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To: trieder <trieder@jhu.edu>

Subject: Feb 2016 issue of Scientific American about African population growth

Date: Sun, Sep 25, 2016 6:18 pm

Dear Professor Rieder: Hopefully you will be interested in reading the e-mail below which I sent to Robert Engelman in response to an article he wrote in the Feb 2016 issue of Scientific American. Engelman is a senior advisor and past president of the Worldwatch Institute, a very respected think tank in Washington DC

Dear Mr. Engelman,

In your article, you wrote "Population can never be 'controlled'—that would violate fundamental human rights and probably still would not work." The purpose of this email is to set forth facts and concepts to illustrate that the statement you made is incorrect in two very important areas—population CAN and MUST be controlled, and there is NO fundamental right to produce as many children as you desire when to do so puts others in danger.

Your failure, and the failure of the intellectual community, to examine, debate, discuss, analyze, consider and evaluate all available methods of population control will lead to the collapse of civilization with the deaths of billions. This failure is a crime against humanity.

As you correctly reported, the median population figures put out by the United Nations in 2004 projected that the human population would reach 9.1 billion in the year 2100. The UN's most recent adjusted projection for the year 2100 is 11.2 billion. From 2004 to 2016, just 12 years, due to current growth, the UN adjusted its median projection for 2100 UPWARDLY by 2.1 billion people.

To put this adjustment into perspective: It took from the time MAN evolved from ape until 1950 (approximately half a million to 1 million years) for the human population to reach about 2.5 billion slightly more than the number by which the median UN figures were off (2.1 billion).

If the current UN prediction is correct, in just 150 years (1950 to 2100) population will grow by 8.7 billion people to 11.2 billion!!! That number is more than four times greater than the entire population of humanity in 1950 (11.2 divided by 2.5=4.48). AND THE CURRENT UN MEDIUM PREDICTION IS THAT THE HUMAN POPULATION WILL STILL BE GROWING IN THE YEAR 2100.

These numbers are the staggering result of compound growth, an example of which (combined with ignorance and religious fanaticism) is provided by the recently deceased Justice of the United States Supreme Court, Antonin Scalia. Justice Scalia produced nine children. A woman can produce nine children before the age of 35. Therefore, I will use 35 years as the period of time for one cycle. In just 11 cycles, or in just 385 years, if each of Scalia's nine children had nine children of their own, there would be *over 31 billion* Scalias running around.

The demographers at the UN are not Gods and cannot guarantee the future or their projections. Their projection may be 100% accurate or may be high or low, but that is not the point The point is: we are in the midst of a population explosion that cannot be sustained. Uncontrolled, it will mean the end of humanity as we know it, probably before the year 2100.

Population growth and the usage of the limited and finite resources the earth provides is not an isolated issue. Economic growth is required to support a growing population. Population cannot increase without an increase in economic activity to support it. Any attempt to increase the population without an increase in economic activity will lead to a collapse of society as we know it.

An absolute statement that cannot be disputed---infinite growth of any kind, be it population or economic, cannot continue in a finite setting. GROWTH MUST CEASE. It cannot continue by ANY percent indefinitely.

When world-wide economic activity reaches a peak, only one thing can happen—it must start to decline. It cannot increase because it has reached a peak. It cannot forever remain at the peak because every day it will be using irreplaceable resources. When one or more of those resources or substitutes are no longer available to society, economic activity will decrease, causing a population decrease.

Technology, substitution of one resource for another, modifying the economic system, and any other actions humanity can take may delay the cessation of growth, but none will permit growth forever. A large number write about "sustainable development" and/or "sustainable growth". They never say how long "sustainable" will last. It is not sustainable if it does not last forever. Sustainable development and/or growth without a modifier--for x number of years--are very destructive concepts used by those who want to mislead humanity

Almost every economist has taken the position that economic growth is good for humanity, that we must take steps to continue economic growth. Every leader and every economist who advocates "sustainable growth" (economic, population, or otherwise) is choosing to ignore the facts or has no understanding of high school mathematics. Every leader who advocates modest growth as a solution to the problems faced by humanity *is just plain wrong*. We can take steps to delay the cessation of growth, but that does not make growth or development sustainable. When economic growth ceases, population growth must cease shortly thereafter and sometime after population reaches a peak it will start to decrease. And that decrease will be violent beyond the imagination of almost all of humanity, unless humanity prepares in advance. for it.

Let me be very clear, stopping economic and/or population growth will cause massive problems of every type for humanity. No nation has had to face the problems that the stoppage of growth will cause. However, those problems, no matter how horrible, will be minor compared to the destruction which will certainly occur if humanity attempts to maintain continued economic and/or population growth.

These are the facts: Infinite population growth cannot be sustained. If population growth cannot be sustained, it must be controlled. This is irrefutable. It is logic. It is fact. Math rules the world and math cannot be changed.

