



What needs to be done

Paul R. Ehrlich and Anne H. Ehrlich
Department of Biology, Stanford University

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The monumental task before us is to solve the human predicament – the combined crises of overpopulation, wasteful consumption, deteriorating life-support systems, growing inequity, increasing hunger, toxification of the planet, declining resources, increasing resource wars (especially over oil and gas reserves and water), and a worsening epidemiological environment that increases the probability of unprecedented pandemics. The basic views of the scientific community on the predicament can be found at www.dominantanimal.org (click on "Further Information"). Here we just outline some of what needs to be done as a series of interrelated steps in which we hope you will exercise leadership:

One: put births on a par with deaths

The United States has been way behind in the population area. First, as the most overpopulated nation on Earth (because of its combination of a giant population and high per-capita consumption), it still lacks a population policy. Furthermore, its population is projected to increase from 304 million to 439 million people by 2050. And, despite earlier pledges, the US in recent years has failed to help curb population growth in poor countries. Worse yet, the Reagan administration's "Mexico City policy" for killing women worldwide by suppressing access to legal abortion had only a hiatus during the Clinton years and was reestablished by Bush II. That policy should be dropped immediately, along with ideological restrictions imposed on government websites dealing with reproductive health.

Human beings have always fought against early death from accident, hunger, and sickness, and in the past century or so have employed improved sanitation and the use of pesticides and antibiotics to raise life expectancy. But given the frightening potential consequences of the explosion in human numbers that has followed reductions of the death rate, it is essential to pay equivalent attention to reducing high birthrates as well. Programs to educate and open job opportunities for women, and to make effective contraception universally available, must be an integral part of development policies in poor countries. Placing women in important cabinet posts in a new U.S. administration should have high priority and would send a strong signal in support of women's empowerment (even in developed nations, prejudice against women is widespread).

Public support of prudent population policies needs to be encouraged everywhere. The United States must play a crucial role in supporting such policies, providing both moral and financial support. The goal must be to halt population increase as soon as humanely possible, and then reduce human numbers until births and



deaths balance at a population size that can be maintained with desired lifestyles without irreparable damage to our natural life-support systems. And, of course, a global discussion over the next several decades will be required to reach a consensus on those lifestyles and thus on the appropriate maximum population size – which we already know must be smaller than the present 6.7 billion. Fortunately, the target can be tentative, since (if we're lucky) it may well be a half century or more before a worldwide decline can begin, so there will be decades to consider and evaluate the best level at which to stabilize our numbers. This leads us to point two.

Two: emphasize conserving more than consuming

At any given level of technology, there is a trade-off between the numbers of people in a society and the level of per capita physical affluence that can be sustainably supported. The more people there are, the smaller each one's share of the pie must be. One way of dealing with this unavoidable trade-off would be a cultural shift away from creating ever more gadgets to creating more appreciation and better stewardship of Earth's aesthetic assets. That step, if it were combined with a decline in population size, careful husbandry of manufactured and natural capital (our ecological assets), and a crash program to abandon the use of fossil fuels and transition to sustainable energy technologies, would eventually permit most people to live satisfactory lives. Of course, it would require abandoning the irrational idea that constant growth in consumption is automatically good and can continue forever. That malignant notion is still alive and well, as demonstrated by the 2008 rush to bail out the sleazy de-regulated financial industry in the United States, and even to further subsidize our nation's staggering, incompetent automobile industry, in order to perpetuate economic growth among the rich.

It is clear that most politicians and most citizens do not recognize that returning to "more of the same" is a recipe for promoting the first collapse of a global civilization. The required changes in energy technology, which would benefit not only the environment but also national security, public health, and the economy, would demand a World War II type mobilization -- and even that might not prevent a global climate disaster. Without transitioning away from use of fossil fuels, humanity will move further into an era of resource wars (remember, Africom has been added to the Pentagon's structure -- and China has noticed), clearly with intent to protect US "interests" in petroleum reserves. The consequences of more resource wars, many likely triggered over water supplies stressed by climate disruption, are likely to include increased unrest in poor nations, a proliferation of weapons of mass destruction, widening inequity within and between nations, and in the worst (and not unlikely) case, a nuclear war ending civilization.

