia, where mass starvation has reached its most tragic proportions, the fault lies largely with the forced collectivization of farming and other cruel and disastrous accomplishments of a 12-year-old Marxist regime, now headed by Mengistu Haile Mariam, turning an ordinary drought into a deadly famine. But Ethiopia is only one of the most extreme cases. During the decades since independence, more and more regimes in Black Africa have adopted misguided policies that have variously restricted trade, discouraged farm production, and depressed local industry.

III

THE 'LITTLE DRAGONS'

On the basis of demographic criteria alone, four of the most likely candidates for severe "population problems" after World War II were Singapore, Hong Kong, Taiwan, and South Korea. As they entered the 1950s, they were among the most densely peopled lands in the world. There were almost four times as many people per square mile in Taiwan as in mainland China; South Korea's population density was nearly twice as high as India's.

These crowded lands were blessed with comparatively little in the way of oil, coal, iron, or other natural resources. Hong Kong and Singapore imported even their drinking water. All four had high fertility levels during the early 1950s: six births per woman was the lowest level. During the period from 1950 to 1980, population grew faster in Taiwan (2.7 percent per year), Hong Kong (2.7 percent), and Singapore (2.9 percent) than in the world's less-developed countries as a whole (an estimated 2.3 percent). South Korea, despite suffering perhaps one million deaths during the Korean War, still grew by an average rate of about two percent annually.

Dependency ratios were high, with the young and the elderly vastly outnumbering workers. Twenty-five years ago, unemployment and underemployment were still pervasive. The signs of poverty and even destitution—sprawling city slums, malnutrition, unemployment—were everywhere.

Many observers expected nothing but grim futures for these impoverished lands. In 1947, General Albert Wedemeyer, dispatched from Washington to assess South Korea's prospects, reported: "Basically an agricultural area, [it] does not have the overall economic resources to sustain its economy without external assistance.... It is not considered feasible to make South Korea self-sustaining."

Such judgments proved almost ludicrously wrong. Today, Singapore, Hong Kong, Taiwan, and South Korea are known as Asia's "little dragons." In all four lands, GNP per capita quadrupled between 1960 and 1980, despite rapid population growth. Unemployment (and, with the exception of South Korea, underemployment) have virtually disappeared. Despite an "adverse" balance of "dependent" age groups to working-age population, each society sharply increased domestic investment per capita. Despite high ratios of population to arable land, measured malnutrition was virtually eliminated. Even without a wealth of natural resources, all four have emerged as major export centers and commercial entrepôts.

What explains these success stories? Edward K. Y. Chen, an economist at the University of Hong Kong, has attempted a break-

A Taiwanese farmer plants his field using a rice transplanter. By allowing crop prices to rise and dispersing industry throughout the countryside, Taiwan has avoided many of the pitfalls of economic development.

down of the "sources of growth" for the four from the late 1950s through 1970. By his accounting, increased "inputs" of capital and labor alone explain less than half the growth of Taiwan, Singapore, and South Korea and barely more than half of Hong Kong's. Improvements in "total factor productivity" (net output per unit of net expenditure) account for the remainder. In short, the economies of the little dragons were simply more efficient than were those of other less-developed nations.

Not that they all found a *single* success formula. Hong Kong's economy is freewheeling and lightly regulated, while Taiwan's Nationalist government owns a number of inefficient large enterprises. South Korea blocks most foreign investment and runs constant balance of payments deficits, while Singapore holds more foreign currency reserves than does oil-rich Kuwait. Hong Kong is a British colony, Singapore a nominal parliamentary democracy, and South Korea a virtual dictatorship. But there are common elements in their success: "outward-looking" export-promotion policies, including reduction of barriers against imports, minimal restraints on interest rates, subsidies to encourage production for foreign markets, and an openness to the adoption of technology from abroad.

The relationship between population change and economic development in the little dragons is more ambiguous. During their decades of astonishing economic growth, all four enjoyed rapid fertility declines. (Rates now range from two children per woman in Hong Kong and Singapore to just under three in South Korea.) Many development specialists credit state-sponsored family planning programs with bringing birthrates down in these countries. But, as we have seen, that explanation may not suffice.

A Nobel Prize winner, Paul Samuelson of the Massachusetts Institute of Technology, once observed that there are always two plausible, and opposite, answers to any "common sense" question in economics. So it is with the effects of population growth.

