



Chapter 6

Situational Assessment with 2020 Vision

“Only in the last moment in history has the delusion arisen that people can flourish apart from the rest of the living world.”

— E.O. Wilson

After hearing Mother Nature’s *Outcry* from the nine *big picture* scientists and from Greta – exactly what is our situation? Let’s go back to the beginning. Millions of creatures have evolved throughout billions of years on our planet, and until recently, they have all lived in harmony with nature. During the past few hundred years – a mere blink of the eye in history – one species has unknowingly thrown the natural scheme out of balance. That species is us – *Homo sapiens*.

Most of the above paragraph was written ten years ago and comprised the first three sentences in the *Introduction* to our first book, *Healthy Eating, Healthy World*. Back then, we wrote primarily about the grossly unsustainable diet that most people in the developed world were eating – the typical western or *Standard American Diet* with meat, dairy, eggs and/or fish at almost every meal. In that 2011 book, in addition to focusing on the disease reversal powers of a whole food, plant-based diet, we also talked about the environmental benefits of eating that way: less soil erosion, less deforestation, less water consumption and pollution, less energy requirements and less species extinction – including the possible demise of *Homo sapiens*.

At the time, we recognized that there were a few other huge issues that would have to eventually be addressed if we were to survive as a species: overpopulation, a global economy based on the maximization of the consumption of *stuff* in a world of finite

resources, our continued dependence on fossil fuels, the assumption that we are free to do what we wish with the entire planet, and, finally, the granddaddy of them all – climate change.

As for species extinction, the scientific community agrees that there have been five mass extinctions on planet Earth – with all of them taking place during the last half-billion years.

- The first one, the *Ordovician*, ended 444 million years ago.
- The last one (the fifth), the *Cretaceous*, ended 66 million years ago.
- Now, we're apparently living during the Earth's Sixth Mass Extinction and, at the rate we're going, some scientists are predicting that it could end before 2100.

All of the mass extinctions were different but scientists agree that most of them had something in common. From [an article in Cosmos](#):

“Biologists suspect we're living through the sixth major mass extinction. Earth has witnessed five, when more than 75% of species disappeared. Paleontologists spot them when species go missing from the global fossil record. We don't always know what caused them but most had something to do with rapid climate change,” says Melbourne Museum paleontologist Rolf Schmidt.”

So, why did we just focus on food choices in that first book back in 2011? Because, according to our research, the world's livestock industry accounts for at least 18% of human-induced climate change – far more than all of the world's transportation sectors combined. Even more alarming, as reported in Chapter Four, two World Bank researchers concluded that the 2006 U.N. Report ([Livestock's Long Shadow](#)) had significantly understated the greenhouse gases from livestock and that – instead of the reported 18% of human induced greenhouse gases – they concluded that the animal food industry accounted for at least 51% of all human-induced greenhouse gases.

The big difference between 18% and 51% is likely due to the vast amounts of greed and politics that are involved, but whichever number you choose to believe, our food choices are, without a doubt – the only major driver of climate change that can be lowered quickly by anyone who chooses to eat more plant-based foods and less animal-based foods. Our feeling in 2011 was that if we could just get most people in the developed world to switch to a plant-based diet that we could buy ourselves enough time to deal with all of the other huge issues.

We also knew that it would take many decades, if not centuries, to effect change in those other, more complex issues – whereas with food choices, almost anyone in the developed world can adopt a health-promoting, Earth-friendly, plant-based diet virtually overnight – if they simply choose to do so. We also recognized that changing

