

SPECIAL REPORT

Speaking Truth to Silence: There's Still a Place for the Demographic Case

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Introduction

During two days in late July 2005, the Maradi refugee camp in Niger took in hundreds of malnourished children—and one truck just half filled with food supplies (Koinange, 2005). The United Nations World Food Program announced it would begin airlifting 23,000 tons of food to Niger, where Giancarlo Cirri, the program's director, reported “some of the worst hunger I have ever witnessed” (CNN, 2005). But the promised food was slow to arrive.

Less than 2,000 miles away, impoverished rural communities in northern Kenya worked to recover from a brutal bloodletting in which cattle rustlers killed villagers, who killed right back in reprisal. At least 80 people died.

“Explosive population growth has increased pressure on land, forcing farmers to sell crops on ‘corridors’ traditionally used by migrating herders for access to rivers, further stoking conflict,” commented Reuters reporter Ed Stoddard (2005) in a news story about a spate of deadly conflicts in sub-Saharan Africa related to land scarcity.

“This is the age-old farmer/herder conflict, the old Biblical tale of Cain and Abel. The

struggle over resources between people who are using them in different ways,’ said Henri Josserand, the head of the UN’s Food and Agriculture Organization’s Global Information and Early Warning System,” Stoddard reported.

Thus did the journalist and the UN official speak to an issue only occasionally addressed in most recent discussions of hunger and conflict in developing countries: the human and environmental impact of population growth that, contrary to some perceptions, continues in most of the world. In this article I will first consider this issue in the context of these events in Niger and Kenya. Second, I will briefly survey some current views and approaches in the non-governmental, academic, and international communities. Third, I will address four questions I was asked by a task force reviewing population issues for the David and Lucile Packard Foundation:

- What are the connections among reproductive health, education, economic opportunity, and natural resources?
- Does preservation of Earth’s natural systems remain a viable rationale for programs designed to slow population growth?
- What kinds of message frames are most effective for influencing policymakers involved with decision-making around resource allocations for foreign aid for reproductive health in the case of donor countries, and public resources for reproductive health

- in developing countries?
- What is the connection between the demographic transition and political stability in developing countries?

Finally, I will suggest some ideas and directions for future population-environment (PE) funding and work.

Population Trends: Underrated, Uncelebrated

Increasing population density is, of course, hardly the only or most immediate factor in Niger's hunger or Kenya's land conflicts. If there is any consensus on population's influence on human affairs and the natural environment, it is that its role is complex, indirect, and inevitably entangled with other factors (Marquette & Bilsborrow, 1999). For decades, the poorest of Niger's rural population have suffered severe hunger periodically, and the 2005 crisis has been blamed in part on free-market policies that the country's government adopted under pressure from the World Bank (Timberg, 2005; Vasagar, 2005). Based on benchmarks developed by Population Action International (PAI) for population-related shortages of critical natural resources, for example, Niger is neither water-stressed nor short of cropland on a per capita basis.¹ It does have little forested land, however, and its projected population growth would make it water-stressed within roughly a decade.

If Nigerian and Kenyan farmers were as productive as those of Iowa or Thailand, and if their governments were comparably effective and accountable, it is reasonable to presume that none of this would be happening today. But are these "non-demographic factors" likely to improve enough to negate the impact of continuing population growth in Niger and Kenya? If high food prices in the West African regional economy are a factor in Niger's hunger, for example, might those prices stem in part from a dynamic in which demand is rising faster than supply, a dynamic that weak governments are unable to prevent or mitigate? Those of us con-

cerned with population and reproductive health should be trying to find answers to questions like these.

The historic slowing of the world's population growth in recent years is in large part due to four decades of private and public donor assistance to the international family planning movement. Most current analysts fail to ask why this demographic revolution is happening—and then assume that it is now complete or soon will be. It is neither. The planet's human population still gains more than 200,000 people a day, a quarter of them in Africa, where the fastest growth occurs.² Yet well over half the daily increment is Asian, enlarging populations in China and much less stable regions, including the Middle East, South Asia, and the Philippines. More than 5,000 a day are born in the United States, which, like many developed and developing countries, also gains a few thousand people each day who were born in other countries, on other days.

