

Demographic Change and Ecological Security

by Dennis Pirages

Environmental concerns are now becoming an integral part of U.S. foreign policy, but within academic and policy circles there is an ongoing debate over the role that environmental stress plays in creating security threats. An argument is made here for moving beyond environmentalism and using an ecological security perspective to inform foreign policy planning and future defense allocations. Ecological security rests on maintaining four kinds of equilibrium between human beings and the physical environment. Large-scale shifts in human demographic patterns are threatening these equilibriums and thereby increasing insecurity for individuals, groups, countries and the planet. Substantial changes in security thinking are required in order to address these imbalances.

Developing an ecological conception of security provides one starting point for debating new security thinking. Discussion then turns to the four most significant demographic issues in the context of the ecological security framework: population growth, movements, graying, and differential growth. Finally, a brief commentary on the state of U.S. population policy provides an overview of missed opportunities and needed actions.

THE CONTEXT: AN ECOLOGICAL APPROACH TO SECURITY

Discussions of environmental security are now percolating through the Washington policy community. During his recent tenure, former Secretary of State Warren Christopher spoke specifically about the environment and issued directives to integrate environmental issues into the State Department's core foreign policy goals. The Department of Defense (DoD) has spent billions integrating environmental clean-up into its day-to-day operations. The Department of Energy (DoE) is spending similar sums for environmental remediation at its nuclear weapons production facilities. And as the "red" threat diminishes, even intelligence agencies are "greening" in anticipation of future missions.¹

As a first step, injecting green concepts into daily operations is laudable. But as yet there has been little effort to move beyond cosmetics and use ecological perspectives to re-orient long-term foreign policy planning and security thinking. Thus, there is now little disagreement that environmental remediation is a positive development. Likewise, having learned valuable lessons from Operation Desert Storm, there is not much controversy at DoD over preparing troops to operate in more biologically hazardous environments in the future. And the State Department now recognizes that resource shortages and environmental degradation should be factored into assessments of potential regional conflicts (water in the Middle East) and political havoc (Haiti). But this new focus on the environment in foreign affairs has so far been timid and mostly limited to greening ongoing operations. It has not revamped foreign policy and security thinking to accommodate broader ecological perspectives.

An ecological approach to security is anchored in a broader conception of threats to human well-being. Ecological security moves beyond preparations to repel military assaults from enemy states to ensuring safety from other kinds of ecological and economic challenges. These threats can include attacks by other species (ranging from locusts to microorganisms), retribution from nature (including floods, droughts, and famines), and economic failures associated with ecosystem mismanagement.

Ecological security raises a broader set of concerns not yet commonly addressed in policy forums. Given traditionally accepted purposes of national security policy, the protection of the state and prevention of large-

Dennis Pirages is Professor of Government and Politics and Director of the Harrison Program on the Future Global Agenda at the University of Maryland, College Park. He is the author of Global Technopolitics and editor of Building Sustainable Societies. Copyright held by Dennis Pirages.

scale premature loss of human lives and potential, this approach suggests looking beyond cross-border military incursions when assessing future threats. Historically, security policy has countered threats that were readily understood. It was hoped that credible defense measures would thwart future attacks. But such predation has not been the only, or even the major, threat to state security and human well-being. For example, while defense efforts against viruses have not traditionally been part of security thinking, the deadliest battle ever fought was the struggle between *Homo sapiens* and the influenza virus that began in Kansas in 1918 and spread around the world during World War I—it is estimated that nearly twenty million people lost their lives during this struggle.²

Human populations have co-evolved with various other species and microorganisms over time within an ever-changing physical environment. Ecological security for human beings has been maximized when the following four kinds of equilibriums have been maintained:

- Between the demands of human populations and the sustaining capabilities of environmental systems;
- Between the size and growth rates of various human populations;
- Between the demands of human populations and those of other species;
- Between human populations and pathogenic microorganisms.

Significant breakdowns in any of these four equilibriums can have serious consequences. Most past security efforts have focused on only one of these dimensions, disruption of equilibriums among human populations. This has been largely due to the fact that security threats from other sources were poorly understood and not easily remedied.

The size, growth patterns, and habits of interacting human populations are very critical to all aspects of ecological security. The following overview of significant demographic changes permits the exploration of one aspect of ecological security; other dimensions will be explored in future articles.

DEMOGRAPHIC CHANGE AND DISEQUILIBRIUM

There are at least four types of large-scale demographic shifts that can create disequilibriums. Rapid population growth, large-scale population movements, differential population growth patterns, and even population stabilization and graying can present challenges to human well-being and ecological security. Rapidly growing human populations, for example, require resources in order to maintain or increase living standards. But growing human populations often run up against the carrying capacity of territories they oc-

cupy, leading to environmental degradation, increased vulnerability to disease, and occasionally to violent conflict.³ If needed resources cannot be obtained domestically, and if capabilities exist to get them elsewhere, lateral pressure to move across borders is likely to develop.⁴

For long stretches of history *Homo sapiens* lived in relative harmony with nature. Numbers grew very slowly and, while the local environmental impact of individual populations might have been considerable, the global impact of human beings was relatively small.⁵ During the early stages of the Industrial Revolution, however, the world's population began to expand rapidly. In 1650, there were only 500 million human beings on the Earth. This number doubled to one billion in only 200 years. Only 80 years later, by 1930, the world's population had doubled once again.