Such growth may impose costly new burdens on a government, or it may expand the tax revenue base. It may cause food shortages, or it may speed the division of labor by which farm productivity is increased. If it tends to increase unemployment by adding new workers to the labor pool, it also tends to reduce the danger of insufficient consumer demand that so troubled Keynes and many other Western economists during the Great Depression of the 1930s.

The overall impact of population change on a society seems to depend on how the society deals with change *of all kinds*. Indeed, coping with fluctuations in population is in many ways less demanding than dealing with the almost daily uncertainties of the harvest, or the ups and downs of the business cycle, or the vagaries of political life. Societies and governments that meet such challenges successfully, as the little dragons did, are also likely to adapt well to population change. Those that do not are likely to find that a growing population "naturally" causes severe, costly, and prolonged dislocations.

IV

HUMAN CAPITAL

Spinning the globe offers a broad perspective on the impact, or lack of impact, of population change. One can also "come down to earth" to examine the behavior of individuals and their families.

Much of today's alarm over population growth springs from simple arithmetic. Every newborn child shrinks the wealth per person of his family and his nation. In a sense, he begins life as a debit in the national ledger.

During his lifetime, the child will require food, clothing, schooling, and medical attention. But there is no guarantee that he will be able to "repay" his debt during his working life. And if his homeland is developing rapidly, his debt actually grows larger, because the cost of raising children soars and the length of their dependency increases as the economy demands more skilled and educated workers.

During the late 1950s and early 1960s, development scholars, notably Ansley J. Coale and Edgar M. Hoover of Princeton, crafted influential economic models that demonstrated that, beyond some ideal point, additional births would indeed impose an intolerable economic burden on society. These "excess" children, they warned, would, in effect, be "living off capital," draining their societies of savings and investment desperately needed to fuel economic growth.

Getting Rich

Economists have since recognized the limitations of these models. Coale, Hoover, and their colleagues made a number of questionable assumptions. Among them: that economic growth results solely from the accumulation of capital; that the rate of return on capital is fixed; and that education, health care, and all other forms of human consumption bear no productive returns.

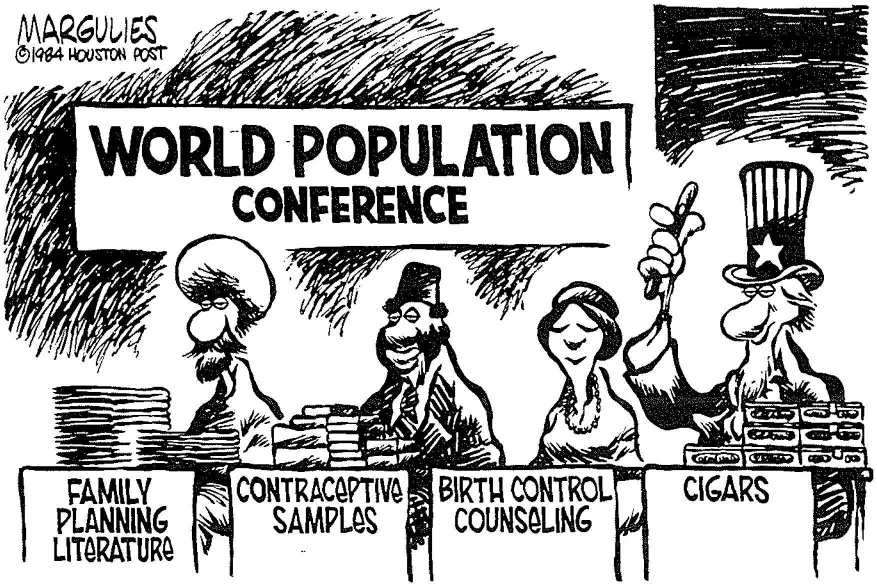
Today, the old argument has reappeared in a new, albeit more cautious, form. Some development scholars now contend that Third World governments are in effect subsidizing the births of too many children. How? By providing free services, such as public education, that make it cheaper for families to raise children but increase society's costs.

