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Environments are not constraints



By **ERLE ELLIS**

As the UNEP publishes its latest outlook for the world's natural resources, and delegates in Rio debate the growing environmental pressure of a rising population, geographer Erle Ellis pushes back on Malthusian pessimism.

Long before Malthus, “the population bomb”, “population overshoot” and the “planetary boundaries”, ancient sages portrayed humanity as confronted with imminent collapse in the face of environmental limits and as degraders of nature overall (i.e. “Earth’s life-support systems”). Without halting population growth, pollution, or other harmful activities, humanity would collapse and nature along with it. While contemporary scientists, policymakers and the public are generally aware that this formulation profoundly oversimplifies the situation, it

remains the core message behind the efforts of many of those concerned with improving environmental decision-making, both locally and globally.

The current human situation is certainly riskier than ever. Our populations have never been larger, nor have our consumption of resources or impact on nature. There is growing scientific consensus that human alteration of Earth’s climate, biosphere and indeed the entire Earth system has gone so far that it has forced the entire planet into a new geological epoch, the Anthropocene. Yet there are multiple reasons why the conventional environmental message - that “humanity must halt its transgression of environmental limits or face catastrophe” - will not move us towards a more sustainable approach to Earth stewardship.

The most important reason is that this hypothesis is not supported by scientific evidence. The consensus from archaeology, anthropology, demographers and others who study human-environment relationships over the long term, is that there is no simple relationship between human populations and the environment. Popular portrayals of societal collapse in the face of environmental limits are anecdotal. The consensus of archaeologists - those most expert in the science of long term human-environment relationships - is that the story is more about the capability of social systems to adapt, innovate, and sustain themselves in the face of social and environmental stressors and dynamics than of catastrophic failures in the face of hard biophysical limits. The history of human populations speaks for itself, as a long term global increase coupled with local dynamics, some of them dramatic, primarily resulting from social failures and epidemic diseases.

Ever since Paleolithic humans developed social learning and the use of fire, it has been the strength of human systems, our social structures and dynamics, not the productivity of environments, that has enabled us to become the single most powerful species in the history of the planet. The transformative power of human systems has increased and developed over the long term, with our agricultural and industrial powers growing as the cumulative product of increasingly greater scales of social and environmental interaction and experience, technical and social innovation and learning, and the accumulation of social and material capitals.

The current rate and intensity of human alteration of the Earth system has no precedent. Yet overwhelming evidence demonstrates that socially powerful human systems confronted with potent environmental challenges and apparent limits will adapt, innovate and transform themselves and their environment rather than collapse and fail. As a result, human populations have grown and been sustained far beyond their “natural limits” for millennia -- not by a benevolent nature, but by increasingly engineered agricultural environments and increasing use of energy. In the Anthropocene, the Earth systems that sustain humanity are primarily those sustained by human systems themselves, by our social interactions and our environmental engineering. The boundaries to humanity are no longer environmental but social.

In the Anthropocene, it is only by overstepping environmental limits, by changing environments to suit our needs, that we have so far avoided catastrophic damage to the Earth system. The more productive and efficient our social and technological systems, the less we need to transform Earth’s remaining unused ecosystems into the agroecosystems and other engineered systems that now sustains us. The sustainability of humanity, the Earth systems that support us, and our ecological heritage, no longer depends primarily on sustaining the services of nature, but rather on the careful stewardship of human systems.

The fate of nature is now a social process. For this reason, the social failures of “catastrophe messaging” may now be the greatest threat to attaining more sustainable systems of environmental management. Dramatic negative messaging certainly captures attention - a modest success in environmental stewardship. Yet it is well confirmed by social scientists that negative messaging cannot sustain public engagement, and the public has strong grounds to question the veracity of the message (if undisturbed environments sustain us, then why are we better off when we transform them?; “The Environmentalist's Paradox”),

In the Anthropocene, we have to get our social systems right - for ourselves - and because nature depends on us. The powers of humanity have never been greater. It is time to engage the positive powers of humanity to shape this planet for the better. The Anthropocene can last for millennia. Nature can be conserved, restored, and sustained. The greatest planetary boundary of all may be in our minds.

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