The next doubling, to four billion, took only forty years. Today, there are more than 5.8 billion people occupying an ever more densely populated world.

While rapid population growth is frequently identified as a primary cause of insecurity, three other kinds of demographic change also create problems. People in motion—whether moving from rural to urban areas within a country or from one country to another—often trigger tensions and hostilities at their destinations. Thus, migrants have recently poured into Germany from Central and Eastern Europe, into France from North Africa, into Zaire from Rwanda, and into the United States from the Caribbean and Latin America. They have frequently been met with various challenges ranging from discrimination to massacres. And differential population growth rates, such as those between certain Islamic states and their neighbors, often lead to conflict and provide pressure leading to large-scale population movements.

Paradoxically, even slow population growth or decline can have political, economic, military, and disease ramifications. The United States, Japan, and most European countries recently have experienced steadily declining birthrates that, abetted by life-prolonging technologies, are shaping “graying” societies and a set of potentially divisive inter-generational conflicts. The so-called “birth dearth” in these countries threatens to pit economically productive young people against those who are benefitting from social security and medicare payments. A future dwindling work force will be faced with picking up the costs of swelling entitlement programs that were established when economies were expanding and labor forces were growing.⁶

As yet, there has been little effort to move beyond cosmetics and use ecological perspectives to re-orient long-term foreign policy planning and security thinking

The contemporary world is thus best characterized as demographically divided. On the less affluent side of the demographic divide, rapid population growth and related urbanization are creating ecological insecurities by overwhelming the sustaining capability of the physical environment. But on the more affluent side of the divide, graying populations increasingly confront problems of chronic diseases and sociopolitical arteriosclerosis. And large-scale traffic across the divide often provokes the wrath of those who see migrants as potential threats to their interests. It is this divide, largely between North and South, that provides the context for the discussion of the four demographic changes challenging ecological security.

Growth Pressures and Insecurity

As human numbers have rapidly grown, ecological insecurity has increased apace and there are now abundant signs of stress. For example, the contemporary densely-populated world is experiencing increasing numbers of so-called natural disasters as burgeoning human populations press into areas—river basins, coastal lowlands, earthquake areas—that can be occupied only at great risk.⁷ And the number of people continues to grow. The world is projected to have 8.2 billion occupants by the year 2025, with eighty-five percent of them living in the presently less industrialized countries.⁸ It is estimated that 60 percent of the less industrialized world's poorest people live in ecologically vulnerable areas.⁹ Trees that can be used for firewood are rapidly disappearing before the demands of growing populations, and the related deforestation is increasing soil erosion and flooding.

Water is another source of insecurity in many areas of the world. Rapidly growing populations in the Middle East are competing for very limited supplies. Israel and the Palestinians are perpetually at odds over control of water, and Jordan and Syria have repeatedly accused each other of stealing water from the small river running between the two countries. Similarly, Syria, Turkey and Iraq are constantly feuding over the use of water from the Tigris and Euphrates rivers.¹⁰

Population pressures on land and water are also responsible for considerable malnutrition and even starvation. While growth in worldwide food production has slightly exceeded world population growth over the last decade, this has not been the case in many countries. When data for the period 1982-84 are compared with 1992-94, food production per capita actually declined in 72 countries.¹¹

A widening gap in economic opportunity also parallels the demographic divide. The richest fifth of the world's population now produces 83 percent of the gross world product while the poorest fifth produces only about one percent.¹² And the income gap seems to be widening: between 1960 and 1989 the per capita

income difference between the average person in the top twenty percent of the world's population and the bottom 20 percent grew from \$1,864 to \$15,149.¹³ And between 1980 and 1993 there was a decline in real per capita GDP in 53 countries on the southern side of the demographic divide.¹⁴

Economic stagnation and decline is related, in turn, to political turmoil and insecurity. There is a strong relationship among rapid population growth, poverty, environmental deterioration, social violence, political instability and authoritarian forms of government.¹⁵ When politics revolves around an authoritative allocation of deprivations it is difficult for democratic regimes to survive. In Haiti, for example, the combined birth and death rates are unmatched in the Western Hemisphere and the pattern of authoritarian regimes and political violence there led to the U.S. intervention to establish some semblance of order. Similarly, authoritarian governments and violence have been commonplace in African countries such as Angola, Ethiopia, Liberia, Somalia, Sudan, and Uganda.

People in Motion

The rapid rate of population growth on one side of the demographic divide and the potential for a birth dearth on the other are related to two kinds of large-scale population movements. The pressures of rural population growth in less industrialized countries combined with perceived, and often illusory, economic opportunities in urban areas are driving large numbers into cities. And others, driven by the pressures of population growth, declining economic opportunity, and political instability, are also moving, legally and illegally, across flimsy bridges spanning parts of the international demographic divide.