The Soviet Union offers a fascinating example of how such "externalities" work. To prevent any upsurge of unrest in its Muslim republics, Moscow is spending millions of rubles to provide schools, jobs, and health care for its Muslim citizens. Children are indeed a "bargain" for Muslim parents. Not surprisingly, total fertility in Soviet Central Asia remains in the vicinity of six births per woman—higher than the World Bank's current estimates for neighboring Iran, or nearby Pakistan and India. In this case, the development scholars appear to be right about externalities.

Yet such dramatic gaps between public and private costs rarely occur. Only serious failures of the market mechanism, or, as in the Soviet Union, political decisions, make them possible. In either case, such policies are costly. Except under extraordinary circumstances, they cannot be sustained for long—certainly not long enough to have pronounced effects on childbearing patterns.

Another cause of worry among population specialists is the tendency of poor people to have more children than rich people. If the poor and the well-to-do also have nearly the same death rates, as is now the case in most countries, it makes sense to expect that poverty will spread and the gaps between rich and poor widen.

As it happens, however, the record of modern history does not bear out these fears. In Western nations where the poor have borne



U.S. officials got little applause when they told a 1984 UN conference on population in Mexico City that Washington would end its aid to family planning efforts that embraced abortion. But total U.S. help for overseas birth control programs increased slightly, to $317 million in 1985.

more children than the well-to-do for a century or more, long-term economic growth has not slowed. And economists' measures of income distribution, though imperfect, give no indication that the gaps in the West between rich and poor have widened over the long term. In fact, most studies suggest that they are narrower today than they were a century ago.

The data on wealth and poverty in the Third World are even less reliable than comparable statistics on the West, but careful long-term studies have been made of two countries, India and Taiwan. The results show no clear evidence of increased inequality in either nation since World War II, despite population growth, and there is a hint of reduced inequality in Taiwan.

The modern world has witnessed two general, though not universal, trends. First, the productivity of individuals has climbed steadily, enough not only to cover rising standards of living, but also to add to national wealth. That is what has happened in North America and Western Europe over the past four or five generations, despite wars and recessions. And these improvements were not financed by "dipping into capital": Assets per capita in these societies are vastly greater today than they were a century ago.

Thus, over the generations, the people in these societies produced more than they consumed. The pattern was repeated during the rapid climb of Japan and Israel into the ranks of economically advanced nations. Following close on the heels of these industrial powers are Asia's little dragons and an encouraging number of other Third World countries.

Their success highlights the second general trend of the post–World War II era. Despite the rhetoric of Third World partisans in the "North-South" debate, the history of the past 25 years shows that it is possible for the poor, as well as the rich, to become richer. In fact, the productivity of the poor can rise more rapidly than that of the rich. But certain things have to happen.

Adding Value to Time

In his now-classic studies of economic growth, Simon Kuznets discerned two distinctive features of the economic development of the West between the beginning of the 19th century and the middle of the 20th. The first was that increases in GNP could not be explained simply by the growth of population and the accumulation of physical capital. Secondly, he found that while dividends from capital and other property (e.g., farmland) grew as economies developed, the share of GNP from wages, salaries, and earnings grew even more rapidly. Long-term economic development, Kuznets concluded, depended much less on building factories, power plants, and other capital stock than on the improvement of "human capital"—the ability of human beings to put to work a growing body of knowledge, research, and technology.

Theodore W. Schultz, Nobel laureate in economics at the University of Chicago, refined this notion of human capital. In a series of studies beginning during the 1950s, he showed that government outlays on education, health, and nutrition were not unproductive "consumption," as some economists had defined them to be. Usually, these investments in human beings bore productive returns—often very high ones.

Originally trained as an agricultural economist, Schultz had observed that even in impoverished, "backward" societies, poor people tended to make the most of whatever resources were available to them. He argued that even penniless men and women with nothing to invest but their time would often behave like entrepreneurs. The process of economic development, he argued, is in large part the extension of human choice made possible by the rising value of human time. Time, after all, is the single resource that is absolutely fixed in quantity, nonrenewable, and impossible to trade or save.

By helping their people to improve their health and gain better schooling, for example, governments increased the value of human

A CONTRARY VIEW

The nations of the West achieved prosperity despite rapid population growth. Can the Third World follow the same path, without imposing government-sponsored family planning programs? Sharon L. Camp, vice president of the Population Crisis Committee, writing in Population *(Feb. 1985), argued that the West's experience does not apply to the Third World:*

During Europe's [18th–19th century] population explosion, annual rates of population growth rose from about 0.5 percent to about 1.5 percent. In contrast, Third World countries now have higher birthrates and lower death rates than did Europe, and their annual rate of population increase is about 2.4 percent (excluding China). Some African countries are growing by three to four percent a year—a population doubling time of just over 20 years. The analogy with historical Europe is thus suspect....

