Save the Earth; Don’t Give Birth!

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In June 2022, the United States Supreme Court voted 5–4 to overturn the 1973 *Roe v. Wade* decision, which permitted abortion nationwide until fetal viability. The 2022 majority opinion (*Dobbs v. Jackson Women’s Health Organization*), written by Justice Samuel Alito, essentially said that the U.S. Constitution does not mention abortion and contains no language that supports arguments in favor of a woman’s right to privacy in making her own reproductive decisions. Therefore, legislation regarding abortion, including making it illegal, should be left to the states. Other religious arguments, first by the Roman Catholic Church and now by fundamentalist Protestants, hold that a fetus is sanctified by God and all abortion is murder (Pope Sixtus V in 1588 and others). Parenthetically, the Bible does not mention abortion either, so this entire claim is based purely on interpretation.

Supporters of a woman’s right to privacy in making her own reproductive choices argue that the Fourth, Ninth, and Fourteenth Amendments to the Constitution of the United States do contain language implying that such rights exist. A person’s political philosophical predisposition, liberal or conservative, appears to be critical in determining whether one can “see” this right to privacy in these amendments. In general, religious conservatives oppose abortion, and liberals—religious or otherwise—support a woman’s private right to choose abortion.

Notably, neither side of the debate mentions, positively or negatively, the problem of human overpopulation as a compelling reason for the worldwide availability of all forms of birth control, including abortion. The real problem facing us is one of sustainability. If we wish to have our species continue to live on this planet, its capacity to sustain us is key.

Voluminous data support arguments that the planet is already overpopulated with human beings and that human overpopulation is a major cause of global warming from burning fossil fuels, destroying forests, and raising farm animals for meat. Human overpopulation leads to persistence of poverty, famine, social unrest, mass population migrations, war, and the rapid, global spread of infectious diseases, the COVID-19 pandemic being just the most recent example. Yet most politicians, liberal and conservative, simply refuse to address human overpopulation. It is too sensitive a topic for politics, at least in America. The most obvious way to mitigate these problems is through birth control.

Incompatible Conditions

A cherished question I like to ask students in environmental classes is: What are the most important things each of us can do to create a more sustainable environment?

The most frequent answers include: (1) “Reduce, reuse, and recycle”: (a) Cut down on what you purchase, (b) reuse whatever can be used a second time or many times, and (c) recycle whatever you can’t reuse instead of throwing it away, hoping that it can be made into another useful product. In other words, follow the “three Rs” to conserve natural resources. These are all important ways to conserve and minimize waste.

Another common answer is: (2) Educate yourself and others about the environmental needs of our planet. You can further your own education and then help others understand the importance and value of our individual natural resources. And remember, the needs of our planet are, in fact, the needs of the human population. Regardless of what we do, the planet itself will survive;

it's the biosphere that will suffer, and that includes you.

(3) Shop wisely. For example, it is suggested that we should buy less plastic and bring to the market reusable shopping bags. But in this regard, we say we can go much further: Be sure to *never* buy something that you may not use or anything in quantity wher you may not be able to use all of it.

(4) Going still one step further, "*be an anti-consumer*." Buy only what is absolutely essential and avoid purchasing anything not needed, both for yourself and for others. A lot of waste is generated by buying presents for others that they may not even want or like. But once you've bought an item, be sure it is used to its fullest extent.

(5) Drive less. Walk, jog, bike, and take public transportation whenever possible. This is particularly important for efforts to minimize global warming. We must cut our greenhouse gas emissions to survive the atmospheric heat that we humans are causing. No other species on Earth is burning fossil fuels, raising animals for food, or driving motor vehicles, so we bear sole responsibility. One species is destroying Earth's favorable climate for all other living species.

(6) Plant a tree or, more beneficially, plant many! Whenever space on Earth is available but not in use, we can improve our local environment by keeping it fresh with oxygen-generating and CO_2-absorbing plants, and the larger they are, the more beneficial they are likely to be.

There are many other activities that have been suggested, such as volunteering for a worthwhile cause and conserving water, electricity, fossil fuels, etc. Certainly, do not leave on lights and electric appliances when they are not being used, and turn off these electricity-consuming devices even when someone else turned them on but forgot to turn them off when they left. We must think of our collective selves, not just our individual selves.