Three: judge technologies not just on what they do for people but also to people and their life-support systems

A novel synthetic chemical added to the plastic in a sports bottle may increase its durability, but if it leaches into a baby bottle's contents or into the environment and functions in tiny doses as an endocrine-disrupting agent, is the risk worth the



benefit? In general, benefit-cost analyses are not done frequently or carefully enough before the introduction of new technologies. Freons (chlorofluorocarbons) looked extremely beneficial as refrigerants until it was discovered they could destroy the ozone layer and with it all life on land. Risk cannot be avoided completely. But a cultural change toward more careful analyses and deployment only of technologies that carry very clear benefits will help humanity keep the odds in its favor. It should not always rate consumption as trumping safety – especially when the evidence indicates that the toxics problem, especially the hormone mimics with non-linear dose-response curves, might be even more disastrous and less reversible than climate disruption.

Four: transform the consumption of education

Education is what economists call a “non-rival good” – something that can be consumed without reducing the amount available to others – and as such it is an ideal consumption good for a sustainable society. It is widely recognized that literacy and civic education are keys to “development;” they could also be keys to sustainable development. Reform of education to help us solve the human predicament is thus crucial, with much emphasis on values such as satisficing for the many as opposed to optimizing for the few. In the future, both the need for sustainability and the multi-dimensional environmental, social, political, and economic requirements to achieve it must be central elements of education around the world. Many more people, especially politicians, should be familiar with the I=PAT equation, should know how agricultural systems work, and grasp the relationship between population size and epidemic disease. Unless a much larger fraction of the human population becomes aware of the predicament we all face and the science of that predicament's basic elements and possible solutions, sustainability is unlikely to be reached.

Five: rapidly expand our empathy

We're a small-group animal, trying to live in large groups. Although we no longer can associate exclusively with a clan of, say, 125 relatives, most of us have a group of “pseudokin” – friends and close associates of about the same number. In both cases, people tend to develop a sort of “we versus them” culture, with the “themness” increasing with physical and cultural distance. Thanks in part to global communications, people are gradually gaining more empathy toward others distant from us in skin color, gender, religion, class, culture or physical space, but our ability to inflict harm on them has also increased. Cultural evolution is not reducing this discounting by distance (caring less about situations the further away they are) fast enough. The same can be said about discounting by time – not caring enough about the world we will leave to our descendants in the more distant future. Can affluent people in the West learn to empathize enough with a child in Darfur so as to take real action to save her? Can they learn to care about the world her grandchildren will live in, and act to move that society towards peaceful sustainability? If the global community takes step five, the answers to both questions will be “yes,” and we'll be on the kind of road that could lead to a level of global cooperation that might allow a billion or two, perhaps three billion,



small-group animals to live together sustainably in relative peace, in the next century.

Six: decide what kind of world we all want

What are the ultimate goals of our lives? Most development literature simply assumes that “modernization” in the style of today’s rich countries should be the goal of all nations – and perhaps that is what people want. Still, are Americans really happier traveling to work an hour or more each day wrapped in a ton or two of steel and breathing smog that threatens their lives? While the U.S. GDP has multiplied almost five times since 1958, satisfaction, as shown by surveys, has not increased at all. The situation in other rich countries is similar. Must all nations then strive to emulate the American superconsuming, petroleum-based life style? The situation looked bleak enough in 1972 when political scientist Dennis Pirages and Paul first asked (in an NYT op-ed) what the world would be like if the then half a billion Chinese got automobiles? Now 1.3 billion Chinese apparently have that goal.