A very strong argument can be made that the earth cannot and will not support even the current population of 7.2 billion with a growing per capita usage of resources. (See the papers issued by the 'Global Footprint Network.') A very strong argument can be made that in order for humanity to survive even for a short period of time, not only must both economic and population growth cease, but both must immediately start to decline. A very strong argument can be made that we must immediately start a population reduction policy and that leads to the conclusion that having more than one child is an act that cannot be tolerated.

There are three, and only three ways, that population growth can be controlled:

- 1) Voluntary methods, including all actions and measures taken short of coercion. This includes raising the standard of living for women, changing cultural views, providing birth control, educating both men and women as to the benefits of limiting their number of children, providing abortion throughout the world at no or minor cost, and everything else along these lines that anyone can set forth.
- 2) "Natural" methods of population reduction. Nature's system of checks and balances. These include die-offs due to starvation, disease, war (most likely with weapons of mass destruction), and other horrors resulting from shortages of resources.
- 3) Coercive, imposed, population control. Coercion can range from minor social penalties to extremely tough criminal penalties.

We must acknowledge (as evidenced by the UN's projections) that we are in the midst of a crisis for which voluntary methods of population growth control will never be a sufficient solution; while some will see the light, others will adamantly refuse—religious zealots advocate large families, entire countries advocate breeding to fuel their economies and armies.

Natural controls bring suffering beyond comprehension; plagues, famine, conflict... and have failed thus far to curtail long-range growth. Future "natural" controls include the likelihood that society as we know it will be destroyed by war.

Therefore, we must consider the only remaining option. WE MUST EVALUATE COERCIVE POPULATION CONTROL. But, what of our individual "rights"?

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Every human right except the right to produce an excess number of children is subject to control by society when the exercise of that right harms someone else. I can swing my arm, but I cannot swing my arm in a manner that smashes someone in the face; I have the right of free speech but I cannot incite a riot or yell fire in a crowded theater when there is no fire. If my action will harm others, it is no longer my right to exercise that action.

Producing an excess number of children will result in the destruction of civilization. There isn't a single rational reason why the right to produce children and thereby destroy civilization is not controlled by society.

Mr. Engelman, when you stated that population control would violate a human right you were absolutely wrong. Countries create laws bestowing their citizens with individual rights. But there is only one HUMAN RIGHT--the survival of the species. There is NO human right that allows a person to have as many children as he or she desires. There is no right to increase the population so that a group obtains political power. There is no right to increase the population based on religion. There is no right to use one's womb or penis as a weapon to increase the population such that civilization is totally and completely destroyed.

Even if there were a human right that an individual could produce as many children as he/she desired, that right would be limited by and subject to the right of the species to survive. Survival of the species is the most important right. All other human rights are subject to and limited by that right.

I cannot think of a single reason why coercive population control should not be discussed and considered. Could the discussion be more harmful to humanity than failing to discuss it? I challenge anyone on the face of the earth to set forth a valid reason why coercive population control should not be discussed today. You can, I am sure, set forth many reasons why coercive control would be very difficult to enforce on a world-wide basis, why every religious leader would be opposed to coercive control, why every government on the planet would be against coercion, and a thousand additional reasons... But none of those reasons should prevent such discussions from taking place. All of those factors should be part of intelligent and rational discussions that take place. NOW.

Why now? The answer is very simple—no one can guarantee with absolute certainty that in the very near future (say under 150 years) humanity not will face the choice between coercive population control and destruction of civilization with the deaths of billions. In fact, there is a very strong case that humanity is facing that choice today.

A simple statement of fact--those of you who refuse to consider and evaluate coercive population control are not Gods. You do not have the right to refuse to discuss and consider coercive population control. You have a moral obligation to support your position with facts and logic and you must, in my opinion, show that voluntary population control has greater than 90% chance of saving humanity from destruction. Since failure will result in the deaths of billions, a chance of failure of greater than 10% is not acceptable. A chance of failure of greater than 10% demands an immediate evaluation of coercive population control.

The chance of failure of voluntary control is vastly greater than 10%, in my opinion, and, therefore, the failure to evaluate, discuss, consider and debate coercion is an act of supreme arrogance and potential mass murder. Many will consider the previous sentence a personal insult and attack. It is not. It is a simple statement of fact.

Growth will terminate—by war, starvation, disease and other horrors or by the collective intelligence of the human species. I defy anyone on the face of the earth to set forth a manner to allow growth forever into the future and I defy anyone on the face of the earth to set forth another manner by which growth will terminate.