Migrants are moving into the United States from Asia, the Caribbean, and Latin America at a rate in excess of 600,000 annually. Western Europe is being pressured from several directions; estimates indicate that between 1991 and 2000 as many as 4.0 million Eastern Europeans, 3.5 million citizens of the former USSR, 2.5 million North Africans, 2.0 million Sub-Saharan Africans, and 1.0 million Asians will have arrived in Western Europe.¹⁶

People migrate for a variety of reasons. The largest share has moved historically in search of better economic conditions. But contemporary migration is also being fueled by refugees from military conflict, ethnic violence, and the collapse of states. It is very difficult to estimate the numbers and types of migrants and refugees in the world today. The largest share of migrants remains in the countries of origin. The next largest portion crosses boundaries only within the less-industrialized world and an even smaller share crosses the demographic divide into the industrialized nations. But millions of migrants cross borders quite legally each

year, and there are several million contract laborers living abroad at any given point in time.

It is illegal migrants, asylum-seekers, and refugees that attract most attention. By definition, illegal migrants are very difficult to count. It is roughly estimated that between 100,000 and 300,000 people slip into the United States illegally each year.¹⁷ Most industrialized countries, with the clear exception of Japan, have recently seen a large increase in people seeking political asylum. In most of these countries the wheels of justice turn very slowly, permitting those seeking asylum to stay for long periods or to slip quietly out of sight.¹⁸

The most troublesome political and moral dilemmas are associated with refugees. While precise data on migrants and refugees are difficult to obtain because of the ever-changing nature of population movements, the United Nations estimates that there are now about 23 million official refugees that have crossed national borders. There also are nearly 27 million internally displaced persons.¹⁹ Thus, protracted conflicts, civil wars, ethnic cleansings, and a variety of similar human tragedies have created a large population of semi-permanent refugees, most of whom live dreary and hopeless lives under primitive conditions in refugee camps. Afghanistan tops the list of countries creating refugees with three million Afghans registered as refugees abroad. Rwanda follows closely behind with 2.1 million refugees.²⁰ The pieces of the former Yugoslavia have collectively created similar numbers of refugees.

Intense urbanization within less industrialized countries can also increase ecological insecurity. Worldwide in 1965, 36 percent of the world's population lived in cities. By 1990 the portion living in cities had increased to 50 percent. In the "low income" countries, however, the percentage living in cities more than doubled, growing from 18 to 38 percent. In China the percentage increased from 18 to 56 percent and in Tanzania it jumped from five to 33 percent.²¹

Rapid urbanization is creating a parallel problem of growing "megacities." Projecting urbanization trends forward to the year 2034, for example, Mexico City and Shanghai could have populations of 39 million, Beijing 35 million, Sao Paulo 32 million and Bombay 31 million.²² Providing adequate housing, sanitation, transportation, jobs, security and other amenities for such rapidly growing numbers of urbanites will be a staggering undertaking. So will the task of maintaining order and preventing epidemics among the restless army of unemployed in these crowded and polluted megacities.

The number of people living in urban areas is expected to double to more than five billion people between 1990 and 2025. About ninety percent of this growth will take place in the less industrialized countries.²³ Many migrants to urban areas become squatters, having little chance to own land or a home of their

own. More than two million people in Calcutta live in slums and squatter settlements, as do more than one million people in Rio de Janeiro, Jakarta, Manila, Bogota, Lima, Casablanca, and Istanbul.²⁴ It is estimated that by the year 2000, half of the developing world's poor will live in urban areas; 90 percent of the absolute poor in Latin America and the Caribbean, 40 percent of the poorest in Africa, and 45 percent of the poorest in Asia will live in cities.²⁵

In many large and growing cities, urban crowding combined with the lack of economic opportunities is threatening the social order. Cities in the less industrialized countries are giant resource sinks, creating a large "ecological footprint" on the surrounding countryside.²⁶ Large quantities of food are imported to sustain ever-increasing numbers of urbanites. But growing cities also need tremendous amounts of water for drinking and sewage treatment; water which is often not available. In Dhaka, Bangladesh, for example, only one-fifth of the population is served by a sewage system. And in Bangkok, Thailand, demand is depleting the groundwater in much of the city and parts of it are sinking at a rate between five and ten centimeters per year. It is estimated that in Mexico City the center of the city has dropped about eight meters over the last fifty years due to groundwater extraction.²⁷ In addition, urban sprawl often destroys much of the fertile agricultural land surrounding cities. It is estimated that 476,000 hectares (1 hectare = 2.47 acres) of arable land is being transformed to urban uses annually in the less industrialized countries.²⁸

These trends in population growth and population movements (in particular urbanization) combined with poverty carry dramatic implications for disease. The 20th century has been characterized by remarkable progress in the struggle against the many diseases that afflict human beings. But there are now indications that the rapid growth in human numbers, the increasing density of human populations, poverty, and ecological changes are making human populations much more vulnerable to disease-bearing microorganisms.²⁹ The World Health Organization estimates that one-quarter of the world's population is subject to chronic intestinal parasitic infections. Of the nearly twenty million annual deaths due to communicable diseases, tuberculosis now kills three million people, malaria two million and hepatitis one million. In addition, millions of others die prematurely from a myriad of other diseases.³⁰

In the United States, a drug-resistant strain of tuberculosis, linked to HIV infections, seems to be spreading. And the AIDS virus, which is estimated to have infected more than 1.2 million people in North America, has infected approximately 17 million people worldwide. More than 9.7 million people are infected in sub-Saharan Africa and 3.5 million are stricken in Asia. By the year 2005, it is projected that 2.4 million people will

die from AIDS annually, which will represent nearly five percent of deaths from all causes.³¹