The post–World War II population explosion in less-developed countries is largely the result of a precipitous drop in death rates spurred primarily by a revolution in public health and improved response to food crises. The speed and magnitude of these changes are unprecedented. In 18th- and 19th-century Europe, by contrast, death rates declined slowly in response to rising standards of living and remained relatively high compared to current rates in many developing countries....

The reverse is true of birthrates. During Europe's Industrial Revolution, cultural and other factors kept birthrates well below the biological maximum. Marriage was delayed to the mid-twenties and not uncommonly to the late twenties. Significant numbers of adults did not marry at all or did not survive their reproductive years. In most Third World countries today, marriage is nearly universal and the majority of women are married by their late teens. Although maternal and infant deaths take a large toll, it is not unusual to find women in developing countries who have been pregnant a dozen times and have eight to 10 living children....

Not only are Third World countries growing two to three times faster, many are starting from a much larger population base than did European countries at a comparable stage of economic development. In most developing countries, population density on arable land is at least three times higher than in 19th-century Europe and rural population growth is twice as rapid despite massive urbanization. The combination of a larger population base and a more rapid rate of growth means that the total number of people added to the Third World's population in the last decade alone exceeds the total increase in Europe's population over the whole of the 19th century.

time, and thus of human capital.

Poor people and poor nations can actually enjoy a paradoxical edge in building up human capital. Because of what the late Alexander Gerschenkron of Harvard called the "advantages of backwardness," they can climb the "learning curve" of economic development much more quickly than the pioneers in other societies who preceded them. Whether by importing penicillin invented and manufactured in the West, or by borrowing the technology for manufacturing computer chips, they can reap at relatively low cost the advantages that others paid dearly for. This is precisely what Japan and the little dragons did during their post–World War II economic "catch-up."

Demographic events can profoundly influence when and where this catch-up occurs. Migration is an obvious example. When they move from countryside to city, or from one nation to another, most families pursue economic advantages. The Nigerian who leaves his farm for the city of Lagos makes a personal economic calculation. But by putting himself where his time can be used more productively (e.g., in a factory), he enhances national wealth. In the same way, America's immigrants have added vastly to the nation's affluence (and their own) by fleeing lands where, among other things, their labor was less productively employed.

Small-Family Formula

Another important economic event is the recent fall in mortality rates in many less-developed nations. Coming largely as a result of improvements in nutrition, hygiene, and health care, the drop can be seen as an enormous deposit in the human capital "bank." Not only will the productive working lives of many people be lengthened, but the returns from further "social investments" can be higher. Healthy children, after all, can profit more from extra schooling than can malnourished children.

The economic implications of changes in fertility are more ambiguous. Few parents decide whether or not to have children solely on considerations of profitability. If Western parents did so, they would be childless.

On the other hand, personal choices are always constrained by what is economically feasible. And the economics of the family vary enormously from place to place. In the West, where the economic value of human time is high, preparing a child for adult life is a lengthy and expensive proposition. It consumes a great deal of time that many parents could otherwise devote to work, and few will call upon their young for financial help in their old age. It is not surprising, then, that Western parents tend to have small families.

In a farming society such as Kenya, on the other hand, children may start working in the fields at an early age and help support their parents long after they reach adulthood. In such societies, where the costs of raising a child are low and the benefits high, it may not be financially punitive to have large families. In India, there is a saying: "One son is no sons." In short, parents may have different views of the family than do their political leaders or their governments' technocrats, a fact worth remembering.

V

FAMILY PLANNING

The Third World's population is considered to be "exploding," despite the fact that governments in all but 27 of these 133 nations promote the use of modern contraceptives among their people, and often distribute them at little or no charge.