Of all the answers students have given, very seldom do I hear the answer that I feel is most important for the preservation of our biosphere. That is, "Have one fewer kid," or simply, "Don't have kids." None of the other actions noted above will be as effective in saving the environment as being responsible for a decrease in the human population. A Swedish study published in IOPscience in 2017 found that having one fewer child per family saved approximately sixty metric tons of carbon dioxide each year for the lifespan of the child in developed countries. Wow! That's more than any one of the other suggestions noted in the previous paragraphs, the common suggestions made by people, including environmentalists.

There are many reasons young couples choose not to have children, and in no circumstances should a couple be cajoled into having kids if they don't want them or are not sure. Becoming a parent requires a long-term commitment by both parents, normally of at least twenty years, so no one should undertake such an option if they are not as certain as they can reasonably be. This means that anyone considering parenthood should have all the alternative options at their disposal, including (a) abstaining from sex—in marriage and outside of it, an option few couples choose, (b) using truly reliable forms of contraception, or (c) abortion. Environmentally speaking, a woman or couple choosing abortion over giving birth is the more responsible choice, while having a child is the most damaging action for the environment a person can take. After all, "human birth" means a growing human population, and as the population continues to grow, there is no hope for a stable compatible environment. The inevitable consequence of this unchecked growth is suffering and death on a magnitude that none of us have ever experienced to date.

There are many reasons a couple may prefer not to have a child. The couple may not have the aptitude for parenting (although few may realize this) or may simply have no desire to raise kids. After all, not everyone is suited for parenthood, and many folks are more concerned about pursuing their careers and personal interests. Moreover, children are expensive for parents if raised responsibly, and they are even more expensive to society if they are not. In considering pregnancy, a person may already have caregiving responsibilities involving older relations or other children, and they may even feel their means are insufficient to meet their own needs or those of the folks they already support. Thus, the United States Supreme Court, which is already making millions of women's decision-making regarding abortion difficult, has performed one of the most questionable judgements that could have been made by any court. It is just as irresponsible as their ruling against the Environmental Protection Agency and other governmental agencies that greatly diminished their ability to enforce regulations that protect the United States and all world citizens against environmental disasters. This lack of foresight from people in positions of responsibility is tantamount to a crime against humanity, and ignorance is a poor excuse.

Species Extinction

Extinction is the termination of a kind of organism, a species, a genus, an organismal type, or even a whole phylum. Extinction is generally determined to occur at the loss of the last mating pair of a group of organisms. But errors have been made, for example when surviving members were found after a species was considered extinct. However, more often, species go extinct unnoticed, and the loss is not recorded. This occurs frequently in the tropics, where numerous species are not recognized or have yet to be classified. As a result, estimated rates of extinction have varied tremendously but are generally on the low side. Nevertheless, experts agree that today’s extinction rates are probably thousands of times higher than the natural baseline rate of just a few centuries ago due solely to recent human activities.

Judging from the fossil record, the baseline extinction rate over the past millions of years may have been roughly one in a million species per year. However, at a recent United Nations Convention on Biological Diversity, it was suggested, “Every day, up to 150 multicellular eukaryotic species are lost.” If true, this could amount to an enormous percentage (>1 percent) of total species being lost per decade. And the rates are increasing due to our increasing human population, which continues to grow roughly by eighty million people per year worldwide.

Meat eaters convert nonhuman animal flesh into human flesh, and this is occurring at an ever-increasing rate as our population grows. When people are starving, their concern for endangered species tends to disappear. And remember, extinction is forever! Approximately a quarter of animal species on Earth are now considered threatened with extinction,[1] but this number is expected to rise as the human population increases. Frank Fenner, emeritus professor of microbiology at the Australian National University in Canberra, has said *Homo sapiens* will not be able to survive its population explosion and “unbridled consumption” and will become extinct, perhaps within a century, along with many other species.[2] Even if there comes a day when the world completely stops emitting greenhouse gasses into the atmosphere, coastal regions and island nations will continue to experience rising sea levels for centuries afterward, according to a study by researchers at MIT and Simon Fraser University.[3] Greenhouse gas stabilization may never be achieved until human numbers are greatly diminished. It seems quite likely that our species has a very limited time to enjoy the Earth unless extreme restrictions on emissions of pollutants are imposed.

