



## BOOK REVIEW PERSPECTIVES

### Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed*

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*Collapse: How Societies Choose to Fail or Succeed* by Jared Diamond (The best-selling author of *Guns, Germs and Steel*) is an invigorating book. Invigorating because you have that moment when you start reading it, and that is where you think, “I would have loved to have written this book!”—especially if you are a sustainability practitioner. Combining the essences of the rise and fall of civilizations dotted throughout history with those of present-day environmental calamities, Diamond is like a master chef, delivering an appetizing concoction that the audience will lap up. Unlike doomsday scenarios that are often depressing and sometimes one-sided stories about why the human race will not be able to sustain itself, Diamond gives examples of both past communities that have failed and those that have lived sustainably for thousands of years, giving us a glimpse of optimism. He articulates a five-point scale for the success or failure of civilizations—climate change, hostile neighbors, friendly trade partners, environmental damage, and response to environmental problems. Diamond suggests that the first four may or may not prove significant in each society’s demise, but claims that the fifth always is, because a society’s response to environmental problems is largely within its control, unlike the other factors. Hence, as his subtitle puts it, a society can “choose to fail.” He expresses an all-new meaning to the words “learning from our past.”

Diamond, who teaches geography at UCLA, is well known for his Pulitzer Prize-winning best seller *Guns, Germs, and Steel*, which focuses on environmental and structural factors to gauge why Western societies came to dominate the world. In *Collapse*, he continues this theme, but this time considers societies that made their choices, whether, as he says, to succeed or fail. *Collapse* is mostly about the basic elements of the earth’s ecosystem—flora, fauna, climate, and geology—that when preserved make us

more sustainable, because societies fail, in Diamond’s view, when they mismanage these resources.

Diamond examines the lost civilizations of Easter Island, the Maya, and the Norse colony on Greenland to show how a combination of cultural and population factors, and a disregard for natural resources, contributed to their collapse. Extending those lessons, he shows how environmental and population pressures affect present conditions in Haiti and Rwanda, and how events in China, Australia, and Montana could follow the same path.

Diamond then identifies twelve environmental problems that portend doom: natural habitat destruction (mainly through deforestation); wild food reduction; biodiversity loss; soil erosion; natural resource depletion; freshwater pollution; natural photosynthetic resource maximizations; human introduction of toxins and alien species; climate change induction; and finally, overpopulation impact.

It is striking that the World Business Council for Sustainable Development has spelled out a similar list of ten environmental issues that threaten the planet’s ecosystem viability: crop and grazing land loss, tropical forest depletion, species extinction, rapid population growth, fresh water resource shortages, overfishing, habitat destruction, marine pollution, human health threats, climate change, acid rain, and energy resource pressures.<sup>1</sup>

What was then, is what is now. This is the essence of the book. For those critics that say that Diamond does not consider contemporary technological advances that could slow down, or prevent, a collapse, I would argue that the environmental issues of today are more global and widespread, requiring exponentially more knowledge.

The historical fate of Easter Island presents a challenge to our own civilization. One day in the middle of the seventeenth century, the very last tree on Easter Island was felled. Diamond asks, “What went through the mind of the person who cut down that last tree?” What indeed went through the mind of

<sup>1</sup> World Business Council for Sustainable Development. 1997. Exploring Sustainable Development: WBCSD Global Scenarios 2000 – 2050, Summary Brochure. <http://www.wbcsd.ch/DocRoot/FFiAJwjBGGNjlawOAipD/exploringscenarios.pdf>. January 13, 2006.

the person who killed that (second) last Tasmanian Tiger (the last one died in captivity)? And what will the person who uses the last gallon of petrol be thinking? To reiterate an old Cree Indian saying, “Only after the last tree has been cut down/only after the last river has been poisoned/only after the last fish has been caught/only then will you know/that money cannot be eaten.” This is the lesson the book provides.