Many of the bacteria and viruses that pose future threats are not new. They have coexisted with *Homo sapiens* in various parts of the world for long periods of time. It is changes in human behavior, population growth, patterns of residence, poverty and rapidity of transport that have altered the people-microbe balance.³² In the words of Nobel Laureate Joshua Lederberg, "Some people think that I am being hysterical, but there are catastrophes ahead. We live in evolutionary competition with microbes—bacteria and viruses. There is no guarantee that we will be the survivors."³³ Thus, the greatest future threat to ecological security may not come from thermonuclear explosions, but from disrupting the equilibrium with microorganisms too small to be seen by the human eye.

Graying and Social Insecurity

Most industrial countries are now well into the third stage of a demographic transition where the number of births and deaths are roughly equal and thus have reached or are approaching zero population growth (ZPG). The portion of the population under fifteen years of age is shrinking and that portion beyond retirement age—benefiting from longer life expectancy—continues to grow. In the industrial countries as a whole, fourteen percent of the population is now over 65 and only twenty percent is under fifteen. In Germany, Italy, Spain, Denmark and Sweden, the portion under fifteen and over sixty-five is nearly equal.³⁴

The economic, political, social, and health implications of graying have not yet been adequately explored both because the greatest impact of this demographic shift still lies ahead and because of the politically explosive nature of the associated distributional issues. As Michael Boskin, the former Chairman of the U.S. Council of Economic Advisers, forewarned more than a decade ago, "A confrontation between workers and retirees will arise that will create the greatest polarization along economic lines in our society since the Civil War."³⁵ Aging in each of the graying countries will lead to various kinds of inter-generational skirmishes as unfunded liabilities growing out of entitlement programs created during a period of rapid population and economic growth must be paid for during a period of relative austerity. A growing elderly population expects to receive continued extensive pension and medical benefits, presently unfunded or underfunded, at a time when a shrinking working-age population will be hard pressed to pay the bills.

The Organization for Economic Co-operation and Development (OECD) has examined some of the long-term social policy implications of graying within its member countries. It estimates that by the year 2030,

27 percent of the population of Switzerland and 26 percent of the population of Germany will be over 65. In the United States and Japan, 20 percent will be over 65.³⁶

This graying will alter dramatically future aged dependency ratios in the industrial countries. An aged dependency ratio refers to the ratio of those over 65 compared to those of working age (15-65). In the United States the ratio now stands at about .20 meaning that one elderly person is theoretically supported by about five people in the labor force. But not nearly all people age 15-65 are employed. By the year 2030 this ratio rapidly increases to .32, meaning that each person over 65 could theoretically be supported by only three active workers. In Switzerland the ratio rises from .21 to .47 and in Germany from .22 to .44.³⁷ In both of these countries in the year 2030, there will be only about two potentially active workers for each retiree. These figures conjure up visions of a new proletariat toiling long hours in order to pay taxes necessary to keep politically organized retirees in the style to which they have become accustomed. Since most of these future obligations are woefully underfunded, the two or three workers supporting each retiree will have to provide the bulk of entitlement funding, clearly a politically explosive situation.

The population of Japan is aging faster than that of the United States, and the Japanese Economic Planning Agency is concerned about the future impact of graying on the savings rate and related economic growth. The portion of Japan's gross domestic product devoted to social expenditures is projected to mushroom from 14 to 27 percent between 1983 and 2025.³⁸ This is a consequence of the extraordinary portion of the population that will be over 75 in 2025. In that year over half of Japan's elderly will be 75 or over, and among them there will be 100 women for every 75 men.³⁹ The Japanese are particularly concerned about the impact of these changes on the nature of the future labor force, particularly given the existing stringent regulations governing immigration. Thus, robots are being developed to supply a significant portion of future labor.⁴⁰

The insecurities associated with aging are not limited to the industrially advanced nations. In China a vigorous family planning policy stressing one-child families has led to more rapid graying than is taking place in many other countries. Estimates indicate that by the year 2040, fully 35 percent of the population could be over the age of sixty. This is five times the present ratio.⁴¹ The dilemma facing Chinese leaders is that the one child per family policy, made necessary in order to preserve some semblance of equilibrium with nature, has resulted in an aging population long before enough economic growth has taken place to support extensive social programs. Similar long-term problems likely will be faced by the former socialist coun-

tries of Central Europe where a demographic transition has been completed without an accompanying period of rapid economic growth.

Adding future retirement and medical burdens associated with graying together, it is very likely that the generous systems of social protection that evolved in an era of expansion and exuberance are going to increasingly be the cause of social insecurity and the subject of political controversy. Unfunded and underfunded pension systems and growing medical care costs will place heavy demands on smaller workforces in more slowly growing economies. Since future generations do not vote, one of the first casualties may well be education and other programs for the dwindling number of politically unprotected young people. It is somewhat ironic that on the southern side of the demographic divide it is the large and growing number of young people that poses a threat to stability while on the northern side it is the growing number of retired persons that presents a similar challenge.

