

AGRICULTURE: Ending the World as We Know It

By John Feeney

So how's all that modern environmentalism working out for us -- the green living, the carbon credits, reduced consumption, development in the Third World, better solar panels? If it all seems hopelessly inadequate, even laughable in the face of today's global ecological crisis, perhaps that's because it's rooted in denial of the origins of the ecological drama now playing out.

It's a drama of which climate change is only a part. It goes back ten thousand years and farther into the human past, confronts us with how we relate to nature, and brings reminders of abandoned civilizations.

We turn away from this drama because it raises troubling questions going straight to the foundations of our way of life. But grappling with converging environmental crises and the specter of widespread ecological collapse, for the sake of the human future it's time we face it. [1]

The big switch

Pull back and consider the whole of human history. For perhaps 2.5 million years, well over 99 percent of our time on Earth, we lived in small bands or tribes, foraging and hunting for food. With baskets and tools of stone, bone, and wood we walked the bush, blending gracefully into Earth's ecosystems.

Then around 8,000 BC we began the transition to agriculture, growing and storing our own food. That changed everything. Arguably, there have been only two fundamentally different phases of human existence: before and after agriculture.

Why the switch? Why quit something which had worked for us for thousands of millennia? We have only partially informed guesses. Perhaps changes in climate made hunting less productive or the domestication of grains in some areas more attractive. No one mentions, though, that only a few people had to make the initial change for it to take over the world. Nor do many observers acknowledge that the adoption of agriculture was not as nice for us as we've been led to believe.

At what cost?

Examine it closely, in fact, and agriculture emerges as a springboard for most of today's environmental and social problems.

Yes, it made possible civilization with its cities, jet liners, and corporations. But at what cost? Its most immediate impact was the elimination of all who stood in its way as farming cultures spread around the world. Part genocide and part culture killing, the process continues today as the handful of remaining hunter-gatherers on earth struggle for survival. [2]



With farming came a large increase in work and a steep decline in health, the latter discovered by archeologists examining the bones and teeth of people living in the same regions before and after agriculture. It brought social hierarchies, sexual inequality, famine, slavery, time clocks, money, and a massive upscaling of violence. [3] Jared Diamond called it "the worst mistake in the history of the human race." [4] More recently, anthropologist and geneticist Spencer Wells provided his own list of some of the costs of the shift away from hunting and gathering: "diabetes, obesity, mental illness, climate change." [5]

Less publicized have been agriculture's ecological impacts. History texts glorify civilization, based on agriculture, as the pinnacle of human existence. They don't mention it required an end to living in harmony with nature as contributing members of local ecosystems. Author John Zerzan has said of agriculture, "The land itself becomes an instrument of production and the planet's species its objects." [6]

Trying to live apart from nature carries a price. Why don't we take more seriously the many peoples, such as the Maya and the Anasazi, who adopted farming only to see their civilizations fall apart as drought, depleted resources, or too little arable land for a growing population sent a recurring message from nature? Why don't we hear about those who simply walked away and returned to hunting and gathering? [7]

Circumventing nature's limits

The problem of agriculture is in part a problem of human numbers. Before farming human population size had been regulated by the same process that works for black bears, dingos, bonobos, rainbow trout, and long-tailed parakeets. It works for all species, generally keeping their numbers within carrying capacity. It's simple: Population follows food supply. Normal oscillations in available food exert multiple small, cumulative, typically painless influences on fertility and mortality. With agriculture we circumvented this pro-

cess. Growing and storing food we could go on growing our food supply. The result has been predictable: more humans.

In publications ranging from peer reviewed journal articles to novels, analysts such as Russell Hopfenberg, David Pimentel, and Daniel Quinn have described a continuous cycle of human population growth followed by expanding agriculture to feed our growing numbers, followed in turn by more population growth. [8] [9] In less than one percent of our history our numbers shot from perhaps five million to 6.7 billion, an increase of 134,000 percent.



This cycle of growth explains how agriculture spread around the world. It was not a matter of hunter-gatherers observing farmers and eagerly adopting their practices. It was the spread of farmers themselves. [10] Their ever increasing food supply meant ever more agriculturalists who needed more land and took it, often violently.

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The resulting environmental impacts of human population growth are well known. From species loss and climate change to the global spread of chemical toxins and the death of coral reefs, human numbers figure as a fundamental driver of nearly all environmental degradation.

Some insist those problems are mainly the result of excessive per person resource consumption. Population does multiply with per person consumption to determine total consumption. But individual levels of consumption only became a global issue as the number of consumers grew large enough to make them so. Agriculture made it happen. It links with human population growth to destroy the biosphere.