Because Diamond covers a vast span of time, as well as several serious issues, he invariably glosses over some key matters, makes significant assumptions, and commits large omissions, like, say, the collapse of Rome. Still, he weaves around these potholes and, in general, the book provides a compelling and well-conceived account of historical evidence. He connects the dots, from the collapses of medieval Greenland and the Maya, to the seriousness of climate change, to the future of the planet, leading to a series of present-day mini-collapses, or “ecocides” (ecological suicides), such as dry land salinity in Australia and the mass murder of Tutsi civilians in Rwanda. *Collapse* is a long book, and Diamond gives away the ending at the very beginning. Like a true scientist, he postulates his hypothesis early and then sets out to prove it through supporting evidence. Accordingly, one could read the introduction, gloss over the table of contents, and read the last few chapters to get the point. But, then one would miss the book’s essence, which proceeds through telling captivating stories, like the old Cree Indian once did.

“The societies that ended up collapsing were (like the Maya) among the most creative and (for a time) advanced and successful of their times . . . past peoples were neither ignorant bad managers who deserved to be exterminated or dispossessed, nor all-knowing conscientious environmentalists who solved problems that we can’t solve today. They were people like us, facing problems broadly similar to those that we now face. They were prone either to succeed or to fail,” lest we forget. In this realm, one example that Diamond has left out, since it had not yet occurred, is New Orleans post-Hurricane Katrina. The *Boston Globe* calls Katrina’s real name global warming and predicts that, as the atmosphere warms, it will generate longer droughts, more intense downpours, more-frequent heat waves, and more severe storms. New Orleans collapsed before I managed to experience the jazz, just as we all missed the sun worship of the Inca and the statue building of the Easter Islanders. This is what makes the book so relevant a case study in history for a range of issues faced by today’s global community.

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In 2005, Jared Diamond, the award-winning author of *Germs, Guns and Steel*, *The Third Chimpanzee*, and *Why Is Sex Fun?*, gave the world another masterpiece. His *Collapse: How Societies Choose to Fail or Succeed* is an encyclopedic work that explains why some societies have prevailed and others have not. He examines the causes of success or failure of thirteen past and present societies, big and small, in different parts of the world, under different environmental, climatic, economic, and technological conditions. How these societies managed their environment emerges as a strong determinant of their fates.

Diamond argues that past societies faced eight categories of threats: deforestation and habitat destruction, soil problems (erosion, salinization, fertility losses), water management problems, overhunting, overfishing, introduced species, human population growth, and increased per capita human impact. To these, he adds four additional threats faced by modern societies: human-induced climate change, toxic chemical buildup, energy shortages, and limits to using earth’s photosynthetic capacity. He predicts that most of these dozen threats will become globally critical within the next few decades (some of them are already critical today in many places).

In the past, the unsustainable use of environmental resources, initially driven by deforestation, led to the loss of soils and agricultural productivity. In the end, it destroyed the conditions that allowed societies to survive and prosper. The case of mysterious Easter Island, with its giant stone statues, is impressive. Initially a rainforest island when humans first inhabited it more than a thousand years ago, they started cutting its forest, a process that continued up to the last tree. It was a complete environmental disaster, with deforestation, soil erosion, loss of biodiversity, reduced support capacity to sustain life, and finally societal collapse. How Diamond was able to amass the existing historical and scientific knowledge to tell the story of Easter Island is amazing, and could only be done by a very keen, privileged, and dedicated mind. He has been equally successful in solving the puzzles of other past societies that left no written records, such as the Anasazi in North America, or those that left some documentary evidence, such as the Maya. Even in the case of the Greenland Norse, who knew how to read and write, Diamond’s analysis includes non-literate material, like mittens, indicating that certain cultural factors prevented the Norse from adapting existing resources; for instance, they would

not eat specific foods. In contrast, the Inuit, who lived in the same adverse environment, used all conceivable resources to survive. The story of the Mayan collapse is skillfully told, and it is even more impressive because this was a large, advanced civilization. The book also includes the cases of several modern societies: Rwanda, Haiti and the Dominican Republic, Australia, and China, among others. In all of them, how people learned to manage the environment is the key variable.

The book's analysis focuses on how each human society has used the environment throughout its development. However, the environment is not the only factor affecting the fate of civilizations, and sometimes it is difficult to single out one or another. Diamond has devised what he calls a five-point framework of possible contributing factors: environmental damage, climate change, hostile neighbors, friendly trade partners, and a given society's response to threats. These factors, which may complement or compensate each other, work together or separately to eventually determine the fate of entire civilizations. One key lesson is that environmental management is important, and how societies react to problems and adapt to existing unfavorable conditions (for instance, how they create institutions to face the tragedy of the commons) determines their destiny.

