

## **Armageddon is Already Here: Our Warming Earth & The Correlation Between Diet & Climate Change**

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**Abstract**

*There is mounting evidence to show that mankind is at a critical juncture in the history of the earth. Everywhere, from the Americas to Australia, there are bush fires raging, extreme weather events, oceans warming, sea levels rising, and thousands of species dying out. Anthropogenic activity has destroyed much of the earth and has contributed to the gradual warming of its land masses and oceans, to the extent that now, if we don't become proactive, we face the very real threat of making our planet so inhabitable that all life on it, including us, will die out. In this paper I will argue that to combat climate change a huge reduction in the eating of meat and dairy is necessary, as animal agriculture is the leading cause of global warming. We urgently need to rethink our dietary preferences if we want to our future generations to survive.*

**Keywords**

*Climate Change, Veganism, Meat Industry, Animal Agriculture.*

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There can be no doubt that the earth is facing an unprecedented change in its ecological environment - a change that is primarily anthropogenic and is driven chiefly by a mindless abuse of the finite resources of the earth as well as a callous disregard for all other life on the planet. Mankind's appropriation of God-like status to himself and his belief that it is his inalienable right to exploit fish, flesh, and fowl and the soil, water, and air of the earth is at the root of the ecological disaster that is currently staring humanity in the face.

The most obvious result of ecological change has been a gradual rise in the temperature of the earth over the past hundred years or so. The Intergovernmental Panel on Climate Change (IPCC), which is the United Nations body for assessing the science related to climate change has reported that averaged over all land and ocean surfaces, temperatures warmed **roughly 1.53°F (0.85°C) from 1880 to 2012.**<sup>1</sup>

This rise in temperature is alarming, because it is in the nature of all ecosystems to change or evolve with the change in Earth's temperature. For this reason, climate change, (which is a reality as evidenced by scientific findings, not a scare being propagated to create panic in the world), has started to impact the ecosystems of the earth in a major way - the most obvious result of this being that many thousands of species are becoming extinct. Around 15,000 scientific studies support the terrifying conclusion that the extinction crisis we are witnessing is only the beginning of a wave of mass ecocide of non-human life on earth - a process that could wipe out a million species of plants and animals from our planet in the next few decades.<sup>2</sup>

Our current consumerist, ecologically unsustainable socio-economic system is destroying the planet at an alarming rate. As many as 17,000 species vanish from the face of the earth every year.<sup>3</sup> This extinction will eventually affect all life on earth, because our survival as a species is highly dependent upon ecosystems and nature. The more the loss in biodiversity the more is the danger. Anything in a given area - from the smallest living organism to the largest - is part of the biodiversity of a habitat. A change in even one can ultimately impact the entire Food Chain and habitat and ultimately the top consumers - Homo sapiens.

It is estimated that on account of global warming, as many as half the species on the planet could go extinct by 2050 - a mere thirty years from now. Even a half degree rise in temperature beyond the current values would cause a mass ecocide of insects - which would entail disaster for pollination and consequently for food production. Bees alone pollinate 70 - 1000 plants that feed more than 90% of the world. If we lose the bees, we lose the majority of our food supply. It will not be long before the insects all die out that humanity too will inevitably die from starvation.

The fact is, Climate change is real. Our earth is warming up, and the oceans of the earth are the first to bear the brunt of global warming, due to the fact that more than 90 percent of the excess heat generated by anthropogenic activity is stored within the world's oceans. Scientists agree that "The ocean heating is irrefutable, and a key measure of the Earth's energy imbalance: the excess GHGs in the air trap more heat inside the climate system and drives global warming. More than 90% of the heat accumulates in the ocean because of its large heat capacity, and the remaining heating manifests as atmospheric warming, a drying and warming landmass, and melting of land and sea ice."<sup>4</sup> Our oceans already have elevated acidity and lower levels of oxygen as a result of climate change. Any further warming of the oceans would mean that 99% of coral reefs would be lost. The unavoidable rise in sea level due to melting ice caps would affect millions of people. These are just two inevitable consequences, among a host of others. Watts says, "both a rise in 1.5 degree centigrade and 2 degree centigrade would take humans into uncharted territory, well above the Holocene era range in which human civilization developed."<sup>5</sup>

Undoubtedly, the situation has reached a state of critical imbalance, and a tip in the wrong direction would precipitate changes that could well prove impossible to reverse. With our shortsightedness for the health of the planet, we are threatening our very survival. But the current mass ecocide happening right now the world over is nothing new to nature. Wherever man appears, other species start vanishing. Only the ones needed by him for food or clothing or for any other purpose survive. In the history of the earth Homo sapiens have the dubious distinction of always having been ecological serial killers. Homo sapiens have colonized and invaded the entire planet, annihilating other species in the process.<sup>6</sup>