To summarize, aging patterns are likely to affect future ecological security in a number of ways. Already, it could be argued, graying countries are less enthused about getting into military adventures requiring significant manpower. In the future there is the prospect of social conflict over generous entitlement programs. And graying countries are likely to be at a competitive disadvantage in international economic competition.

The Hazards of Differential Growth

While rapid population growth frequently contributes to ecological insecurity by disrupting the human equilibrium with nature, patterns of differential population growth among societies can be a precipitant of violent conflict. Population pressures often force people from high pressure areas of rapid growth to neighboring low pressure areas of lesser growth. Such differentials can precipitate conflict within states shared by two or more ethnic populations, or can create similar conflict pressures among states.

Leaders of states with low population growth rates often perceive themselves to be potential targets of rapidly growing neighbors. Israel, with an annual rate of natural population increase of 1.5 percent, is threatened by Arab neighbors with populations growing at between three and four percent. Israel has compensated for this perceived imbalance by encouraging large-scale immigration, particularly from the former Soviet Union. This, in turn, has increased insecurity among Palestinians in the West Bank and Gaza areas who fear that the migrant influx will continue to increase pressure on their lands. As former Israeli Prime Minister Shamir once put it succinctly, "A big immigration needs a big Israel."⁴² Similar fear dynamics operate within countries. In countries as diverse as Rwanda, India, Somalia, and Canada, friction between differentially

growing ethnic and religious groups can contribute to political instability, conflict, or even massacres.

The rapid growth of Islamic populations compared to their non-Islamic neighbors is a growing source of future instability. There are now 40 countries in which more than half of the population is Islamic, and another seven in which Moslems are a very significant minority (25-49 percent). In recent years these 47 countries had a population growth rate of 2.8 percent annually, while their non-Islamic neighbors in the less-industrialized world were growing at only 2.3 percent.⁴³ Given a seeming increase in Islamic fundamentalism in certain countries, neighbors of Islamic nations are somewhat insecure in the face of these burgeoning populations.

The unstable situation in the territory of the former Soviet Union offers a vivid example of the pressures of differential population growth. During the 1980s, the population of the Russian Republic was growing at only 0.7 percent annually while the populations of the Turkmen, Uzbek, Kyrghish, and Tajik Republics were growing at between two and three percent. Furthermore, 17 percent of the population of the former Soviet Union was Islamic and this portion was growing at four times the rate of the Russian population.⁴⁴ The sporadic violence that continues to occur in this part of the world is at least partially a reflection of the persisting differential growth rates among the ethnic populations of the region.

Even within the United States, although violent conflict based on differential population growth is unlikely, it will be an important force in re-shaping the political map over the next few decades. The white portion of the population, traditionally controlling the two major political parties, is nearing zero population growth while minority populations, reinforced by immigration, are growing much more rapidly. This demographic shift is of great interest to both major political parties as they reassess traditional bases of support.

Differential population growth will also be responsible for significant shifts on a global scale. By the year 2025, there will be six people living South of the demographic divide for every person in the industrialized North.⁴⁵ The less industrial countries will have young, growing, and potentially restive populations while industrial ones will be stable, older, and more likely to be conservative. Various new challenges to global stability are likely to come from growing populations, radical doctrines, and revolutionary movements arising within large poverty pockets in the South, and it will be increasingly difficult for politicians in the North to understand or respond to these needs and challenges.

POLICIES FOR ECOLOGICAL SECURITY

Building ecological security requires developing

and promoting global policies designed to restore equilibriums among human populations, between human populations, with nature, and with other organisms. It implies re-directing defense spending from treating the visible symptoms of ecological insecurity to attacking the causes, many of which are closely related to patterns of demographic change. It is much more cost-effective to spend a billion dollars promoting family planning or AIDS education in potentially unstable countries than it is to engage in expensive police actions to restore order later.

Promoting ecological security requires a “paradigm shift” in foreign and defense policies that can only be very briefly explored here. Dealing with rapid population growth is an obvious place to begin. But attempts to confront this issue are politically difficult because many politicians worldwide are unwilling to take on the pro-natalist values that were originally shaped during a period of human history when the future well-being of Homo sapiens was ensured through vigorous reproduction. As John Weeks has suggested, “It must be remembered that all nations that have survived to the present day did so by overcoming high levels of mortality.”⁴⁶ Thus, U.S. population policy has vacillated from one administration to the next, as have those of many of the less industrialized countries.

One of the biggest barriers to dealing with population growth as a cause of ecological imbalances is an emphasis on rights at the expense of responsibilities. Instead of tackling tough responsibility issues of value and behavior change required to restore global population equilibrium, rights issues now dominate the agenda. Thus, at the 1994 U.N. International Conference on Population and Development, the program was dominated by interest groups pressing their causes at the expense of resolute action on family planning. As Lindsey Grant has put it, nowhere does the U.N. “Programme state that population growth should stop. Nowhere are growing countries urged to give high priority to stopping (or even slowing) population growth.”⁴⁷

Another roadblock to resolute action is persistent quibbling among population scholars over the depth and causes of these problems. While there is a preponderance of scholarly opinion that the world’s population is much too large, many academic hairs have been split over its optimum level.⁴⁸ Pro-natalists, such as economist Julian Simon, only muddy the waters when they declare that the human population is the ultimate resource and “that population growth, along with the lengthening of human life is a moral and material triumph.”⁴⁹ These population “optimists”, for the most part living in comfort in the industrial countries, can

ignore the suffering of the growing numbers of starving and malnourished in the less affluent neighborhoods on the disadvantaged side of the demographic divide.