In the final chapter, Diamond asks, "what does it all mean to us today?" He analyzes the dozen threat categories in the context of present, globalized societies. Deforestation, which he contends "was a or the major factor in all collapses of the past," is still a problem in many places. Outside of the book, much has been said about deforestation in the Amazon and other rainforests, and this remains a major concern. The problem of the semi-arid regions of Asia, Africa, and the Americas is perhaps even more serious because sizeable populations live in these regions, almost all of them in developing countries. If it were not for the presence of the other five factors (such as trade and migration), societies in these regions would already have reached the point of collapse. In my native Northeast Brazil, emigration has been the traditional way to reduce population growth and trade with other Brazilian regions, plus governmental assistance, has deferred societal collapse.

After reading the book, we are inevitably left with the question: can our global society be saved? Diamond responds with a note of "cautious optimism." The problems are too serious, and solutions are not apparent, such as how to stimulate needed changes in consumption patterns, especially given the legitimate aspirations of the developing countries to reach the levels (the lifestyles) of rich countries. On the other hand, there is increasing information and awareness about environmental and population

problems. This reminds me of a story that I heard in a small city of the Brazilian semi-arid Northeast that is continually concerned about drought. One farmer said to the other: "It will rain this year." And the second farmer asked why he was so sure. The response was: "Because we would not survive another drought." We have to find ways to overcome the problems that threaten our civilization, because otherwise it may not survive. In the same spirit, Diamond asserts that, "the world's environmental problems *will* get resolved," either "in pleasant ways of our own choice, or in unpleasant ways not of our choice."

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As a strong environmentalist, I was predisposed to accept what I expected to be this book's basic premise: that humans should stop fooling around with Mother Nature. What I did not anticipate was the detailed, engrossing stories that Jared Diamond develops about how and why numerous past human societies have overdeveloped their natural resources, and basically starved to death when the natural environment around them became so degraded that it could no longer support human needs. This phenomenon has occurred numerous times over the course of human history, and, unfortunately, is still happening today. We all know that the experiences of particular groups—for example the Easter Island, Mayan, and Anasazi civilizations—have not been marked by happy-ever-after outcomes. However, it is another thing to be presented with all the details, as reconstructed from archaeological evidence, explaining how it happened. One of this book's objectives is to elucidate the events along the pathways to either collapse or recovery, and to try to reconcile how the peoples involved could "let that happen." A second objective, very relevant to the present, is to learn from the choices made by successful societies in the hope that we might take the necessary actions to assure our survival.

Diamond bases his treatise on a mind-boggling variety of past and present human societies, from tiny Pitcairn Island, to the Viking migrations, to present-day China and Australia. What kept coming to mind as I digested the various case studies was: deforestation, deforestation, deforestation! The destruction of forest cover appears to be the first and most important impact these extinct human societies inflicted on their environments: deforestation to clear land for farming, for building materials, for fuel. No matter

the reason, deforestation under the wrong environmental conditions or safeguards results in topsoil loss, and this, in turn, reduces the cleared land's productivity and precipitates human starvation. Forests are still being felled all around us at an alarming rate, and we seem to be doing nothing significant about it. Diamond also points out the role of increased human population, which in all cases can be identified as the ultimate precursor of forest destruction. Again, in much of the world today, human populations are outrunning their resources, and millions of people are starving each year. Diamond also presents a few cases, including Tikopia, Papua New Guinea, and Japan, in which wise judgment (and action) to protect and manage forest resources, has successfully turned the situation around.

These accounts are necessarily more complex than just terminal deforestation along with overpopulation. Also prominent are (unexpected) climate changes, over-hunting of wild food resources and overfishing, and, especially, problematic societal responses. Several of these failed societies colonized their new homelands during warm, wet periods when their populations thrived, only to collapse when the climate turned extremely cold and/or dry. From my perspective, human overpopulation, abusive land clearing, and unrestricted hunting and gathering of renewable resources are the three "biggies," because they occur in all of Diamond's examples, and they affect the natural and human systems that I have experienced first hand.