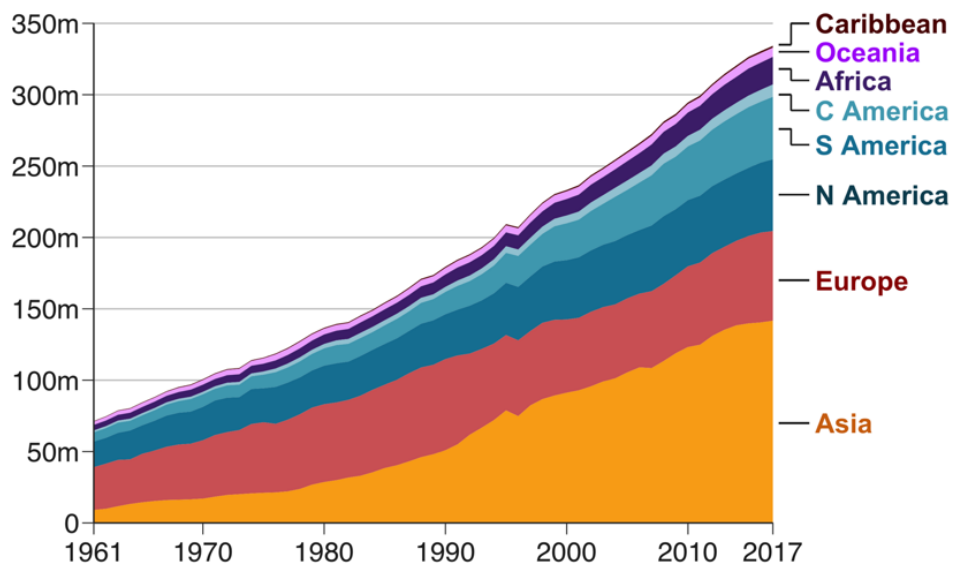
one's diet is the single most powerful move that any individual can make when it comes to promoting sustainability on planet Earth. And that is still the case.

Unfortunately, we and a host of other authors, researchers and health professionals with similar messages – have failed to make much of a dent in the world's love affair with eating animals. Oh sure, plant-based eating is definitely trending upward in the developed world, but not nearly enough to offset the explosion of demand for meat and dairy in Asia, Africa and South America. As you can see from the graph below, the sharply increasing demand for meat in Asia has completely overshadowed any leveling off that might be happening in other parts of the world.

The graph below illustrates a whopping seven-fold increase in the tonnage of meat produced around the world during my lifetime – from well under 50 million tons in the 1950's to almost 350 million tons in 2017. It also continued to increase in 2018 and 2019.

Meat production by region

Annual production, in tonnes



Source: UN Food and Agriculture Organization / Our World in Data

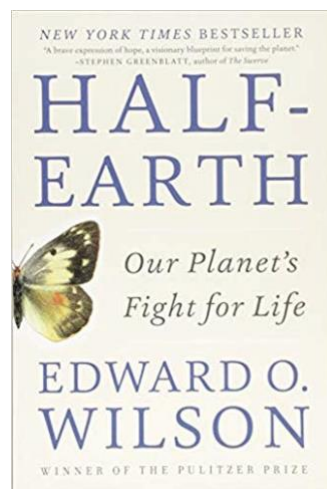
BBC

Although we have made no real progress when it comes to the world's total consumption of meat, we've made negative progress when it comes to the more complex issues like curbing population, developing a green global economy and fighting climate change. And now we're running out of time.

The *Global Footprint Network* reported a few years ago that if everyone in the world lived the typical lifestyle of an average European, that the Earth's ecosystem was capable of supporting a population of just two billion people indefinitely. It gets worse. If everyone lived like the average American, they estimated that our planet could support

just one billion indefinitely. Now, as we approach a global population of eight billion in 2020, what are our options? Obviously, we need some combination of a lot fewer people living a far *greener* lifestyle.

First of all, I don't believe that our situation is as bad as the *Global Footprint Network* concluded and believe that, if managed better, our planet could support indefinitely, a total human population of up to four billion. My estimate is more optimistic because I believe that, with a greatly-accelerated, mass adoption of plant-based eating, coupled with totally reinventing our civilization – that our planet might well be able to support as many as that four billion number – indefinitely. But reinvention of our civilization is no small task – particularly when most of the population increases are taking place in the developing world.



In Dr. E.O. Wilson's 2017 book pictured here, he concluded that we need to essentially return half of the Earth to nature. But in order to do that, for those of us living in the developed world, we must examine every single aspect of our day-to-day lives and be willing to urgently revise them such that our existing population will be tolerated by Mother Nature – provided that we give half the planet back to her.

Clearly, we have a lot of work to do. In his *Half-Earth* prologue, Wilson sums up the current state of humanity.