Based in part on recent U.S. Supreme Court decisions, it seems highly unlikely that Earth’s inhabitants will be able to impose such restrictions. Yet, as published in *Geophysical Research Letters*, Earth may reasonably have at least 1.5 billion years left to support life, assuming that no cataclysmic event, such as an asteroid strike, occurs. To preserve a future for humans on Earth, we clearly must reduce our current population, preferably through voluntary means that do not involve extensive human suffering. We need more knowledgeable, well-educated people serving as our political leaders than most of those who are serving on the U.S. Supreme Court today.

Resource Depletion

Farming, mining, fishing, fossil fuel consumption, and water use are all human activities that deplete Earth’s natural resources. Because humans are the primary consumers of these resources, the use of all such resources will increase along with the human population. In addition to overpopulation, over-consumption and waste of useful resources results in significant depletion of these supplies, from one-third to two-thirds of the total, regardless of what they are. Nearly one-third of all the food that is produced in the world never gets eaten. By some estimates, we waste thirty million tons of food in the United States and 1.3 billion metric tons worldwide every year. All this waste has huge economic, environmental, and social costs.[4] One in three people globally do not have access to safe drinking water.[5] Yet in developed countries, such as the United States, the average family wastes around 180 gallons per week, or 9,400 gallons of water annually. That’s equivalent to the amount of water needed to wash more than 300 loads of laundry.[6]

Our forests and wild lands are being destroyed due in part to industrial efforts to make money cheaply and quickly, but we are all dependent on these areas of the planet for the retention of water and fertile land, as well as for the restoration of our atmosphere. Deforestation, soil degradation, and overfishing are examples of our careless activities. For example, it is estimated that about 80 percent of the world’s virgin forests have been eliminated or degraded, with over one-third having been totally cleared, and the rates of tree loss are increasing around the world. It may take centuries for a destroyed forest to fully renew itself, and we don’t have that kind of time. Ancient forests are being cut down to supply cheap timber and wood products. A result of this deforestation is increased rates of climate change, biodiversity loss, and community displacements.

Wildfires, exacerbated by global warming, are similarly destroying our forests, and these fires are occurring with ever increasing frequency and severity each year. Since 1990, it is estimated that over one billion acres of forest have been lost through conversion to other land uses. While water covers 71 percent of the surface of the planet, only 3 percent is freshwater, and only 1.2 percent is potable. Water is a limited resource that will continue to become scarcer as our population increases.

Overfishing results not just from the harvesting of fish but also from the death of sea creatures due to "bycatch," the process of letting unwanted caught fish die, and also "ghost fishing," the death of sea creatures killed by fishing gear that is snagged, lost, or left in our waterways. Although worthless to the fisherman, they can still kill marine life.

Mining is another example. It depletes our mineral supplies, such as uranium, copper, mercury, cadmium, arsenic, chromium, iron, thallium, and lead, which are useful but also toxic at sufficient concentrations. They are mined for profit, and gold and silver are, of course, of particular commercial value. The mining industries allow technological and industrial development, but, like farming, they cause serious pollution and contamination in addition to resource depletion and natural habitat destruction.

Pollution

The pollutants we produce are endangering not only ourselves but particularly other animals for whom our waste is especially toxic. These include amphibians that absorb toxins and many manmade compounds through their thin skins. About 41 percent of all amphibian species are currently threatened with extinction, and these organisms may be the first major group of animals to go extinct.[7] However, many other animal and plant species are threatened by toxins that can sicken and even kill humans. Examples of toxic air pollutants include benzene, found in gasoline; perchloroethylene, emitted from dry-cleaning facilities; and methylene chloride, used as an organic solvent. Airborne human pollutants can take the form of emissions from factories, cars, planes, and aerosol cans, among other media. Cigarette smoke is a particularly harmful form of air pollution. It is known to cause cancer, heart disease, and other life-threatening conditions, and the life expectancy for smokers is at least ten years shorter than for nonsmokers.[8]

Pollutants to water include (but are not limited to) everyday chemicals, trash, pathogenic bacteria, viruses, and parasites. Just about all forms of pollution eventually make their way to water. The unwanted consequences of anthropogenic pollution are usually ignored or even intentionally concealed.

Examples of human behavior that result in pollution, but are not usually considered as such, include groundwater abstraction, subsurface mining, vegetation removal, and chemical release into the environment. Additionally, what is toxic to us is often more toxic to other living organisms.