However, it is only during the last 200 years or so that there has been a sudden acceleration in the rate of the consumption of nature by Sapiens – a rate that is irretrievably upsetting the balance of the entire earth, and it is the planets ecosystems and wildlife that are becoming casualties to man's unchecked greed and expansion. Everywhere, in all corners of the globe, mankind has propagated like a virus, destroying and consuming the planet's ecosystems and wildlife. The question arises - why has this cataclysmic change occurred only in the past two hundred years or so, and the answer is glaringly obvious. This overexploitation of natural resources and the plant and animal life of the planet started with the scientific and industrial revolutions, and the expansion and colonization of the world by the European Nations like Spain, France, Portugal and Great Britain. Rising international trade and the advent of a capitalistic culture have added to the mix. The final straw is of course the global population boom.

With this boom in population the most obvious commodity required is food and there is an incontrovertible link between climate change and agriculture. The earth has enough resources to feed everyone, but it cannot cater to man's greed. Meat, which was once meant to be only a condiment, is now the major portion of the staple diet of most affluent nations on earth. This insatiable hunger for meat has played a major role in shifting the balance of animal life on earth. As a result, while 10,000 years ago there was 99% wildlife life on earth and 1% humans, now there is 1% wildlife, 32% humans, and an astounding 67% livestock.<sup>7</sup>

This increase in livestock is worrying because the burning of fossil fuels for energy and animal agriculture are two of the biggest contributors to global warming, along with deforestation. In addition, production of food from animal sources causes great damage to the environment, via greenhouse gases from livestock, deforestation and water shortages from farming, and vast ocean dead zones from agricultural pollution. Globally, fossil fuel-based energy is responsible for about 64% of human greenhouse gas emissions, with deforestation at about 18%, and animal agriculture between 13% and 18%.<sup>8</sup>

As regards deforestation, it has been established that "agriculture is the driver for around 80% of deforestation worldwide."<sup>9</sup> This is alarming because deforestation is really bad news for the health of our planet. It is one of the main contributors to climate change, being "the second largest anthropogenic source of carbon dioxide to the atmosphere, after fossil fuel combustion."<sup>10</sup> Deforestation thereby contributes directly to the greenhouse effect, because reduced forest cover also means the reduced intake of carbon by plants (in the form of atmospheric carbon dioxide).

There can be several causes for deforestation. While it can occur in nature on its own due to naturally occurring wildfire (bushfires in Australia), by and large it is man's intervention - through agricultural clear cutting, clearing forest land for livestock ranching, and logging for timber - that is responsible for the present calamitous conditions. Every year wildfire destroys millions of acres of land. But it is no coincidence that the duration and severity of wildfires has increased during the past decades. Deforestation particularly due to slash-and-burn agriculture changes the very quality of the soil, apart from releasing huge amounts of carbon dioxide into the atmosphere. The soil itself changes into a carbon contributor. It reduces the efficacy of water and heat absorption, increasing surface and soil temperature by one two three degree centigrade, leading to a hotter and dryer climate and a longer dry season. This ultimately has drastic ecological impact on the ecosystem, including frequency and severity of forest fires and more loss in biodiversity. "Rising

temperatures, a key indicator of [climate change](#), evaporate more moisture from the ground, drying out the soil, and making vegetation more flammable. At the same time, winter snow packs are melting about a month earlier, meaning that the forests are drier for longer periods of time.”<sup>11</sup> The present bushfires that are laying waste to the entire continent of Australia, and are responsible for killing over half a billion animals are irrefutable proof that climate change is well and truly upon us.

As mentioned earlier, climate change is incontrovertibly linked to our diet. An increase in global wealth has led to an increased demand for animal foods. In addition to wealth, other factors driving the worldwide consumption of meat include urbanization, trade liberalization, transnational food corporations, retailing growth, food industry marketing, and consumer attitudes and behaviours.<sup>12</sup> This increased production of animal foods on an industrial level is a major cause for concern for the health of our planet, as livestock ranching requires large portions of land and livestock crops to meet the increasing demand for meat products. Not only is the cattle industry responsible for a significant amount of emission of methane (which is a greenhouse gas), it has also resulted directly in the burning of rainforest for pasture. The rainforests in the Amazon are known for their biodiversity and the ecosystems they nourish. Now of course we have witnessed huge swathes of the lungs of the earth - the Amazonian rainforests – burning for months on end due to the greed of man. Indigenous peoples and helpless animals have been forced from their homes. And it is the Brazilian beef industry which is causing this devastation. Brazil is the largest exporter of beef in the world, supplying one quarter of the global beef market. Rising global demand for beef is pushing cattle ranchers further and further into the Amazon, leading them to literally set the earth’s lungs on fire to clear land for ranching. Around 450,000 square kilometres of deforested land in Brazil is now cattle pasture. That’s almost a quarter of the rainforest, which produces 20 per cent of the world’s oxygen supply.<sup>13</sup>

Apart from livestock farming, the lumber industry also contributes significantly to deforestation. A total of 4 million hectares of timber is harvested each year, accounting for 15% of the carbon emissions in the environment. Agriculture too is directly responsible for deforestation, as forests are giving way to cultivation of coffee, tea, palm oil, rubber, rice etc, owing to the global population demand, leading to soil erosion and degradation of land.