"What is man? Storyteller, mythmaker, and destroyer of the living world. Thinking with a gabble of reason, emotion, and religion. Lucky accident of primate evolution during the late Pleistocene. Mind of the biosphere. Magnificent in imaginative power and exploratory drive, yet yearning to be more master than steward of a declining planet. Born with the capacity to survive and evolve forever, able to render the biosphere eternal also.

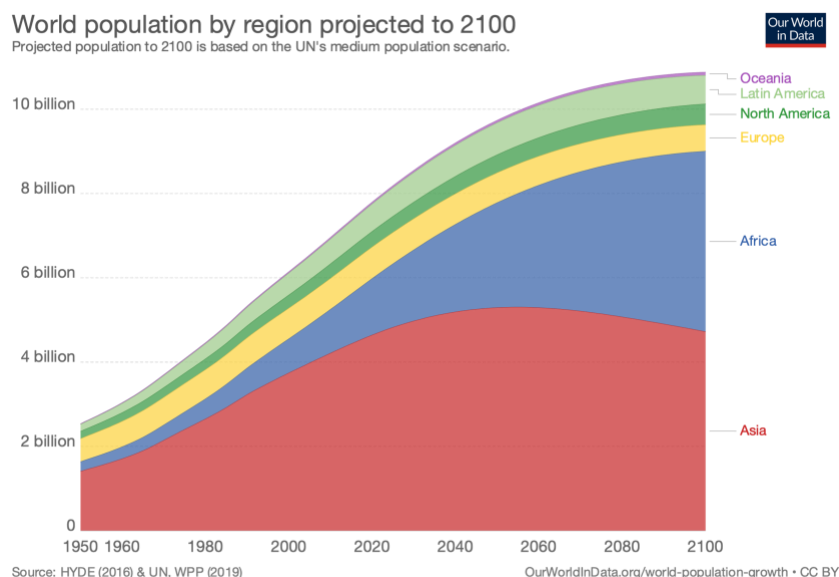
Yet arrogant, reckless, lethally predisposed to favor self, tribe, and short-term futures. Obsequious to imagined higher beings, contemptuous toward lower forms of life.”

So, where does that leave us? With a desperate need to start getting serious about those three huge, unsustainable issues mentioned above – the issues that may take us a century or more to fully resolve. We are talking primarily about overpopulation, climate change and an international economy that depends on never-ending growth in a world of finite resources. Let’s take a closer look at all three:

Getting Serious about Overpopulation

Even if we do get deadly serious about reducing the global population to four billion or less, it will still take a very long time to get it done. Using basic arithmetic, I figured that if we could lower the daily births from the current level of 380,000 down to 100,000 per day, we would still need 160 years to get down to the four billion number. This reality further suggests that as we plan how we can survive and thrive on planet Earth, we had best err on the side of living even greener than we ever imagined possible.

That’s because we’ve probably already got at least twice as many people as our planet can support indefinitely – if my generous estimate is correct. This is especially true if we don’t get serious about trying to live even greener than Mother Nature demands. Based on the chart below, the U.N. is predicting that the population growth *rate* will continue to slow until the Earth’s total population peaks around 2100 at roughly eleven billion. But my gut tells me that Mother Nature will never let us get anywhere near that 11 billion mark.



Obviously, even if we're successful in beginning to steadily lower the world's population, which is highly unlikely, we also must get serious about developing a green global economy and, through a combination of mitigation and adaptation – avoiding the worst effects of climate change.

Desperately Needed: A Much Greener Global Economy

How long can we continue to live in a world where everything is driven by the ever-increasing consumption of manufactured products in a world with an exploding population where people in the developing countries are just beginning to buy *stuff* and eat meat for the first time? If we are to survive, we've got to have a better *system* – one whereby success is measured against our treatment of nature. On a scale of 1 to 100 right now, my guess is that we'd be well below the score of ten – relative to how we're treating her now.

Clearly, we are nowhere close to Dr. James Lovelock's stated requirement that we actually begin *improving the ecosystem* of the only known planet in the universe capable of keeping us alive. In a world with 195 countries and thousands of religions, it's almost impossible to fathom what it would take to launch a new world economy that rewards those individuals and entities who put nature first in all decisions. In the next few chapters, we will take a stab at what we think might be possible.