Temperature Ranges Allowing Organismal Survival

In 1958, NASA reported that the human body evolved to live in environments that are between 4°C and 35°C.[9] However, if humidity is lower than 50 percent, we can withstand slightly hotter temperatures. The higher the humidity, the hotter it feels, because sweating is less effective as a cooling mechanism. But how hot does our environment on Earth get? Parts of Australia and the Middle East are among the hottest inhabited areas on Earth. In January 2018, the Western Sydney suburb of Penrith peaked at 47°C (107°F). However, Death Valley in California may be the hottest, hitting over 56°C (133°F), and in 2022, record temperatures were recorded all over Earth's surface. At 56°C, a person cannot survive even for a day. At 52°C, only 10 percent of the human population can survive for a day; at 45°C, 25 percent of the population can survive for a day, while at 40°C, about 50 percent of the population will perish. And for 100 percent of the population to survive, the temperature cannot exceed about

35°C, just two degrees below normal human body temperature. This is not just theoretical; in July 2022, a severe heat wave struck the United States and Europe, causing power grids to fail, thousands to die, and even airport tarmacs to melt. Global warming is not just a threat on the horizon; it is here now.

What about other warm-blooded animals? Mammals have varied normal body temperatures, from about 97°F (36°C) to 103°F (39°C). Birds have somewhat higher body temperatures than mammals, usually at about 105°F (40.5°C). However, even with these average body temperatures, these creatures probably cannot survive at temperatures above 50°C even for a day.

And what about plants? These organisms cannot run away to a cooler place or jump into a lake or river to cool down. Their tolerance to heat is very limited. If temperatures stay above about 90°F (32°C) for extended periods, leafy plants will not survive. This means that when temperatures rise above 90°F and remain there for hours, leaves wilt, especially in dry heat, flowers drop, losing their reproductive capabilities, and the plant stops "breathing" to prevent water loss. That is, they close their stomata, the large pores in their leaves. However, this also closes their pathways for CO_2 intake, required for photosynthesis. Under such conditions, the plants will grow more slowly, or not at all, and plants with minimal photosynthesis will be more sensitive to diseases as their immune systems will be weakened. Mulching the soil in which the plants grow helps them to retain moisture, but, importantly, drought resistant, desert-adapted plants such as cacti, succulents, and certain woody plants are particularly good at withstanding heat. In a century, these may be the only plants left on the planet.

On the other hand, thermophilic fungi can survive up to 70°C and even thrive between 45°C and 55°C, temperatures at which most plants and animals perish, and some bacteria and archaea are known to survive even at temperatures in excess of 100°C, near thermal vents in the oceans or in places such as the geysers in Yellowstone Park. Therefore, if we are careless, allowing temperatures to rise too much, we may exterminate all plants and animals, including ourselves, and the Earth will once again be populated only with microorganisms, bacteria, archaea, and fungi. Then, once the planet cools down again, maybe in a few millior years, the evolutionary process toward complex multicellular life can begin again.

The Planet's Primary Recyclers: Microorganisms (Bacteria, Archaea and Fungi)

Some plants and animals (including a few humans) are known recyclers. Plants have the capacity to sequester harmful, even toxic compounds in vacuoles, separated from the cell cytoplasm by a lipid bilayer membrane. Sequestration not only protects the plant cells but also facilitates converting toxic substances to other less poisonous compounds. And some animals make their living by recycling. Ants, termites, and many other insects degrade organic materials that are generated when other creatures (e.g., plants and animals) die. This renews the earth, converting the dead into food sources for other organisms.

The primary recyclers are the microorganisms, bacteria, archaea, and fungi. As the organic compounds released from dying organisms of all types break down, microorganisms release new nutrients into the air and soil, nutrients such as ammonia, carbon dioxide, and oxygen as well as utilizable carbon, nitrogen, and phosphorous compounds. Decomposition by microbes enriches the air and soil so plants and other organisms can grow in a healthier environment.