All of these factors together acquire a snowball effect, and the results on climate change are clear.

While we can all continue to shift blame for climate change and talk endlessly about reducing our carbon footprint, the elephant in the room continues to be the

changed human diet – in particular the growing demand for meat and dairy. Michael Pollen’s book *The Omnivore’s Dilemma*<sup>14</sup> discusses the human diet through the ages. Two hundred years ago we had to forage, cultivate, or catch our own food. We ate what was locally available or sold by the farmer. Now everything is available everywhere, out of season, and it is driving not only the global obesity and diabetes epidemics but is also directly responsible for unprecedented ecological disaster.

Scientists agree that “raising animals for human food is an intrinsically inefficient process.”<sup>15</sup> This is because it has been established that “on average, 11 times greater fossil energy is required to produce animal protein than plant protein for human consumption.”<sup>16</sup> Besides, modern husbandry is based on intensive feeding of grain crops to animals - grain which could otherwise be used to feed humans.

Meat production on a large scale is not only inefficient because its production consumes far more energy than the production of plant food - it is environmentally and ecologically unsustainable. The livestock industry is a major contributor to anthropogenic GHG emissions liable for global climate change, one of the planetary boundaries already transgressed by humanity and directly threatening its sustainability.<sup>17</sup> Animal waste has also become a public health problem, with its high concentrations of nitrogen, phosphorous, and potassium compounds and also antibiotics, and is the source of >100 zoonotic pathogens that may contaminate food and water supplies, thus representing a direct threat to human health.<sup>18</sup>

The research is unambiguous –meat production at an industrial level is the leading cause for climate change. An alarming study shows that we have only 11 years now to limit climate change by limiting global warming to a maximum of 1.5 degree centigrade, beyond which even half a degree rise in temperature will significantly worsen the risk of drought, floods, and extreme heat, and displace millions of people.<sup>19</sup> But even with the boom in human population crisis can be averted if our feeding habits change. The most comprehensive analysis of the food systems impact on the environment reveal that beef consumption needs to fall by 90% and to be replaced by beans and pulses to feed the 10 billion people on this planet.<sup>19</sup> Thankfully World Bodies are taking notice. A report by UN body on the environment has made a strong pitch for vegetarianism or at least a primarily vegetarian diet. Researchers have found that the average person needs to eat 75% less beef, 90% less pork and 50% less poultry while tripling consumption of beans and pulses and quadrupling nuts and seeds. This would halve green house gas emissions from livestock. But without action, its impact will get far worse as the world population rises by 2.3 billion people by 2050 and global income triples, enabling more people to eat meat-rich western diets.<sup>21</sup>

The evidence is unequivocal. Even half a degree rise in the temperature of the earth will significantly worsen the risk of drought, floods, and extreme heat. And “at the current level of commitments, the world is on course for a disastrous 3C of warming.”<sup>22</sup> The indisputable need of the hour is to acknowledge that the overall size and economic activity of humankind are exceeding the bio capacity of the world. We are literally eating up our planet. Therefore, our agricultural and dietary preferences urgently need to be realigned. Profound changes in farming practices are needed to halt deforestation and to reduce water shortage and pollution. But most of all, a huge reduction in meat eating is required to combat climate change. Inevitably, for a sustainable future, a drastic reduction in the consumption of meat and dairy foods by large segments of the world’s population is unavoidable. Thus, plant-based diets at the global level are imperative.

Changes are required not merely at the individual level but at the level of the government, because it is already too late for individuals to make a difference. Governments need to take responsibility for their actions and pledge to reduce their carbon footprint. The Paris agreement needs to be honoured. People can make a personal difference by changing their diet and by insisting on better environmental regulation. Greta Thornburg and other youngsters across the globe who are actively demanding change are the hope of the future in a world sadly driven by economic goals. But it is our moral and ethical responsibility to leave the future generations a living planet with clean water, clean air and soil and biodiversity. The economy is no doubt important but is it really more important than clean air and water? There really is no planet B. As a race we need a serious reality check. We live on a finite planet with finite resources and we simply cannot afford to produce food in a way that is unsustainable. The current food system undermines the ability of future generations to live on a stable and ecologically rich planet. Apart from making us healthy adopting a primarily vegetarian lifestyle is the only way forward if we want our future generations to not only survive but thrive.

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