What about artificial intelligence, AI? As stated in an [August 2019 article](#), my preliminary conclusion is that we will have a much better chance of surviving indefinitely if we can figure out a way to peacefully harness the incredible power of Artificial General Intelligence (AGI) and/or Artificial Super Intelligence (ASI). If that means that some good-natured cyborgs will ultimately "manage" the planet, then so be it.

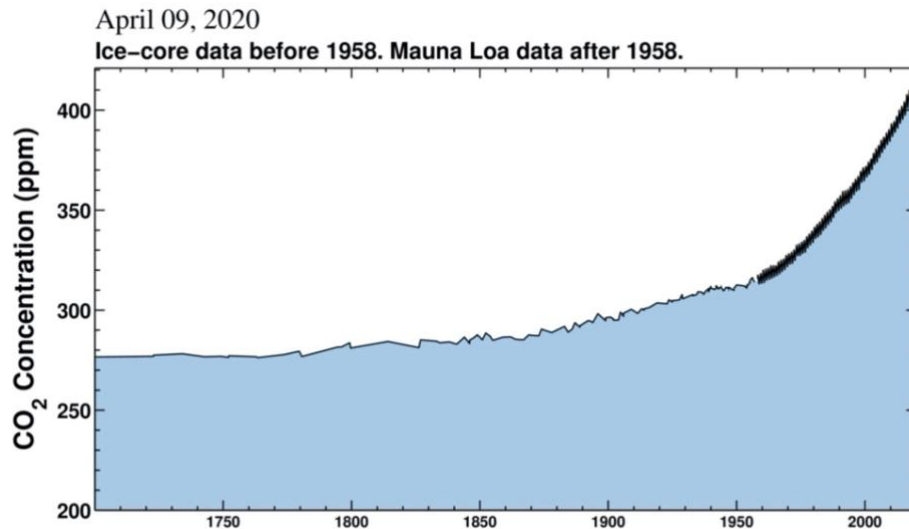
So, instead of worrying about AI getting too smart, too powerful and too autonomous, too quickly – perhaps the world's leading artificial intelligence organizations (whether academic, business or government) should place their primary emphasis on leveraging the ever-expanding analytical and cognitive power of AI to tell us what we must do in order to mitigate the worst effects of climate change. Ultimately, the unlimited power of AI might be able to help us understand how we must modify, or replace, our civilization in order to survive.

Dealing with the Elephant in the Room: Climate Change

Even the mainstream IPCC of the United Nations reported in October 2018 that we've only got until 2030 to make dramatic cuts in our CO2 emissions. And since those emissions continue to rise, it is highly unlikely that we will see those numbers start coming down anytime soon. The [IPCC report got a lot of attention](#), but so far, not much

action. And, according to the graph below, we have a very steep mountain to climb when it comes to actually lowering the CO₂ concentrations in our atmosphere.

This is an April 2020 graph of the historical CO₂ parts per million (now well above 400) at Mauna Loa from the [Scripps Keeling website](#). Notice that the rate of increase has been exponential for over fifty years. Also, notice that we've been well above the 350 PPM "safe limit" for around forty years.



Then, of course, we must not forget the rapidly melting ice in the Arctic and what will happen when the blue ocean replaces the bright white surface that has been there for millions of years. In that [same 3-minute video](#) mentioned earlier, Dr. Lovelock weighs in on that topic:

"Just the melting of the floating ice in the Arctic Ocean will add as much heat to the Earth as all of the CO₂ we have put in the atmosphere to date – and that is why I'm afraid that there's very little we can do with respect to all of our efforts to reduce emissions."

Where Do We Stand regarding our Biggest Challenges?

Clearly, we have failed miserably when it comes to satisfactorily addressing this list of four components that are seriously threatening the long-term sustainability of humanity.

1. **Overpopulation.** We continue to add approximately seven million people to the global population every month. The world's most populous city, Shanghai,

has twenty-four million residents in 2020. Our current population growth rate is tantamount to adding almost four new Shanghai's every year.