From governmental policy papers to the pages of newspapers, however, ongoing population growth is notoriously hard to make exciting, fresh, or worth exploring. Demographic pundits take more interest in population aging. Environmental pundits take more interest in consumption. Poverty and conflict pundits take more interest in anything *but* the dynamics of human population. The reasons are understandable: population has always been controversial, and, frankly, its relation to human and natural well-being *is* complex, indirect, and inevitably entangled with other factors. What makes it worth pursuing by advocates and donors, however, is arguably more relevant than ever: slower population growth—yielded by women and couples bearing the number of children they intend—has major cross-cutting benefits that multiply with time. It is hard to imagine another achievable development trend with so much long-term promise for environmental conservation and global stability.



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Still Waiting for Demographic Transition

News accounts of Niger's hunger crisis in summer 2005 uniformly failed to note that the small nation is the caboose on the train of global demographic transition. While most countries have moved significantly toward longer lifespans and smaller families, Niger's total fertility rates (TFR) and life expectancy have barely budged since independence in 1960. The country has the world's highest TFR (7.5 children per woman) and second highest infant mortality rate (nearly 15 percent). Because so many of its infant girls fail to reach the median reproductive age, Niger's replacement fertility rates are the third highest in the world, at 3.15 children per couple. Only 4.3 percent of married women of reproductive age use modern contraception, the seventh lowest proportion worldwide. Despite relatively low HIV/AIDS prevalence (less than 2 percent of reproductive-age adults), a baby born in Niger is likely to die before reaching age 45, the 18th lowest life expectancy in the world (UN Population Division, 2005).

This dismal demographic and health profile hardly condemns the impoverished country to perpetual famine. Niger's government and institutions are weak, and a world obsessed with terrorism and a teetering global economy puts little priority on donating food or providing assistance to Niger's 12 million to 14 million people.³ Foreign investment is close to nonexistent, and the country has no pool of emigrants to send home remittances. Government donors provided just \$5.8 million annually—one dollar for each person of reproductive age—for population activities from 1992 to 2002 (UN Population Fund, 2004).

Economists, journalists, and other analysts who are counting on an "expected" world population of nine billion in 2050, based on the United Nations' medium projection, aren't paying attention to Niger and countries like it. Total fertility rates have barely edged downward for the past six decades, but despite the current low level of donor and government investment in

family planning, UN demographers project future Nigerien population based on the assumption that total fertility will fall to less than half its current level over the next four decades. This could happen, but there is no compelling reason to expect it to do so, absent major increases in family-planning assistance that are nowhere in sight. The UN's "medium" world population projection, which drives most futurist thinking, is based on the assumption that the developing world as a whole will reach replacement fertility before mid-century. But UN demographers lack the resources to incorporate country-specific fertility trends, much less those related to population policy and funding, in their assumptions. The experience of countries like Niger undermines the expectation that world population trends will follow the "expected" path.

A landlocked country of subsistence farmers, Niger scarcely registers on the priority lists of major foundations and governments. But its direction in 2005 nonetheless speaks to the importance of philanthropy and government aid in enabling all people to choose the timing of childbirth. Niger's hunger crisis and Kenya's land conflict are recent, news-making illustrations of a growing set of problems that closely relate to the complex relation between human population dynamics and the natural environment. These problems are more urgent than mere "population impacts on the environment," because they deal with death from hunger and violence.

It is hard to find consensus views on population's connections to natural resources, the environment, security, and economics. The field remains not only controversial but marginal in scientific and policy discussions. Its profile rose somewhat in the 1990s but has fallen since. Most in the small community of scholars, policy analysts, and activists who ponder these connections agree that the nexus of human population and the natural environment is critically important to humanity's future. They agree that population dynamics are some of most important factors in environmental change. Many also agree that govern-



Madagascar: mothers stand in line to have their children weighed (Courtesy of USAID)

ments need to act to make family planning and reproductive health care genuinely accessible to all, along with more education and better economic opportunities for girls and women. It is a logical, practical, and consistent message—and for understandable reasons, it has gone stale.