The sixth mass extinction



Chief among the destructive impacts of agriculture are today's alarmingly elevated extinction rates. Just as agriculture has crowded out hunter-gatherers, it has pushed out other species. Most biologists agree we are today in the midst of the sixth mass extinction event in Earth's history, the fifth having eliminated the dinosaurs. This time one species -- our own -- is the cause.

Fossil evidence suggests an increase in extinctions even before agriculture. Anthropologist Paul S. Martin has championed the "overkill" hypothesis,

arguing the cause was the spread of human hunting out of Africa to continents containing large mammals unaccustomed to human predators. Other investigators such as Donald K. Grayson dispute his conclusions and point to evidence implicating changes in climate. What we do know is that extinction rates have accelerated greatly since the advent of farming. [11]

A primary cause of extinctions is habitat disruption. And what better way to disrupt, to destroy habitat than to level a piece of land, eliminating all life on it, then to plant a single crop exclusively for human use. That's agriculture, and it has spread over more than a billion hectares of the earth. Indeed, any human-caused environmental damage prior to agriculture pales in comparison to what has come after.

The industrial age and our use of oil has meant yet another acceleration of the Sixth Extinction as far more land has been put under cultivation and the human population has skyrocketed, obliterating habitat to make way for cities, subdivisions, shopping malls, and highway systems.

We hear all about resource consumption, particularly energy consumption. Why don't

we hear about our consumption, through agriculture and the human population growth it drives, of the very web of life on which we and all other species depend for our survival?

Paleontologist Niles Eldredge writes, "Agriculture represents the single most profound ecological change in the entire 3.5 billion-year history of life.... Indeed, to develop agriculture is essentially to declare war on ecosystems." [12]

Author Lierre Kieth says, "The truth is that agriculture is the most destructive thing humans have done to the planet... [It] requires the wholesale destruction of entire ecosystems." [13]

Once the cycle of agriculture and population growth was underway, of course, there seemed little choice. We did what we could to keep feeding our growing numbers. We've trapped ourselves. As Keith puts it, "Except for the last 46 tribes of hunter-gatherers, the human race is now dependent on an activity that is killing the planet."

Soil mining

Further making crop cultivation unsustainable on anything like a scale to feed billions is its often inevitable erosion of the soil and depletion of soil nutrients. This happens at rates far faster than natural rates of renewal.

Soil microbiologist Peter Salonijs writes, "The simple shallow rooting habit of food crops and the requirement for bare soil cultivation produces soil erosion and plant nutrient loss far above the levels that can be replaced by microbial nitrogen fixation, and the weathering of minerals." [14]

Already we have lost perhaps one third of all arable land worldwide. [15] We are using it up just as we are coal or oil. Keith coins the term "fossil soil." It may have taken ten thousand years for us to see it, but that is barely an eye blink in human history.

Some hunter-gatherer societies have long included small scale gardening in their repertoires. But once we upped the scale, clearing land and increasing production to produce food surpluses, we committed to agriculture proper and the trouble began. While a more ecologically sensible option such as permaculture moves farming in a more sustainable direction, it was never intended to feed increasing billions of people. [16] If it were it would still run into the problem of transforming wilderness, turning the land excessively to human consumption with all that implies for the web of life. Planting crops on any large scale means seriously damaging ecosystems. Agriculture cannot be sustained.



Overshoot and collapse

The historical view of humanity's ecological path leaves no doubt we long ago overshot human carrying capacity. Our numbers are today supported only by temporary measures such as our use of limited stores of fossil fuels and, more fundamentally, the use of agriculture and our consumption of our own life support system. In his classic text, *Overshoot*, William Catton calls such supports "phantom carrying capacity." [17] They are not carrying capacity at all; they cannot last.

Contrary then to the popular notion that our technologies have increased carrying capacity, we have created only a carrying capacity illusion. We're a species which evolved to live in the millions, yet here we sit, well into the billions. It's basic to ecology that when a population overshoots carrying capacity it must inevitably return to a lower number, often via a crash.

It is of course not only our numbers which will come to an end. Civilization is made possible by agriculture. Agriculture is unsustainable. If it weren't obvious already, you can see where this is going. There's no predicting the timeline of civilization's collapse. Techno-fixes and any resiliency industrial society possesses may draw it out. No matter, a better future, indeed the only future for humanity and the rest of Earth's inhabitants is one beyond civilization.

What we could do, what we might do

Few people want to hear that agriculture is unsustainable. Fewer still care to consider that the civilization it supports will therefore come to an end. Who wants to hear their whole world is going to go away? Yet as surprising as it may seem, there is room for optimism. The way our will be difficult, but will open to a new beginning.