Finally, the timid and contentious domestic and international politics of family planning also hinder efforts to shape coherent policies to deal with population growth. A political split between North and South first became apparent in 1974 at the World Population Conference in Bucharest, Romania. The industrial countries, led by the United States, sought the adoption of a World Population Plan of Action which would have made family planning a central part of economic development efforts. But many leaders from less industrialized countries portrayed this as an intrusion into internal affairs and argued that economic development must take priority since it is the “best contraceptive.” This split persisted over the next decade and surfaced again at the 1984 International Population Conference in Mexico City. And, at the Rio de Janeiro “Earth Summit” of 1992 and the 1994 Cairo conference, the core population issue was very much ignored because of pressure from religious institutions, various women’s groups, and politicians from poor countries who blamed the bulk of the world’s environmental ills on the industrial world.

Discontinuities in U.S. policy are also part of the problem. The United States has historically been at the forefront in global family planning activity.

Throughout the 1940s, noted demographers such as Dudley Kirk, Frank Notestein and Kingsley Davis called attention to the impact of colonialism on population growth. These insights influenced U.S. policy and every Secretary of State from Dean Rusk to George Schultz. The United States began to encourage population limitation as part of development policy during the Kennedy Administration and this emphasis persisted through the Carter Administration.⁵⁰ Since the mid-1980s, however, this support has been wavering, held hostage to increasingly bizarre domestic politics. In 1984, the United States astonished family planning advocates when former Secretary of State James Baker, addressing the International Population Conference in Mexico City, declared population growth to be a natural phenomenon that neither advanced nor hindered economic growth.⁵¹

The United Nations Population Fund is the largest multilateral agency providing family planning services, with programs in 130 countries. The United States used to fund about 20 percent of the UNFPA budget. Although the UNFPA has policies that preclude the funding of programs associated with abortion, in 1985 the agency gave a \$10 million grant to China—a country

One of the biggest barriers to dealing with population growth as a cause of ecological imbalances is an emphasis on rights at the expense of responsibilities

that includes abortion as a method of family planning—to support maternal and health care as well as contraceptive research. The Reagan Administration, seeking to placate domestic anti-abortion forces, seized upon this as an issue and began withholding the U.S. contribution to UNFPA.

When George Bush came into office in 1989, there was hope that the U.S. contribution to UNFPA would be restored. Bush had been an outspoken advocate of family planning in the 1960s and 1970s, and even advocated making contraceptives available worldwide on a “massive scale.”⁵² When he was appointed Ambassador to the United Nations in 1971, Bush called existing population trends a prescription for tragedy and chaos, and expressed the hope that greater U.N. efforts would have a major impact.⁵³ But family planning assistance under Bush continued to be hostage to political infighting, and the cuts were not restored. The Clinton Administration has taken a more vigorous position on population growth issues, but a Republican Congress has continued to limit administration flexibility.

In 1989, 79 countries, including the United States, met in Amsterdam and drew up a plan to stabilize population growth and to extend the availability of contraceptives to 75 percent of the world’s women. The Amsterdam Declaration called for worldwide family planning assistance to increase to \$10.5 billion by 1991, a target that was never reached. This amounted to four percent of the total foreign assistance given by industrial countries. Moving rapidly to reach the goals set forth in the Amsterdam Declaration would certainly be a major step forward in slowing global population growth. The United States could carry most of the financial burden of such a program by shifting funds from exotic weaponry to foreign assistance.

The Clinton Administration has made U.S. population policy more proactive and given it a higher profile. Clinton restored the U.S. contribution to UNFPA funding early in his first administration. Responsibility for population policy has been centralized in the newly created position of Under Secretary of State for Global Affairs.⁵⁴ Yet, as part of the 25 percent cut Congress made to the foreign assistance budget in 1996, the resources for international population assistance were cut by 35 percent. Further disbursement policies restricted new 1996 funding resources to 13 percent of 1995 levels.⁵⁵ Hence, despite executive branch willingness to pursue international efforts at slowing population growth, the impact of U.S. leadership is limited by diminishing resources.

Slowing down the global movement of people is also difficult, but stemming population growth could prevent many of the “low-intensity” conflicts that produce bumper crops of migrants and refugees. Stemming the influx of people into the cities of less industrialized countries requires local action and, for the most

part, has not been a high priority for international donors. The situation could also be ameliorated to some degree by successful family planning efforts. Future sustainable development requires creative alternatives and educational efforts to keep people from migrating to already dangerous, overcrowded, and polluted cities. Such alternatives might include redirecting economic growth to smaller cities, as well as increasing economic incentives to farmers in order to keep more people in agricultural occupations.

The impact of graying in the United States is just now surfacing, and resolute action will be required to deal with it. Notions that more incentives should be made available for having children or alternatively that the immigration floodgates should be opened, can be quickly dismissed as ecologically counterproductive. New definitions of and requirements for retirement are needed as well as greater understanding of the burdens to be shouldered by coming generations. But at present, even small changes in the construction of the consumer price index are contentious because of their social security implications.