The Rise and Fall of NGO Interest

Philanthropic funding for PE research and advocacy rose sharply in the 1990s and then fell almost as dramatically in the next decade (Gibbs, 2003). Not surprisingly, PE activity by non-profits also fell in tandem, but whether this was a cause or an effect (or both) of the drop in funding is hard to discern. One likely explanation: despite good efforts and a few logical sound bites, a compelling and easily communicated advocacy case for funding family planning activities worldwide failed to materialize. Most environmentalists found the complexities of the nexus and its sensitive connections to gender, North-South tensions, and immigration too daunting and too “far from mission” to embrace. Population and reproductive health groups had, for obvious reasons, invested more

in the effort (and many continue to pursue it). But all of us are hampered by the palpable decline in interest from most quarters.

The PE connection appears to be simultaneously obvious *and* complicated—and just not that interesting to most people. The widespread misperception that population growth is slowing so fast it will soon reverse course “on its own” undermines advocacy for policies that would slow population growth. The many other benefits of these policies—better access to family planning services, more girls in school, more women working and gaining access to credit—help, but not enough.

This loss of interest goes beyond the environmental connection to population. The key concept of reproductive health, a triumph of international agreement at the United Nations International Conference on Population and Development (ICPD) in 1994, failed to gain a single mention in the UN’s Millennium Development Goals (MDGs) six years later.⁴ Reproductive health advocates are now working to clarify the concept’s importance in the supporting materials for the MDGs, but the original omission can scarcely be waved away (Crossette, 2004b). Within the already-margin-

alized field of reproductive-health-as-development, the demographic arguments that held sway in past decades are virtually silent. A few exceptions, such as the work of Jeffrey Sachs⁵ and Jared Diamond (2004), stand out as welcome signs of life in the demographic case.

Interestingly, the debate between “population-environmentalists” and advocates for women’s rights and health that characterized much of the 1990s has largely fallen silent. Betsy Hartmann, director of the Hampshire College Population and Development Program, still speaks occasionally on the topic. The Corner House, a British nonprofit, recently published a critique of the idea that “youth bulges” (disproportionately large numbers of youth) may contribute to civil conflict (Hendrixson, 2004). Most other women’s rights and health advocates uncomfortable with demographic messages know they have won the skirmish and see no need to keep fighting. Mentions of demographic change are all but absent from most intergovernmental and NGO meetings on sexual and reproductive health and rights.

The PE linkage does thrive in a humbler setting: the few dozen community conservation and development projects in which reproductive health is combined consciously with natural resource management. This operational linkage, difficult to explain and even harder to monitor and evaluate, has not taken the community-development world by storm. Some projects have disappointed. But in the projects’ marginalized rural communities, women and their families are finding the synergy that personal management of fertility, health, and the local environment appears to create.

New directions in the NGO arena appear promising. Many groups working on this linkage strategically include health as well, turning the “PE” acronym into the less demographically edgy “PHE.” This explicit inclusion makes sense, because the pivotal center of the PE connection is human health and well-being. Environmental groups such as the National Audubon Society, the National Wildlife Foundation, the Sierra Club, and the Izaak Walton League continue small PE programs.

Most of the major population NGOs maintain at least some activity in this arena.

Innovative approaches could bring clarity to new audiences. Roger-Mark De Souza, technical director of the Population Reference Bureau’s (PRB) population, health, and environment program, reports that PRB uses “new points of entry” to bring policymakers and communities to the PE linkage (personal communication, August 10, 2005). Constituencies are approached on such issues as poverty alleviation, food security, and disaster mitigation—especially in the wake of the December 2004 tsunami—and then gradually introduced to reproductive health, the environment, and their relationships to these issues. “You could see that the destruction of the tsunami was exacerbated by unsustainable management of natural resources, migration, and other population dynamics such as age structure,” De Souza says. “None of this, of course, was well documented.”