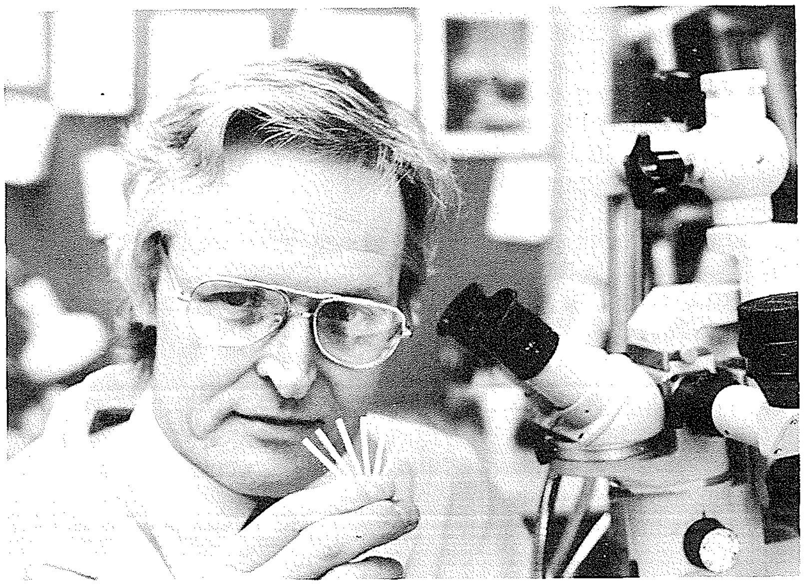
The political energy and financial resources expended on these family planning programs are considerable. By the World Bank's estimate, Third World governments spend more than $2 billion annually on such efforts. (The actual purchasing power is probably much greater than dollar figures indicate.) International organizations, Western governments, and charitable institutions also make substantial contributions. Between 1969 and 1984, they added another $7 billion (in 1982 dollars). In some less-developed countries, e.g., Bangladesh, governments spend more on family planning programs than on all other health-related services combined.

What do such programs, and national population policies, actually accomplish? How do they affect current living standards and the prospects for economic development?

Today's national family planning bureaucracies are in the business of subsidizing and promoting the use of birth control pills, intrauterine devices (IUDs), condoms, diaphragms, and other modern contraceptives. These methods are not necessarily more effective than some old approaches to family planning: On grounds of effectiveness alone, nothing can improve upon total abstinence or infanticide. Of course, modern contraception is much more acceptable than these extreme alternatives, and it is also more reliable than some widely used traditional techniques of birth control (such as coitus interruptus, the rhythm method, or drinking native contraceptive potions). Moreover, by making it easier to exercise choice, modern contraception reduces unwanted pregnancies that can cause sickness and death among mothers and infants—notably by preventing closely spaced births. So a voluntary family planning effort can be a useful public health service, one of many government activities that can increase choice, reduce mortality, augment human capital, and improve the well-being of individuals and families.

It is not so clear, however, that voluntary family planning always delivers the big reductions in "unwanted" births that Third World governments seek.

Family planning workers from Nepal to Kenya have discovered that making modern contraceptives available to all does not by itself stimulate a revolution in attitudes toward family size. In Kenya, for example, total fertility appears to have *increased* from under six



The newest development in contraceptive technology: NORPLANT capsules, five-year steroid implants for women. Now used in Scandinavia (but not yet in America), they will soon be available in the Third World.

children per couple to more than eight despite nearly 20 years of officially sponsored family planning efforts.

As Lord Peter Bauer of the London School of Economics has observed, people of all nations are quick to buy Western-style cosmetics, soft drinks, and transistor radios. In most Third World countries, birth control pills, IUDs, and diaphragms are just as available, but are in much less demand.

In the Third World, Bauer writes, "the children who are born are generally desired. They are certainly avoidable. To deny this amounts to saying that Third World parents procreate heedless of consequences. This view treats people with . . . contempt."

Indeed, in many parts of the globe, truly effective family planning might actually *increase* the birthrate. In Zaire, Gabon, and other nations of sub-Saharan Africa, for example, families have demonstrated little interest in modern contraception, but considerable concern about *infertility*. In these societies, a wife who cannot bear children faces an unenviable fate. Increasing parents' "freedom to choose" will always serve the purposes of parents, whatever the preference of the government and its advisors.

Of course, the thrust of most family planning efforts in less-developed countries over the past generation has been antinatalist.

And the principal international institutions supporting these programs, including the World Bank and the U.S. Agency for International Development, remain firmly in favor of reducing birthrates.