Unfortunately, as the countries on the northern side of the demographic divide grapple with significant budget deficits, they are also much less likely to provide the types of family planning and economic assistance necessary to help the less industrial countries spring out of their demographic traps. Coping with these emerging and linked demographic uncertainties will require anticipatory thinking on an unprecedented scale. These challenges call for a new approach to future policy-making stressing ecological security, the human interest, and the welfare of future generations.

ENDNOTES

¹ These trends have been well documented in previous volumes of this journal. See also Geoffrey Dabelko and P.J. Simmons, “Environment and Security: Core Ideas and U.S. Government Initiatives,” *The SAIS Review* (Vol. 17, Number 1, 1997).

² See Alfred Crosby, *America’s Forgotten Pandemic: The Influenza Epidemic of 1918* (Cambridge: Cambridge Univ. Press, 1990).

³ See Thomas F. Homer-Dixon, “On the Threshold: Environmental Changes as Causes of Acute Conflict,” *International Security* (Fall, 1991); Thomas F. Homer-Dixon, “Environmental Scarcities and Violent Conflict: Evidence from Cases,” *International Security* (Summer, 1994).

⁴ See Nazli Choucri and Robert North, *Nations in Conflict* (San Francisco: W. H. Freeman, 1975); Nazli Choucri, *Population Dynamics and International Violence* (Lexington, Mass.: D. C. Heath, 1974).

⁵ See J. Donald Hughes, *Ecology in Ancient Civilizations* (Albuquerque: University of New Mexico Press, 1975).

⁶ See Ben Wattenberg, *The Birth Dearth* (New York:

- Pharos Books, 1989); The World Bank, *Averting the Old Age Crisis* (New York: Oxford University Press, 1994).
- 7 See Anders Wijkman and Lloyd Timberlake, *Natural Disasters: Acts of God or Acts of Man* (London: Earthscan, 1984).
- 8 "1996 World Population Data Sheet."
- 9 *World Resources 1992-93* (New York: Oxford Univ. Press, 1992), p. 30.
- 10 Jonathan Randal, "ADwindling Natural Resource," *The Washington Post*, May 13, 1992; See also Peter H. Gleick, "Water and Conflict: Fresh Water Resources and International Security," *International Security* (Summer, 1993).
- 11 *World Resources 1996-97* (New York: Oxford University Press, 1996) Table 10-1.
- 12 United Nations Development Program, *Human Development Report 1995* (New York: Oxford University Press, 1995) p. 14.
- 13 United Nations Development Program, *Human Development Report 1992* (New York: Oxford Univ. Press, 1992), p. 35.
- 14 Data from The World Bank, *World Development Report 1995* (New York: Oxford University Press, 1995) Table 1.
- 15 See Dennis Pirages, "Political Stability and Conflict Management," in Ted Gurr, ed., *Handbook of Political Conflict* (New York: The Free Press, 1980), pp. 432-441.
- 16 "The Floodgates are Bursting," *Business Week* (Sept. 9, 1991); See also Myron Weiner, *The Global Migration Crisis: Challenge to States and to Human Rights* (New York: HarperCollins, 1995) Table 5.
- 17 Susan Kalish, "Immigration: IRCA Tops Out," *Population Today* (November, 1992).
- 18 See Doris Meissner, "Managing Migrations," *Foreign Policy* (Spring, 1992).
- 19 United Nations figures cited in Hal Kane, *The Hour of Departure: Forces that Create Refugees and Migrants* (Washington: Worldwatch Institute, 1995) pp. 18-19, 26.
- 20 *The Hour of Departure*, pg. 24.
- 21 Data from The World Bank, *World Development Report 1992* (New York: Oxford Univ. Press, 1992), Table 31.
- 22 Leon Bouvier, "Planet Earth 1984-2034," *Population Bulletin* (Feb., 1984).
- 23 *World Resources 1996-97*, pg. 3.
- 24 Figures from *World Resources 1988-89* (New York: Basic Books, 1988), pp. 36-37.
- 25 *World Resources 1988-89*, p. 37. See also *World Resources 1996-97*, p. 12 and references cited therein.
- 26 Ecological footprint is the term used to describe the impact of demand for resources on surrounding environments in Mathis Wackernagel and William Rees, *Our Ecological Footprint* (Philadelphia: New Society Publishers, 1996).
- 27 *World Resources 1988-89*, p. 45; *World Resources 1996-97*, pp. 64-65.
- 28 *World Resources 1996-97*, pg. 59.
- 29 See Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World out of Balance* (New York: Farrar, Straus and Giroux, 1994).
- 30 World Health Organization, *The World Health Report 1995* (Geneva: World Health Organization, 1995) Chapt. 1.
- 31 John Bongaarts, "Global Trends in AIDS Mortality," *Population and Development Review* (March, 1996).
- 32 See Dennis Pirages, "Microsecurity: Disease Organisms and Human Well-Being," *The Washington Quarterly* (Autumn, 1995).
- 33 Taken from "Emerging Viruses, Emerging Threat," *Science* (January 19, 1990).
- 34 Figures from "1996 World Population Data Sheet."
- 35 Quoted in Steven Mufson, "Debt Poses Politicians Staggering Challenges," *The Washington Post* (September 29, 1992).
- 36 *Aging Populations: The Social Policy Implications* (Paris: OECD, 1988), p. 22.
- 37 *Aging Populations: The Social Policy Implications*, p. 32. The German figures are for West Germany.
- 38 Linda Martin, "The Graying of Japan," *Population Bulletin* (July, 1989), p. 6.
- 39 Japan Institute of Population Problems, *Population Projections for Japan: 1985-2025* (Tokyo: Ministry of Health and Welfare, 1987).
- 40 Fred Hiatt, "Japanese Robots Reproducing Like Rabbits," *The Washington Post* (January 2, 1990).
- 41 Jean-Claude Chesnais and Wang Shuxin, "Population Aging, Retirement Policy and Living Conditions of the Elderly in China," *Population* (Volume 2), p. 7. See also, H. Yuan Tien et al., "China's Demographic Dilemmas," *Population Bulletin* (June, 1992).
- 42 Quoted in Jackson Diehl, "Exodus of Soviet Jews May Alter Israel's Fate," *The Washington Post* (June 10, 1990).
- 43 John Weeks, "The Demography of Islamic Nations," *Population Bulletin* (December, 1989), p. 13.
- 44 Figures are from Central Intelligence Agency, *USSR: Demographic Trends and Ethnic Balance in the Non-Russian Republics* (Washington: April, 1990).
- 45 "1996 World Population Data Sheet."
- 46 "The Demography of Islamic Nations," p. 18.
- 47 Lindsey Grant, *Juggernaut: Growth on a Finite Planet* (Washington: Island Press, 1996) p. 240.
- 48 See Paul Ehrlich and Anne Ehrlich, *The Population Explosion* (New York: Simon and Schuster, 1990); William Catton, *Overshoot: The Ecological Basis for Revolutionary Change* (Urbana, Ill.: Univ. of Illinois Press, 1980); S. Fred Singer, ed., *Is There an Optimum Level of Population?* (New York: McGraw-Hill, 1991); Robert Goodland, "The Case that the World has Reached Limits," *Population and Environment* (Spring, 1992).
- 49 Julian Simon, *The Ultimate Resource* (Princeton: Princeton Univ. Press, 1981), p.9.
- 50 See Peter Donaldson, "On the Origins of the United States Government's International Population Policy,"