Researchers: Let a Thousand Flowers Bloom

Common perceptions about population and the environment have impeded the production of respectable research. The academic community associates interest in population growth with predictability and shrill advocacy, and understandably wants to distance itself from these. There have been no overviews of population and the environment since the 1990s, and only one balanced but tame scientific policy statement (i.e., Global Science Panel on Population and the Environment, 2001).⁶

“The field has matured,” notes Alex de Sherbinin, coordinator for the Population and Environment Research Network, a project of the International Union for the Scientific Study of Population (IUSSP; personal communication, August 3, 2005). “More scientists are reluctant to engage in Paul Ehrlich-type ‘population-bomb’ discourse. If anything, they take pains to go the other direction and say population is a non-factor.” Scholars are increasingly taking apart and analyzing the components of

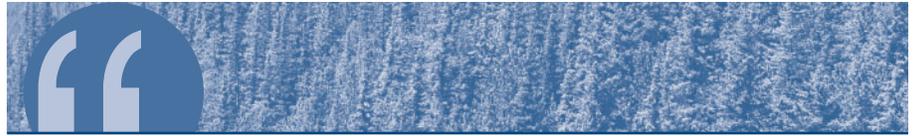
the population-environment linkage in what de Sherbinin calls a “nuts-and-bolts approach.”

“When you say population and environment, what does it really mean? People are now disaggregating population into age structure, household characteristics, gender, income. I think it’s very exciting work.” Some researchers decry the failure to develop any specific theory of population and the environment—or even to agree on key methodologies such as those that produce widely cited population projections. De Sherbinin appreciates the diversity and feels it may lead to better understanding of the linkage: “I say let a thousand flowers bloom.” But he acknowledges it has been harder to gain funding for some of this work from foundations interested in policy advocacy, or at least policy relevance.

“It’s a nuanced approach that I think may yield better understanding of what the policy levers are,” de Sherbinin says. “We’re trying to make population and environment relevant to policymakers beyond simply saying that you need to spend more money on family planning or environmental conservation. But the diversity of research results sometimes makes it hard to fit into the traditional policy frame.” In this case, what may be good for scientific respectability—population and environment sessions are now universal events at meetings of the IUSSP and the Population Association of America—may be less useful for advancing the population and reproductive health policy agenda.

PE Policy: Exceptions Prove the Rule, but Hint at Hope

In the absence of clear interpretations either from academia or NGO advocates, it is hardly surprising that policymakers rarely have much to say on the population-environment linkage. In the United States, the advocacy communities for both international reproductive health and the environment feel besieged as the White House and Congress take their cues from the religious and economic right. But even in European capitals and in the offices of the World Bank and the United Nations, only the



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bravest of bureaucrats acknowledge intersections between population and the environment. The linkage is a marginal topic embedded in a marginal issue, population growth, which itself is the victim of low levels of both public and elite interest. Europe faces the challenges of aging and declining populations and understandably feels a heavy hand on rapid population growth in developing countries would come off as arrogant and “post-colonial.” Universally, the risks of—and responses to—ongoing population growth have been almost impossible to bring to the world stage since the ICPD in 1994, despite high hopes that the rights and development framework emerging from the conference would make it easier to address demographic change.

Half of the eight MDGs (empower women, reduce child mortality, improve maternal health, and combat HIV/AIDS) relate strongly to reproductive health, despite the lack of mention. The seventh goal—“ensure environmental sustainability”—is a logical platform for considering demographic-environmental connections. Some UN supporting language for the MDGs noted the contribution of population growth to water scarcity, urban crowding, and increased greenhouse gas emissions. Population and total fertility, however, were

dubbed “general indicators of development,” isolated from achievement of any of the goals.