Or should such goals be discouraged and all of humanity strive together to seek a more equitable global society, which could replace today’s bipolar super-rich – desperately poor population in which the split widens as growth continues? We could initiate a Millennium Assessment of Human Behavior (MAHB) to begin a discussion of what economic, social, and political systems will best fulfill human desires as we struggle to live in gigantic, culturally diverse groups. How, for example, do we take advantage of the enormous benefits that market mechanisms provide to societies while constraining their propensity to do enormous damage when unregulated? Starting and maintaining a global cultural-ethical discussion is a step that would help determine the kinds of lifestyles and relationships people really want. As we’ve already indicated, armed with that knowledge, we could try to establish as accurately as possible the conditions of population size, consumption patterns, economic arrangements, and technologies required to make such lifestyles and relationships sustainable. All of this, of course, would go against the often-recognized “stickiness” (inertia) of culture. But as many cases show, that stickiness can be overcome. It may be that even the Weberian work-to-grow-forever culture that long has had development experts in its death grip can be altered in ways that could lead to a sustainable global culture. The United States, for example, could adopt some ideas from other cultures – like more vacation time from European cultures or a tradition of siestas from Mexico, or a more contemplative view of life from various aspects of Buddhism. The USA could meet developing cultures halfway by focusing less on “standard of living” and more on “quality of life,” and it could bring the experts along with it.

Seven: determine the institutions and arrangements best suited to govern a planetary society with a maximum of freedom within the constraints of sustainability



This is closely related to step six. In the ~200,000 year history of modern Homo sapiens, nation-states are a recent invention, existing for only a tiny fraction of our existence. In their modern form, they are little more than 200 years old. We need to look closely at possible alternatives that could combine greater awareness of the problems of living at a global scale while retaining small-group psychological comfort. More cooperation at a global level is clearly necessary for civilization's long-term survival. Problems such as climate disruption, global toxification, resource wars, decimation of the planet's biodiversity and thus of the crucial services that flow from humanity's natural capital, and escalating chances of global epidemics cannot be solved one nation state at a time.

Pollyannaish conclusion

We hope you are willing to attempt to dramatically change how the U.S. and the world work. We hope you will not employ conventional economists who will try to restore the same old growth machine that is destroying the world. Equally important, we urge you not to allow a (reasonable) fear of being accused of being "soft" on terrorism or on China, Iran, or North Korea to prevent you from starting the difficult task of cutting back our overgrown military structure and commitments. Similarly, we hope you will take steps to transform our energy economy so the otherwise nearly inevitable eventual war with China over fossil fuels can be avoided. Then there is the awesome issue of curbing rich-world consumption. The U.S. with 4.5% of the global population cannot continue to consume roughly a quarter of Earth's resources; similar statements apply to the other rich nations. McCain in his concession speech showed some sign of his old self – and you could certainly use the help of a maverick who has shown the ability to move away from some aspects of Neocon nonsense. Maybe the Senate could get back to a situation, like that when Tim Wirth (D) and Jack Heinz (R) were working together to try to solve environmental problems.

These are no tiny tasks, salted with unanswerable questions (e.g., is there any hope that a temporary increase in U.S. troops in Afghanistan can accomplish anything? Is it likely that if we move toward sustainability, China and India will follow?). You surely cannot do it all – we'll all need to help you as much as possible. If you can't get a good start toward real solutions, then global collapse in the not-so-distant future seems nearly inevitable.

Paul R. Ehrlich
Bing Professor of Population Studies
President, Center for Conservation Biology
Department of Biology
Stanford University, Stanford, CA 94305-5020
Ph 650-723-3171
Fx 650-723-5920
<http://www.stanford.edu/group/CCB/Staff/Ehrlich.html>



**Generalitat
de Catalunya**

Anne H. Ehrlich
Senior Research Scientist
Policy Coordinator, Center for Conservation Biology
Department of Biology
Stanford University, Stanford, CA 94305-5020
Ph 650-723-3171
Fx 650-723-5920
<http://www.stanford.edu/group/CCB/Staff/Ehrlich.html>