The most important recyclers are the prokaryotes, microorganisms that lack a nucleus. Within the past ten years, we have learned that there are far more bacterial and archaeal phyla than was recognized previously. The newly discovered organisms are even smaller than the more typical, better understood microorganisms that we have known about for decades. Typical prokaryotic cells are about 0.1 percent as large as typical eukaryotic cells, but the newly discovered prokaryotes are up to 1,000 times smaller than the bacterial types recognized previously. Before their discovery, using techniques known as "metagenomics,"[10] many scientists believed that no living organism could be so small and have so few genes, and hence, their existence was not sought. Although exceedingly small, these organisms are by far more numerous than originally thought, and it

has been estimated that their numbers may exceed those of macro-organisms, such as humans, by at least a thousand-fold. Moreover, they are found everywhere on and in the Earth, so their capacity for renewal is tremendous. Despite their small sizes, prokaryotes are thought to represent about 50 percent of all the biomass on Earth. They are more than a thousand times more prevalent than eukaryotes, and therefore capable of recycling huge amounts of waste.

These discoveries demonstrate the interconnectivity of all living components within the biosphere and how we are dependent on each other for our existence. Disrupting one or a few components in the biosphere is likely to negatively impact many others, and extinction of one type of living organism will have dire consequences for many others. It took millions of years to evolve these interdependencies, so restoration of a broken system will also take a very long time.

Resource Security Allowing Familial and Societal Stability

Everyone recognizes the need for adequate supplies of food and potable water for plant, animal, and human life to exist in a healthy state. Water is the most important ingredient for life as we know it. Crops and livestock need water to grow, and agriculture requires massive quantities of water for irrigation. Because feeding the world and producing a diverse range of non-food crops such as cotton, wood, and fibers requires water, agriculture is the greatest consumer of water. Irrigation currently uses close to 70 percent of all the freshwater available for human use.

In 1948, the Universal Declaration of Human Rights affirmed the right of everyone on Earth to adequate sources of clean water and food. Yet we have done little to ensure this right. Access to these life essentials in many developing countries depends on access to other natural resources required for food production. In July 2010, the UN General Assembly declared that access to clean drinking water and sanitation is a human right. But the "right" to water and food is simply not possible when our population exceeds what farmers can provide. Transporting these essentials to the needy is another major problem. Consequently, this "right" depends on the availability of several essential resources that are simply lacking for large segments of the human population.

Water and food are just the bare essentials for familial and societal stability, so when they are not available, the "rights" of the people cannot be realized. Starvation, war, and pandemics within the past few years have shown this to be true. Bitter times cannot always be predicted or prevented, and democratic governments, attempting to be responsive to the needs of their people—as are most of those in the Americas, Europe, and parts of Asia—do their best to provide for their people. It should be noted, however, that this world picture does not include large surface areas on the globe where food and water scarcity affect billions of people, most of whom are poor and disadvantaged. When they starve to death *en masse*, no one, not even the UN General Assembly, can claim that there is a "right to life."

Conclusions and Perspectives

The human population now exceeds eight billion and is expected to reach ten billion in thirty years.[11] This fact alone guarantees suffering and premature death over much of the globe, not just for a few but for billions of people. Yet we all hope for familial and societal security for all peoples. The security and protection of family life is essential for the growth and development of young children. Protecting families against catastrophes and conflicts such as wars and epidemics is required for the successful realization of a child's potential to develop into a flourishing adult. And family security is probably a prerequisite for social stability. It seems that only with a very substantial reduction in the size of the human population can we hope for a stable order for Earth's biosphere and its human inhabitants. And this will only be possible when all world citizens have access to a full range of contraceptive devices, medications, and procedures, including abortion. There are no other means by which we can achieve universal sustainability, the prerequisite for continuing human life on Earth.

Sustainability requires what seems today like a political impossibility. We cannot, and should not, tolerate governments that do not recognize the needs of the human population as a species within Earth's complex biosphere. It is worth noting that in July 2022, Republicans in the U.S. Senate actually opposed a bill that would have guaranteed women the right to travel from one state to another to obtain an abortion if they so choose. Our government also seems unable to act sensibly on global warming, the greatest threat to the biosphere after human population expansion.

We must somehow eliminate greed, dishonesty, and selfishness at the personal, societal, national, and international levels if we have any hope of humanity persevering on the Earth for longer than just a few hundred years. We must use our scientific knowledge and models rather than ancient mythological treatises as guides. Unfortunately, it is not clear that we humans are capable of such an achievement, but it is our only hope. Wouldn't it be tragic to forever lose the works of the great composers,

artists, literary giants, and scientists who have contributed to the development of our rich cultures? Think of what our species might be capable of achieving if we only have the time to continue learning, exploring, and contributing. We have a long way to go. It will be a tenuous journey that unfortunately must be taken in a short period of time.

Notes

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