As a coral reef ecologist, I have over the past 40 years witnessed the loss of over 50 percent of the coral cover for Caribbean reefs, the shift from coral to algal dominance (that hurts coral reef integrity), and the disappearance of most edible larger fishes and invertebrates. In my field, we have shifted from emphasizing basic research on reef biology and ecology to debating and documenting the rates and causes of species loss—the big cause, by the way, is global warming—and rushing to find ways to stop the decline. Since I am decidedly "coral-o-centric," I see the humans as the bad guys, and my standard response to the inevitable question of "What can we do to save coral reefs?" has been "Tell people to move to Montana (and stop having babies)!" Thus, imagine my surprise when the first chapter of the book is a treatise on the environmental-human drama occurring in Montana, one of the few places that I naïvely thought, despite the changes on land all around me, had few human impacts due to its sparse population. Therefore, it was quite mind-opening for me to learn how few people it takes to initiate environmental degradation, and how difficult it is to stop destructive actions, even when the small number of people seems to make the issues less complex.

Diamond points out that many failed societies, with characteristics similar to those found today in the Caribbean, survived as long as external trade helped them to meet their basic needs. Many Caribbean island societies would likely fail without trade and tourism—much of it obviously dependent upon healthy coral reefs. Ecologists refer to this as an "extinction debt," or, in common parlance, "living on borrowed time." What will happen to these people if their numbers continue to increase and their environments become degraded to the point that tourists no longer visit?

After presenting his historical studies of failed societies, Diamond describes the tragic situations in Haiti and Rwanda, contemporary Third World societies that have collapsed into extreme suffering because of overpopulation and loss of environmental resources. I visited Haiti thirty years ago, when it was in less desperate shape, and saw the treeless landscape and the devastating poverty. I have seen the begging children who sleep on the streets of Manila. And I have visited small villages in Africa and Latin America where people make due with little to no comfort compared to what we First World people think is necessary to survive. If more North Americans could experience this extreme poverty in person, perhaps there would be hope that we could make good future choices.

Diamond also studies superficially successful societies with underlying problems. A worrisome chapter on China, the rising Third World megapower that will dominate world ecology and resources in the decades to come just because of its sheer population size and the fact that its citizenry aspires to live as we do. He also discusses Australia, a large but low-population (by modern standards) First World country. I found it ironic that, until very recently, Australian authorities encouraged more land clearing and more immigration to compete with neighbors such as China. As Diamond points out, based on an assessment of Australia's natural resources, the country has been overpopulated for decades and its deteriorating environment is making it difficult for the domestic population to feed itself.

Diamond ends his book with a somewhat hopeful outlook because of some positive turn-arounds he has observed in big business practices and evidence that in some places human population growth is slowing. This slowing, however, occurs mainly in First World countries where both parents now work two jobs to provide a small number of children with all of the "stuff" we consider essential for modern life. Diamond was hopeful enough to have children when he was 50 (now, they are 17-year-old twins). I, too, have a 17-year-old child, and I have lost sleep at night worrying about what kind of

world she will live in when she reaches my age, and even more, worrying about the world any potential grandchild might encounter. I want to be optimistic that we can make the correct choices.

It must be noted that this is a very long book (525+ pages) and Diamond tends to repeat himself in a number of places. I encourage the author and his publisher to produce an abridged edition that could be assigned to all college freshmen. In the mean time, it is important to spread the word about the currently-available version. If enough people read *Collapse* (and books like it), *and* tell their friends to read it, *and* we elect wise people into power (which we appear unable to do in this country), *and* we all agree to make self-sacrifices in terms of our lifestyles and ecological foot-prints, *and* we help the developing countries to drastically reduce their population growth rates (other than through death from disease, starvation, genocide, and warfare—the other forms of family planning), there may be reason to maintain a sense of hopefulness. Unfortunately, I feel like a passenger on a giant cruise ship headed toward the big rocks that will tear the bottom off the vessel so that we all drown. We have so much momentum that even if the captain, finally seeing the rocks, puts us into full reverse and turns the wheel full starboard, we will not be able to stop in time. I hope that I am wrong and that Diamond is right. So, please spread the word. Give copies of this book to your young friends and colleagues, the ones who still can alter the courses of their family planning and lifestyle choices. Maybe if everyone kicks to the same side we can turn this ship around.