



Overpopulation and the Collapse of Civilization

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A major shared goal of the Millennium Alliance for Humanity and the Biosphere (MAHB) and Sustainability Central is reducing the odds that the “perfect storm” of environmental problems that threaten humanity will lead to a collapse of civilization. Those threats include climate disruption, loss of biodiversity (and thus ecosystem services), land-use change and resulting degradation, global toxification, ocean acidification, decay of the epidemiological environment, increasing depletion of important resources, and resource wars (which could go nuclear). This is not just a list of problems, it is an interconnected complex resulting from interactions within and between what can be thought of as two gigantic complex adaptive systems: the biosphere system and the human socio-economic system. The manifestations of this interaction are often referred to as “the human predicament.” That predicament is getting continually and rapidly worse, driven by overpopulation, overconsumption among the rich, and the use of environmentally malign technologies and socio-economic-political arrangements to service the consumption.

All of the interconnected problems are caused in part by overpopulation, in part by overconsumption by the already rich. One would think that most educated people now understand that the larger the size of a human population, *ceteris paribus*, the more destructive its impact on the environment. The degree of overpopulation is best indicated (conservatively) by ecological footprint analysis, which shows that to support *today’s* population sustainably at current patterns of consumption would require roughly another half a planet, and to do so at the U.S. level would take four to five more Earths.

The seriousness of the situation can be seen in the prospects of *Homo sapiens’* most important activity: producing and procuring food. Today, at least two billion people are hungry or badly in need of better diets, and most analysts think doubling food production would be

required to feed a 35% bigger and still growing human population adequately by 2050. For any chance of success, humanity will need to stop expanding land area for agriculture (to preserve ecosystem services); raise yields where possible; increase efficiency in use of fertilizers, water, and energy; become more vegetarian; reduce food wastage; stop wrecking the oceans; significantly increase investment in sustainable agricultural research; and move feeding everyone to the very top of the policy agenda. All of these tasks will require changes in human behavior long recommended but thus far elusive. Perhaps more critical, there may be insurmountable biophysical barriers to increasing yields – indeed, to avoiding *reductions* in yields – in the face of climate disruption.

Most people fail to realize the urgency of the food situation because they don't understand the agricultural system and its complex, non-linear connections to the drivers of environmental deterioration. The system itself, for example, is a major emitter of greenhouse gases and thus is an important driver of the climate disruption that seriously threatens food production. More than a millennium of change in temperature and precipitation patterns is now entrained, with the prospect of more crop-threatening severe storms, droughts, heat waves, and floods— all of which are already evident. Thus maintaining – let alone expanding – food production will be ever more difficult in decades ahead.

Furthermore, agriculture is a leading cause of losses of biodiversity and the critical ecosystem services supplied to agriculture itself and other human enterprises, as well as a major source of global toxification, both of which pose additional risks to food production. The threat to food production of climate disruption alone means that humanity's entire system for mobilizing energy needs to be rapidly transformed in an effort to hold atmospheric warming well below a lethal 5°C rise in global average temperature. It also means we must alter much of our water-handling infrastructure to provide the necessary flexibility to bring water to crops in an environment of constantly changing precipitation patterns.

Food is just the most obvious area where overpopulation tends to darken the human future – virtually every other human problem from air pollution and brute overcrowding to resource shortages and declining democracy is exacerbated by further population growth. And, of course, one of our most serious problems is the failure of leadership on the population issue, in both the United States and Australia. The situation is worst in the U.S. where the government never mentions population because of fear of the Catholic hierarchy specifically and the religious right in general, and the media keep publishing ignorant pro-natalist articles, and in Australia even advertise on prime-time TV to have more kids.

A prime example was a ludicrous 2010 *New York Times* screed by David Brooks, calling on Americans to cheer up *because* “Over the next 40 years, the U.S. population will surge by an additional 100 million people, to 400 million.” Equal total ignorance of the population-resource-environment situation was shown in 2012 by an article also in the *New York Times* by one Ross Douhat “More Babies, Please” and one by a Rick Newman in the *USNews* “Why a falling birth rate is a big problem,” both additional signs of the utter failure of the US educational system.

A popular movement is needed to correct that failure and direct cultural evolution toward providing the “foresight intelligence” and the agricultural, environmental, and demographic planning that markets cannot supply. Then analysts (and society) might stop treating population growth as a “given” and consider the nutritional and health benefits of humanely ending growth

well below 9 billion and starting a slow decline. In my view, the best way to accelerate the move toward such population shrinkage is to give full rights, education, and job opportunities to women everywhere, and provide all sexually active human beings with modern contraception and backup abortion. The degree to which that would reduce fertility rates is controversial, but it would be a win-win for society. Yet the critical importance of increasing the inadequate current action on the demographic driver can be seen in the decades required to change the size of the population humanely and sensibly. In contrast we know from such things as the World War II mobilizations that consumption patterns can be altered dramatically in less than a year, given appropriate incentives.

The movement should also highlight the consequences of such crazy ideas as growing an economy at 3-5% per year over decades (or forever) as most innumerate economists and politicians believe possible. Most “educated” people do not realize that in the real world a short history of exponential growth does not imply a long future of such growth. Developing foresight intelligence and mobilizing civil society for sustainability are central goals of the Millennium Alliance for Humanity and the Biosphere (“the MAHB” – mahb.stanford.edu), goals now also a major mission of the University of Technology, Sydney.

MAHB-UTS Blogs are a joint venture between the University of Technology Sydney and the Millennium Alliance for Humanity and the Biosphere. Questions should be directed to joan@mahbonline.org.

MAHB Blog: <http://mahb.stanford.edu/blog/overpopulation-and-the-collapse-of-civilization/>