The linkage of population growth to environmental and social problems gained a bit more attention from the Commission for Africa (2005), launched by British Prime Minister Tony Blair and made up primarily of African representatives. The panel’s 461-page report mentioned the rapid demographic growth the continent has experienced in the last few decades, connected this growth in general terms with many of Africa’s development challenges, and called at several points for attention to reproductive health access and more education of girls. The report’s attention to these linkages served to underline that the linkage remains alive in international affairs, even if it is rarely visible. Difficult as it is for most policymakers and analysts to take on directly, the linkage may be too powerful and obvious to completely escape mention for long.

In an even more surprising acknowledgment of the PE connection, in 2002 Congress directed the U.S. Agency for International Development (USAID) to include in its allocation of family planning assistance money “areas where population growth threatens biodiversity or endangered species.” (H.R. 2506, 2001). Despite the generally hostile environment in Washington for almost all things population *or* environment, this language became appropriations law and has now survived three funding cycles. Perhaps no other recent development better illustrates the potential for application of the population-environment linkage to improve human and environmental conditions worldwide. The legislation led directly to the founding in 2002 of a PHE program within USAID to fund projects providing reproductive health services in and around biodiversity “hotspots,” areas of high biological diversity under direct human threat. That program, in turn, proved complementary to private philanthropic funding for reproductive health in high-priority conservation countries.

The USAID program already has provided an estimated \$9 million to projects linking natural resources management and improved

access to reproductive health care in eight biodiversity-rich countries: Madagascar, the Philippines, Kenya, Tanzania, Guatemala, Nepal, Cambodia, and the Democratic Republic of the Congo. USAID country missions in the Philippines, Nepal, Tanzania, Madagascar, and Cambodia have each added to the total by committing \$200,000 to \$300,000 for integrated projects in their countries. And they have added a cross-sectoral focus to their own strategies for addressing such multifactor challenges as HIV/AIDS and fragile states. Many grantees—largely conservation organizations such as World Wildlife Fund-U.S., Conservation International, and the Jane Goodall Institute—had recently lost the support of private foundations for similar work, so the U.S. government money came not a moment too soon.

Are these projects valuable, or do they merely bring a dollop of added family-planning access to a few thousand couples among the world’s billions? A recent review by independent consultant John Pielemeier of 17 projects supported by the Packard Foundation and USAID concluded that most were achieving results within 9-36 months, producing reproductive health and environmental outcomes superior to those of single-sector interventions, and—critically—drawing boys and men to reproductive health care and women to natural-resource education and management.⁷ Such projects increase the acceptability of contraception by linking it to women’s need to manage their time in increasingly complex livelihood roles stemming from male migration. As an added benefit, project stories can teach the public and policymakers that reproductive health is an essential component in economic development and well-being in every corner of the world.

The future of this work seems uncertain, with USAID itself operating under an ongoing threat of international-assistance “restructuring.” Absent major change, however, the U.S. government will be the major funder of applied PE work in developing countries until major private donors return to this work.

The Four Questions: What Are the Connections?

Population size is the dominant determinant of the scale of humanity and its activities on a planet of finite space and resources. Consumption patterns also help determine this scale, especially when models of excess encourage societies and consumers to acquire at the expense of community, sustainability, and shared well-being. However, no variation in individual behavior could prove as decisive as the planetary imprint of 6.5 billion human beings, compared to that of the small numbers that characterized our species in prehistory. The actions societies take today can determine whether population growth ends in our lifetimes because birth rates fall, or in generations from now because death rates rise.

Universal access to decent family planning services, education for girls through at least secondary school, and a full array of economic and social opportunities for women would almost certainly bring global total fertility rates to replacement levels within two or three decades. Maybe they would go lower still. Population aging will challenge societies, but that challenge pales in comparison with those presented by advancing water scarcity, climate change, and the loss of nature itself. Without the peaking and decline of population that replacement or sub-replacement fertility will eventually produce, natural resource use is unlikely ever to be sustainable except for the worst of reasons: low availability and high prices that continually worsen as human numbers keep growing.