Ideally we could begin systematically scaling back agriculture and gradually dismantling civilization. We could turn instead to small scale, localized horticulture and then to tribal, non-industrial and non-agricultural ways of living. The transition could include a concerted worldwide effort to support humane, voluntary measures enabling our numbers to decline gradually and dramatically. Perhaps most importantly, we could work to spread a different view of our place in nature, acknowledging that we are of the earth, just one of millions of species, as much subject to ecological laws as any other. At some point, the few surviving hunter-gatherer groups on Earth might serve as mentors rather than objects of academic study. This, however, would be an exquisitely delicate undertaking, as the last thing such groups need today is the increased intrusion of those of us in civilization.

But despite converging ecological catastrophes we show few signs of such a massive, voluntary shift. Those with vested interests in the status quo see to that. So writers such

as Zerzan and Derrick Jensen advocate a purposeful resistance movement designed to hasten civilization's end. [18] In this they owe a clear though too seldom mentioned debt to Edward Abbey. The Monkey Wrench Gang opened multiple generations' eyes to the option of direct action against perpetrators of environmental destruction. Says Jensen today, "Systems of power are created by humans and can be stopped by humans. Those in power are never supernatural or immortal, and they can be brought down." [19] Though this raises the frightening specter of triggering loss of life before it would happen otherwise, the argument is that bringing down civilization sooner would leave more life intact than would a delayed and drawn out collapse. We face hard choices.

The first daunting challenge, though, faced by those against civilization lies in disabusing enough people of the ingrained message that our way of living is a great thing. Perhaps, in the end, our best hope lies in building resistance as we work to soften the landing through efforts, for instance, to address population growth and to protect biodiversity

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Meanwhile, participants in the growing "rewilding" movement work today to prepare for a post-civilization world. No gloom and doom in this group, rewilders like Peter Bauer (AKA "Urban Scout"), Jason Godesky, and Emily Porter acknowledge a collapse of civilization is inevitable and work with zest toward a shift to a tribal, wild way of living. [20] [21] [22] Learning aboriginal living skills and exploring ways of creating more genuine connection with the earth and those close to them, they strive to "undo domestication."

Critics argue they're romanticizing a lifestyle Thomas Hobbes rightly characterized as "solitary, poor, nasty, brutish, and short." Others insist "we can't go backwards." These are predictable responses, imbued with the same pervasive cultural message to which we are all subject. It tells us constantly that the development of civilization was an amazing improvement and that its course has been one unbroken line of progress. Everything's getting better all the time, isn't it? A look at our ecological plight alone suggests it's not, and Marshall Sahlins, among other anthropologists, easily debunked Hobbes's view beginning in the 1960s. [23]

It is difficult, as well, for most people to appreciate what a tiny moment of human history civilization has occupied. Without perspective it's natural to assume this way of living will and should continue for eons to come. Debate continues, but the notion that the hunter-gatherer life is a terrible one is as absurd as suggesting the gorilla life or the lion life is terrible. It's wrong on its face. [24]

How much evidence do we need to see that civilization is not the ultimate expression of human existence after all? It has been a momentary detour, the fleeting, cameo appearance of a dysfunctional approach to life, the result of straying from living at one with the natural world. Whatever the path to civilization's wind-down, if we can preserve enough biodiversity, those coming out the other end will have the chance to enjoy anew a different, yet satisfying way of living, the only way proven sustainable for humans. Racing toward a precipice, can it be wrong to embrace once again a life which worked for over two million years when it has become obvious the current approach is an abject failure? We don't have to go backwards; we need only nurture who we really are. Whatever our course, we have only to consider the agricultural origins of our ecological crisis to understand civilization is an unsustainable trap.

- [1] <http://news.bbc.co.uk/2/hi/science/nature/7078857.stm>
- [2] <http://www.survivalinternational.org/news/1786>
- [3] <http://www.primitivism.com/future-primitive.htm>
- [4] http://hthttp://www.mnforsustain.org/food_ag_worst_mistake_diamond_j.htm
- [5] http://news.bbc.co.uk/2/hi/science_and_environment/10257679.stm
- [6] <http://rewild.info/anthropik/library/zerzan/demon-engine-of-civilization/index.html>
- [7] <http://tinyurl.com/34y6fyu>
- [8] <http://www.springerlink.com/content/u4x1r416w5671127>
- [9] <http://www.ishmael.org/Origins/Ishmael/>
- [10] <http://www.plosone.org/article/info:doi%2F10.1371%252Fjournal.pone.0006747>
- [11] <http://tinyurl.com/3xrskxe>
- [12] <http://www.actionbioscience.org/newfrontiers/eldredge2.html>
- [13] <http://tinyurl.com/296j57c>
- [14] <http://www.theoilrum.com/node/6048>
- [15] <http://www.sciencemag.org/cgi/content/abstract/sci;267/5201/1117>
- [16] <http://www.energybulletin.net/node/19334>
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- [21] <http://tobyspeople.com/anthropik/thirty/index.html>
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- [24] <http://tobyspeople.com/anthropik/2008/01/noble-or-savage-both-part-1/>

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