2. **Unsustainable Global Economy.** Fueled by a system that requires the never-ending consumption of stuff, this topic is hardly being discussed by any of the world's most powerful leaders. Ultimately, we must have a global economic system that answers first and foremost to Mother Nature. At some point, we must recognize that we do not *own* the planet and that we're not permitted to continue running roughshod over all of the land, the waters, and the millions of species that share this planet with us.
3. **Climate Change.** As Dr. Lovelock says, that ship has sailed and there's really not much we can do when it comes to mitigation. All that's left is adaptation – learning how to live with it. Some scientists have concluded that the only way we can prevent disaster is through a massive, urgently executed, systematic process of removing far more CO₂ than we add – until we get things under control.
4. **Consumption of Meat, Dairy, Eggs and Fish.** Our food choices are a major contributor to climate change, soil erosion, deforestation and more. As stated before – on an average per calorie basis – it takes well over ten times as much land, water and energy to produce animal-based foods – as it does for the Earth-friendly and far healthier, plant-based foods. Yet our global consumption of animal products continues to soar.

Rising to Humanity's Ultimate Challenge – Survival

As an engineer, career business executive and researcher/writer on this sustainability crisis since 2002, I still have hope that we can save ourselves. But, as stated before, without fully leveraging the power of AI to help us adapt to the worst effects of climate change, we believe that the odds are fairly high that we will fail.

That's because of two primary barriers to rapid change throughout the world: Almost two hundred countries coupled with thousands of religions. So, what's the problem? The fact that all of those groups are rarely able to agree on much of anything – especially when it comes to a prospect like dramatically changing the way we all live on this planet.

Given the above situation, how could any sufficiently large contingent of humans come together enough to have even a slight chance of surviving the enormous climate change disruption that is heading our way? We propose an alternative strategy – by figuring out how to improve everything about the way we live on this planet – we are talking about a complete reinvention of our civilization – one that will require entirely new economic and governance systems. We will talk about our vision how that all might work in the chapters ahead.

In Chapter Eleven, we discuss the need for capitalism to be replaced by *Earthism* and *Earthonomics*. As for *Earthism*, we are suggesting that future constitutions of all countries be based on a new, environmentally-focused, economic and governance model that reads something like this:

A form of global commerce and governance that depends on a single guiding principle for the entire planet: our supreme need to significantly improve our relationship with the natural ecosystem that gives us life - a process that must continue in perpetuity.

As mentioned earlier, the above philosophy may not be that different from what the native Americans, and other indigenous peoples around the world, embraced for thousands of years. Finally, this *situational assessment* chapter would not be complete without a summary of the pandemic that is exploding across the world as this book goes to the publisher.

Assessing the Global Coronavirus Situation

During the first few chapters, we wrote about the many *outcries* that we are hearing from nature – the melting polar ice cap, the fires, the droughts, the floods, the storms, the rising temperatures and the declining populations of birds and insects that are so crucial to our own survival and well-being. The fact is that Mother Nature has been sending us clear signals like that for a long time – but hardly anyone is listening, as news of those kinds of things rarely make it to the front page. In short, we have not been paying attention to what nature has been trying to tell us.

But, with Covid-19, we have a whole new ballgame. For the first time in history, everyone in the world is paying rapt attention to what nature is telling us through this deadly virus. She is telling us that something is terribly wrong with our relationship with the biosphere, of which we are a part. Unfortunately, most of the world's citizens, including the world's leaders, are not thinking about what nature is trying to tell us. They are thinking that this was a terrible accident that will claim the lives of thousands – but that it will pass within a few months, or within a year, and then we can all get back to normal.

The problem is that our *normal* way of living is what got us into this global pandemic in the first place. Ideally, we would consider Covid-19 as a screeching wake-up call. Despite the short-term damage and suffering it may inflict, if this pandemic ultimately serves as an alarm bell that jolts us into coming to grips with – and resolving – the great many unsustainable elements of our civilization – history may someday record that the Coronavirus may have played a pivotal role in the ultimate survival of our species.

The primary point here is that we need to figure out a way to spark an intense, never-ending global *conversation* about the single most important topic in the history of

humanity – our need to totally reinvent our civilization so that we will be able to move rapidly in the direction of living in complete harmony with nature. We have the wherewithal to get that done, but we must start talking about it now. Maybe the Coronavirus experience will help to jumpstart this entire process.

Part Two of this book provides an exploration of just how we might turn those *conversations* into a global reality of living in harmony with nature for many, many years to come.

“People only see what they are prepared to see.”

– Ralph Waldo Emerson