Unquestioning faith in this goal has led some of the world's poorest governments to pour extraordinary amounts of money into family planning. In 1980, for example, the World Bank estimates that Ghana's family planning program spent \$68 per contraceptive user, Nepal's \$69. The Bank's data also suggest that government outlays for *all other* health programs totaled only \$20 per family in Ghana and \$8 in Nepal. In these and other poor nations, government officials seem to believe that birth control yields tremendous benefits.

The Bottom Line

That faith extends even into the academic world. Only a handful of researchers have attempted to *measure* the impact of family planning against a "control group" (i.e., a similar population which lacks the service)—standard practice in the health sciences. The few properly conducted studies do not reveal many differences in fertility decline between "control" and "experimental" groups.

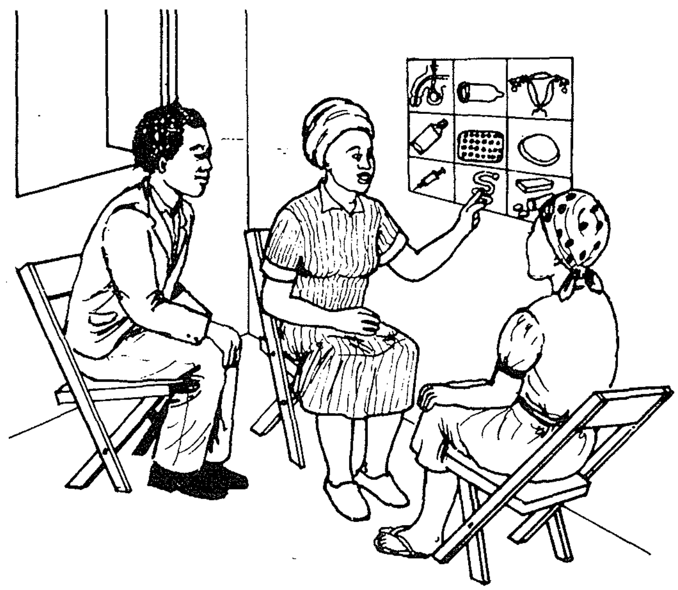
In a little-noticed 1984 study, Donald J. Hernandez, a demographer at Georgetown University, attempted to disentangle the effects of family planning efforts from "natural" declines in fertility. Among the nations he examined were four that have been widely hailed as exemplars of successful family planning programs: Two little dragons, Taiwan and South Korea, as well as Costa Rica and Mauritius.

In Mauritius, he found, family planning might have pushed birthrates down by as much as three to six points over 10 years. However, because of shortcomings in his own methodology, Hernandez cautioned against ascribing too much meaning to this calculation.

In Taiwan, South Korea, and Costa Rica—where Hernandez felt that his methodology would produce more reliable results—he estimated that family planning efforts brought birthrates down only by between 0.1 and 1.6 points over periods ranging from four to 11 years. Hernandez rightly concluded that family planning programs may be able to speed the fall of birthrates somewhat where this decline has begun on its own. But such programs experience "little success and considerable failure in initiating fertility reductions independently of socioeconomic and other indigenous factors."*

One sure way to bring birth trends down is to resort to Draco-

*Some family planning advocates claim that there is an enormous unmet need for birth control in the Third World, which only a 50 percent boost in outlays can satisfy. That claim is based on the results of surveys showing that many women say they want no more children or wish to delay the birth of their next child, and also say they are not using modern contraceptives. The researchers ignore the fact that many of these women may be using traditional birth control methods. In any case, Western survey methods are rarely reliable—especially among poor, uneducated people in less-developed nations. Moreover, the interrogators never put their questions to men, who, in many societies, have the final say in such matters.



A Kenyan pamphlet takes the mystery out of modern birth control. Kenya has Africa's fastest-growing population; only eight percent of Kenyan women in their childbearing years use modern contraceptives.

nian measures, as several governments have done. But insofar as they have coerced involuntary behavior out of parents, these governments generally have reduced—not raised—standards of living.

A case in point is Romania's radical effort to *increase* fertility during the 1960s. The nation's Communist leaders had long been concerned that declining birthrates (by that time below the net replacement level) would exacerbate the nation's troublesome labor shortages. In 1966, one year after taking the helm of the Romanian Communist Party, Nicolae Ceauşescu announced a series of measures designed to raise the national birthrate. The most important of these was a sudden restriction of access to abortion, at that time Romanians' principal means of birth control.