Is Preserving Natural Systems a Rationale for Slowing Population Growth?

In each of the Earth's major natural cycles or systems—renewable fresh water, carbon and climate, fertile soils, forests, fisheries, the oceans, coastal and marine areas, wetlands, and the biological diversity of life itself—the single biggest agent of change today is the scale of human

exploitation and use, and the biggest questions concern the future of that scale. Managing the global environment requires more appropriate behavior and technology. But a growing world requires constant effort to modify behavior and technology, and laws of diminishing returns undermine such strategies over time. No one knows when and at what levels human population will level off and begin to gradually decline, so no one can predict with confidence when the overall scale of human activity will begin to recede.

Some of these systems—climate and fisheries globally, and soils and fresh water in some countries—are now approaching crisis stage. The stories of Niger and Kenya illustrate the human dangers and tragedies associated with ignoring such crises. Trends in human energy use and settlement infrastructure (housing, transportation, and sanitation) are more worrisome today than they have been in decades or longer. Policies that result in slower population growth would produce expanding—not diminishing—returns over time.

What Messages Influence Policymakers?

The education of key policymakers (or their staffs) can produce change, even in a challenging policy climate. Each government includes at least a handful of potential leaders, and as the world's future grows more uncertain, more voters are likely to demand precautionary policy-making rather than business as usual. Balanced policy advocacy that combines good science with practical advice can be effective, even if sometimes overwhelmed by raw political maneuvering. No messages resonate with all policymakers, but many respond to such themes as:

- Encouraging women's contributions to their societies by reducing gender inequality and encouraging autonomy;
- Enabling children to survive by assuring the availability of safe water, adequate food, and clean air;



Those concerned about security should promote access to reproductive health, HIV/AIDS prevention, and other measures that tend to contribute to lower death rates and lower birth rates. It is too early, however, to say that this linkage between demographic transition and political stability is fully understood, much less accepted, among policymakers.

- Reducing rather than adding to the unfairness of life;
 - Helping those who want to help themselves; and
 - Leaving the planet and its living things no worse off than when we arrived.
- Low availability of cropland, encouraging young people to move to cities; and
 - Rapid urban population growth, stemming in part from the first two factors and providing locales for a critical mass of disaffected young people to organize for conflict.

At PAI, we have found that nothing convinces lawmakers like a visit to a family planning clinic in a developing country. There are risks in calling attention to national and local impacts of population growth, but it seems likely that Americans are feeling “population pressure” more acutely than ever in the rising prices of energy and housing. As these and similar discomforts continue, there may be new ways to relate the experience of voters to the actions of their elected officials that influence the course of world population and the global environment.

What Connects Demographic Transition and Political Stability?

In our report *The Security Demographic: Population and Civil Conflict After the Cold War*, Richard Cincotta, Daniele Anastasion, and I (2003) experimented with a new frame for considering demographic change as a causal factor in human affairs. Rather than focus directly on population *growth*, which is off-putting to many audiences and is rarely the only demographic factor involved, the report considered *demographic transition* as the salient variable in the case of civil (internal or intrastate) conflict. This concept has the conceptual and advocacy advantage of stressing survival rates, life expectancy, and general development as much as total fertility and birth rates. Moreover, our data indicated that progress through the demographic transition correlates strongly with reductions in the risk of new civil conflicts in any period. Several interacting factors appeared to be at work:

- High proportions of young men aged 15-29, who, if not optimally employed, search for less positive and often violent ways to validate their lives;

Ironically, this dynamic ends up not only predicting to some extent the potential for conflict but producing a “surprisingly heartening view of the future,” as Jack Goldstone (2004) noted in *ECSP Report 10*. As countries move through the demographic transition—as most are—their vulnerability to civil conflict should decrease, offering hope for a more peaceful world. Hence, those concerned about security should promote access to reproductive health, HIV/AIDS prevention, and other measures that tend to contribute to lower death rates and lower birth rates. It is too early, however, to say that this linkage between demographic transition and political stability is fully understood, much less accepted, among policymakers. PAI is continuing its research and would welcome more academic and policy researchers joining in the study of demographic factors in conflict and security.