Population Studies (November, 1990).

⁵¹ Reported in Chet Atkins, "International Family Planning: Where's the Leadership?" *The Washington Post* (August 27, 1991).

⁵² Jessica Mathews, "World Population: As the President Turns," *The Washington Post* (November 1, 1990).

⁵³ Richard Gardiner, "Bush, the U.N. and Too Many People," *New York Times* (September 22, 1989); See also Barbara Crane and Jason Finkle, "The United States, China, and the United Nations Population Fund: Dynamics of U.S. Policymaking," *Population and Development Review* (March, 1989).

⁵⁴ Alex de Sherbinin, "World Population Growth and U.S. National Security," *Environmental Change and Security Project Report*, Issue 1 (Spring, 1995).

⁵⁵ Alene Gelbard, "Population Issues and the U.S. Foreign Policy Community," Paper in the Population Reference Bureau briefing kit *Global Population: The Facts and The Future* (Washington, DC, 1996).

5. Dennis Pirages, Demographic Change and Ecological Security, in 3 ENVTL. Change and security project rep. 38 (1997). 6. kenneth e.f. watt, principles of environmental science 1 (1973). The continued ecological security of any human population depends upon maintaining an evolutionary equilibrium in four relationships: (1) between the size and demands of human populations and the sustaining physical environment; (2) between the size and growth patterns of neighboring human. 10. nazli choucri & robert C. north, nations in conflict 16(1975). Ecological Security moves the analysis of global environmental and resource issues to the next level by developing an 'eco-evolutionary' perspective for analyzing emerging problems associated with rapid globalization. Preserving future ecological security will depend upon maintaining dynamic equilibriums among human populations, and between them and pathogenic microorganisms, other species, and the sustaining capabilities of nature. This eco-evolutionary framework is used to anticipate and analyze emerging demographic, ecological, and technological discontinuities and dilemmas associated with rapid globalization.

TABLE OF CONTENTS FEATURES

UNPACKAGING THE ENVIRONMENT Kenneth H. Keller 5 ENVIRONMENT IN THE U.S. SECURITY DEBATE: THE CASE OF THE MISSING ARCTIC WATERS Franklyn Griffiths 15 ECOLOGICAL SECURITY AND MULTINATIONAL CORPORATIONS Katrina S. Rogers 29 DEMOGRAPHIC CHANGE AND ECOLOGICAL SECURITY Dennis Pirages 37 HUMAN POPULATION PROSPECTS: IMPLICATIONS FOR ENVIRONMENTAL SECURITY Robert Engelman 47. SPECIAL REPORTS NATO CCMS P ILOT STUDY: ENVIRONMENT AND SECURITY IN AN INTERNATIONAL CONTEXT Alexander Carius, Sebastian Oberthür, Melanie Kemper, Detlef Sprinz Ecologic - Centre for International and Eur