Taken unawares by the change in rules, Romanian parents had many more children that year than they had been planning. Romania's crude birthrate in 1967 jumped to 27 per 1,000—almost double the 1966 rate of 14 per 1,000. But as parents reverted to traditional methods of contraception (e.g., rhythm, withdrawal, abstinence), fertility dropped back toward the pre-1966 level. Between 1967 and 1972, the crude birthrate fell from 27 to 18.

But Romania is still paying for its artificial birthrate "blip." Infant mortality jumped and maternal death rates more than doubled between 1966 and 1967. Ceauşescu's edict also created a peculiar bulge in the Romanian age structure. To accommodate the needs of this "cohort" as it passed through the different stages of childhood and youth, Bucharest has been forced to create and then close down kindergartens, elementary schools, and health clinics—a costly proposition. Entirely apart from the damage done to Romanians' physical health, Bucharest's demographic shock may well have done more to retard the pace of economic progress than to hasten it.

Singapore has taken a more constant approach to population policy, and with the opposite end in view. Lee Kuan Yew, Singapore's prime minister since 1959 and the chief architect of its economic success, seems to be deeply impressed by some of the arguments of the prewar eugenicists. "We are getting a gradual lowering of the general quality of the total [world] population," Lee fretted in 1973. "Over the long run this could have very serious consequences for the human race."

For the island republic of Singapore, he sought "zero, possibly even negative [population] growth. Then we can make up for it with selective immigration of the kind of people we require to run a modern higher technology society."

Penalizing Big Families

Lee's vision of the solution was specific. "We must," he said, "encourage those who earn less than $200 a month [then about half of Singapore's households] never to have more than two [children]" so that Singapore might as its economy progressed be spared a "trend which can leave our society with a large number of the physically, intellectually, and culturally anemic."

In August 1972, Lee's government announced a new policy of "social disincentives against higher order births," to take effect the following year. Among the many disincentives were restrictions on maternity leaves for mothers bearing a third or higher-order child and the elimination of family tax deductions for children born fourth or later, as well as official discrimination against these children in public school placement.

The demographic impact of these strictures is unclear. It is true that since 1975—the third year of the "social disincentives" policy—Singapore's fertility rate has fallen. But the rate was already dropping before 1973, and Lee's new edicts do not appear to have hastened the speed of its fall.*

While the demographic consequences of Singapore's population

*During the decade before the disincentives were announced, Singapore's birthrate dropped from 22 per 1,000 people to 17 per 1,000. Since 1973, Singaporeans *have* had smaller families. In 1980, fourth and higher-order births accounted for about seven percent of all live births—as against more than 28 percent in 1970. But this pattern was not distinctly different from those in comparable countries. In Hong Kong, which imposes no penalties for having large families, only nine percent of all births in 1980 were children born fourth or later.

CHINA

"Every stomach comes with hands attached," Chairman Mao once said in explaining his laissez-faire attitude toward population growth. In 1982, Beijing's census-takers counted one billion stomachs, nearly double the number in 1949, when Mao took power.

Mao's successors, led by Deng Xiaoping, had already rejected Mao's benign view. In 1979, they launched an ambitious population control program, calling on every couple to have a single child. "Husband and wife," declared the new constitution of 1982, "have a duty to practice family planning."

The intensity of China's "one-child" campaign has varied over time and from locale to locale. Billboards, newspapers, and radio broadcasts trumpet the message. Beijing offers economic rewards (e.g., cash awards and free medical care) to parents who agree to stop having children after their first child, and penalties (e.g., fines equalling 15 percent of family income for seven years) for those having a second child. At the height of the campaign in 1983, Beijing ordered the sterilization of one spouse in every couple with more than one child. Reports of forced abortions in China began reaching the West [see "The Mosher Affair," *WQ*, New Year's '84].

Deng has put population control near the top of the Chinese political agenda because he and his colleagues blame the nation's economic woes—occasional food shortages, unemployment, lackluster economic growth—on its vast human numbers. But studies by Western economists point directly at China's official policies—such as Mao's 1958 Great Leap Forward and the Cultural Revolution of the 1960s. According to K. C. Yeh of the Rand Corporation, for example, the overall efficiency of Chinese industry and agriculture fell by more than 25 percent between 1957 and 1978. If China had merely matched *India's* improvements in productivity during those years, its output per capita in 1978 would have been two-thirds greater than it was.