A Strategy for Funding and New Work: Hypothesis and Opportunity

For understandable but unfortunate reasons, the U.S. philanthropic community has largely turned away from the population-environment-security-livelihood connection over the last several years. Many of the foundations that best understood this linkage have suffered financial reversals and have focused their limited funds on their core areas. New funding strategies are necessary—and possible. Funders, researchers, and advocates might consider strategies based on clearly articulated hypotheses of how population dynamics interact with the environment and human well-being, and how those dynamics can be influenced. Hypotheses help to make sense of the world’s complexity by helping us select opportunities from the myriad possibilities and

ultimately build theories of how the world works. The lack of theory in population and reproductive health is among the reasons policymakers do not pay more attention to these disciplines. We should monitor the globe for opportunities to test and refine our hypotheses in countries facing PE challenges, and target funding to these efforts. If confidence in the usefulness of these hypotheses grows, they can be applied to communication and advocacy efforts.

Continuing to implement, support, and document PHE projects in developing countries is vital. Though the operational linkage still needs better documentation, and clearer indications that its impact can be broadened from thousands to millions, these projects provide material for communication and advocacy by demonstrating that connecting reproductive health to the environment can improve lives. The world needs to see the faces of the women and their families in whose lives these factors unite to build livelihoods, well-being, and the survival of nature.

Success is hardly foreordained with a reality so complex. Most policymakers may be silent on the linkage of population dynamics with environmental change and human well-being. But voices of influence recognize the importance of this linkage and help keep awareness—and the possibility of strategic action—alive. If we are right to believe that rapid population growth makes critical natural resources scarcer and that stalled demographic transition contributes to political instability, the unfolding of future events, sadly, will validate our hypothesis. But the hypothesis works as well in reverse. We can educate policymakers. We can act on the linkage. We can improve lives by promoting with one strategy reproductive health, the demographic transition, and environmental sustainability. No private or public donors today support such work on the scale required. Many can—and should.

Author's Note: *This article is a revision of a paper written for the David and Lucile Packard Foundation in August 2005. I thank Elizabeth Leahy of PAI and Jennifer Dusenberry of*

Georgetown University for research assistance, and Tom Outlaw for information on USAID's population, health, and environment program. The opinions expressed here are my own.

Notes

1. For more on PAI's natural-resource benchmarks of stress and scarcity, see Cincotta et al. (2003); see also the methodology section of PAI's *People in the Balance: Update 2004* (Engelman, 2004).

2. World and African population gains calculated based on annual figures from United Nations Population Division (2005).

3. The higher figure is the most recent medium projection for 2005 by the United Nations Population Division. The lower figure is from Soumana Harouna et al. (2005), writing for the Nigerien Ministry of the Economy and Finances.

4. For the UN documents that established these goals, please see <http://www.un.org/millenniumgoals/>, particularly the Millennium Declaration and the Secretary General's Report.

5. "I do say that in many parts of rural Africa there is absolutely a Malthusian crisis under way," Jeffrey Sachs told Barbara Crossette (2004a, page 34).

6. According to its web-based statement, "the Global Science Panel comprises over 30 distinguished scientists from various disciplines and comes under the joint patronage of Maurice Strong and Nafis Sadik. The Panel is coordinated by Wolfgang Lutz and Mahendra Shah, and receives financial support from the UNFPA, the government of Austria, and the MacArthur Foundation." For more information see <http://www.iiasa.ac.at/gsp/>

7. A summary of John Pielemeier's presentation at the Woodrow Wilson Center, "Measuring Impact: A Review of Packard Foundation and USAID's First Generation Population-Environment Projects," is available online at http://wilsoncenter.org/index.cfm?topic_id=1413&categoryid=A8374B58-65BF-E7DC-4FAA15117F5B45C2&fuseaction=topics.events_item_topics&event_id=143972

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