We must face reality. "Sustainable growth" and "sustainable development" are false concepts; they are misleading terms that create false hope. If growth uses ANYTHING physical, as all growth does, by the laws of math it is not sustainable. We must understand the rules of compound growth. If something grows by 4% per year, it will grow to be ONE MILLION times as large in just 350 years. Every single day humanity is using vast amounts of non-renewable resources (and all substitutes). Some day in the future one of those resources and all substitutes will no longer be available. And then will come wars to obtain those scarce resources. The chance of voluntary population control preventing that from occurring is zero, in my opinion. And if it is not zero, the chance of failure is at least 10%. Our species must plan for the termination of growth in both population and economic activity. Voluntary population control is just letting something happen with hope that it saves humanity, it is not a plan. No one on the face of the earth can show with assurance that voluntary population control will keep the human population below

the level which would start wars over scarce resources. Resource wars can be (and probably will be) started by two small groups fighting over scarce resources in the area in which they live.

If the decline were to start 150 years from now, action would have to be started today. Why? Simply because of the average life span of a member of the human species. We can debate how many years in advance action must be taken to control/reduce population before the decline begins, but it would be very foolish to believe that humanity can wait until the decline starts. Therefore, we must start a discussion, evaluation, and consideration of coercive population control today as a very strong case can be made that either or both will reach a peak and start to decline before the year 2100. Humans born today could very well be alive to be subject to the violent decline in population.

There are many ways to enforce coercive population control, all unacceptable based on today's morality. Today's morality must be changed. The moral principles that were applicable when the human population was 2.5 billion are not applicable when the human population is approaching 11.2 billion. When coercive population control is discussed, enforcement methods must also be discussed.

There is one principle that must rule the future of humanity---we must stop population growth by our collective intelligence before population growth is stopped by wars with weapons of mass destruction that eliminate humanity from the face of the earth.

It is imperative that we discuss, evaluate, consider, and debate coercive population control today. The reason is simple--- No one can absolutely guarantee that we will not reach that peak. To refuse to search for a solution is to commit murder on a massive scale.

Civilizations fail, warned Professor Jared Diamond, environmental biologist and author of "Collapse: How Societies Choose to Fail or Succeed". And now the entire planet is one civilization and one economic unit. If it fails, all of civilization will collapse with the deaths of billions. He pointed out that many share a sharp curve of decline that often begins only a decade or two after the civilization reached its peak population, wealth and power. More people require more food, space, water, energy and other resources and there is a built-in momentum to human population growth. There are at least ten problems that exist today that could cause the collapse of civilization in less than 150 years--most likely before the year 2100. I challenge anyone to guarantee that there is less than a 10% chance that voluntary population control will fail to reduce population growth to the level to necessary to prevent the destruction of civilization by the year 2100 or at the latest within the next 150 years, after reviewing the 10 problems listed below plus other problems presently faced by humanity, but not listed below.

- 1, Energy--all fossil fuels are finite and limited, demand is growing dramatically due to the increasing population (today population about 7.2 billion, population in 2100 according to the UN 11.2 billion, increase in 85 years 4 billion) and increasing per capita usage, strong argument that alternatives not able to replace fossil fuels in all their uses.
- 2. Food--two billion poor people live on \$2 per day, cost of food will go up due to increase in price of fossil fuels, food fish no longer available due to over fishing, excessive hunting of wild food species, green revolution failing and/or no second green revolution, UN study says new production technologies have not improved food access.
- 3. Water---lack of water has destroyed many past civilizations, today millions lack access to safe drinking water, by 2015 two-thirds of the world will live in water stressed countries, sometime in the future (probably in the very near future) fossil aquifers that supply irrigation water to major food growing areas (under about eight states in the Midwest of the US and under the North China Plain plus others) will be unable to supply the necessary water to continue irrigation which will lead to a substantial drop of food available for all of humanity.
- 4. Farmland---water, wind and improper tillage of the soil eroding it many times faster than the formation of new soil, the soil unable to provide the food needed by 11,2 billion by the year 2100.
- 5. Forests---losing rain forests and protective timber reserves at accelerating rates, climate change caused by decreasing rain forests, decreasing rain forests causing diseases previously not seen by humanity.
- 6. Chemicals—our air, soil, oceans, lakes and rivers are dying from toxic chemicals, drugs used by humanity including very powerful hormones being dumped into water causing vast changes in all species of animals and

plants.

- 7. Global warming and solar energy---global warming will cause the collapse of civilization world-wide and that cannot be stopped unless population growth is stopped, more importantly global warming probably cannot be prevented from destroying civilization unless the human population is reduced combined with a per capita reduction in the use of resources, by 2050 humanity will be using 100% of photosynthetic capacity.
- 8. Ozone layer--even though humanity has reduced/eliminated the use of CFCs, humanity is still destroying the ozone layer which could lead to the elimination our species.
- 9. Diversity--wild species, populations, genetic diversity lost and out of balance.
- 10. Alien species---transferring species to new lands destroying native species to the detriment of humanity.

I INVITE EVERYONE RECEIVING THIS E-MAIL TO ATTACK WHAT I HAVE WRITTEN SO LONG THE ATTACK IS INTELLIGENT AND IS BASED ON ERRORS I MADE IN THE FACTS, MATH AND/OR LOGIC.

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