Deng Xiaoping

In the short term, Deng's "one-child" policy will surely work. Fertility, which had already dropped sharply during the 1970s, has continued to decline. By 1984, the Chinese population was growing by only 1.1 percent annually.

What price China will pay for this success is not yet entirely clear. Smaller families by themselves mean a lower quality of life for couples who desire more children. And, in the nation's fields and rice paddies, one-child families find themselves short-handed—especially if the child is a girl. Female infanticide seems to be on the upswing among China's peasants.

Moreover, limiting couples to one child may not be in the best interests of the country's future elderly population. China's parents must be asking themselves today: Will Beijing keep its promise to provide for them in their old age, when *their* child (and spouse) may be supporting four grandparents?

—*N. E.*

sanctions are murky, some of the social and economic effects are unmistakable. Lee's program has reduced the living standards of Singaporeans who choose to have large families, widening income gaps in the nation. It has also created a new disadvantaged minority: the youngest children born to large families since August 1973.

Under Lee's law, these youngsters stand last in line for spots in the nation's desirable schools and universities, an important consideration in a society that places a premium on schooling. How the new "undesirables" will finally fare, and how their fate will affect Singapore, remains to be seen. The eldest are only 13 years old today.

VI

THE VALUE OF A LIFE

What, finally, can be said with confidence about the impact of population change on social and economic development in the Third World? As we have seen, much less than partisans in the population debate currently claim. So it may be appropriate to conclude with a few observations distinguished more by their tentativeness than by their insight.

First, population growth (or decline) is a relatively slow form of social change. A rate of population increase of four percent a year is extremely high; four percent price inflation a year is, today, generally considered to be blessedly low. And, for all the uncertainties of long-term population forecasting, *annual* shifts in the size and composition of a national population can be predicted with far greater accuracy than can changes in inflation, unemployment, the gross national product, or crop harvests.

For nations that cope poorly in general, any quickening of the pace of change—including the rate of demographic change—is likely to cause difficulties. Yet adapting to novel conditions is in itself an integral part of modern economic development for any society. Development is in a sense a learning process. To the extent that population growth stimulates this learning process, it can accelerate a society's material progress.

Second, demographic change since World War II has typically been both benign and relatively favorable to economic growth. It has come about chiefly because of dramatic improvements in human health, lengthening the life expectancy of people all over the globe. Better health, moreover, can help augment human capital, which is the ultimate basis of economic productivity. Increasing human capital alone does not assure material progress; such progress depends on many other things, including the priorities governments place on developing and utilizing human talents. But it does make it *possible* to quicken the pace of economic advance.

Third, to assume, as many academics and public officials do, that preventing the birth of poor people will help eliminate poverty appears to be a fundamental error. Mass affluence is the result of human productivity and human organization, and it is not at all clear that these factors would be enhanced by falling birthrates, or, for that matter, by rising birthrates.

To make the economic case for aggressive population control, demographers and economists would have to show, in effect, that the cost of raising a child born in a particular society would be greater than his lifetime economic "value." That would be an extraordinarily difficult task. Economists and corporate executives constantly go astray in estimating the economic value of such relatively simple things as machinery, factories, and dams. Imagine how much more difficult it would be to determine the value of an unpredictable, living human being, or to have decided, in 1955, whether a baby born in Ghana was "worth" more than one born in South Korea.

Such population controls, in any realistic sense, would be fruitful *only* if no new technologies were ever created, societies did not change, and individuals were given few options in shaping their futures. That kind of world would be incompatible with the very essence of economic development, which is the successful management of change, and, ultimately, the extension of human choice.

There is little chance that enforced family planning in the Third World or elsewhere will yield benefits without great social costs and a sacrifice of human freedom. This approach reflects, as Peter Bauer notes, a contempt for ordinary people. In most of the countries where they have been tried, population policies, "soft" or "hard," have amounted to little more than attempts to solve through demographic tinkering economic problems that can, in fact, be traced to misguided governmental policies. To make a reduction of the birthrate the focus of so many high hopes is to divert attention and political energy from the real sources of poverty and lagging economic growth in many countries of the Third World.