

## Animal Agriculture's Negative Effects on Climate and Environment

Livestock factory farming is a large source of ocean dead zones, species extinction, freshwater pollution, and destruction of animal habitats. Global meat and dairy production and consumption has increased dramatically over the past 50 years, and will likely continue to increase at an alarming rate ("Meat and Seafood Production & Consumption - Our World in Data", 2018). This would have detrimental effects on the environment and the progression of climate change. Animal agriculture contributes to climate change mainly through the emission of greenhouse gases, waste pollution from farms and the destruction and deforestation of land for animal agriculture use. The gastrointestinal tract of hogs and cattle produce methane gas as a product of their digestion ("Enteric fermentation | Climate & Clean Air Coalition", 2018). Methane is a potent greenhouse gas which contributes to the global rise in temperature ("Methane: The other important greenhouse gas", 2018). With the large-scale farming, large amounts of methane are released into the atmosphere every year. Fecal matter from farming pollutes and destroys drinking water sources, marshland habitats, and soil. This is an especially large issue in third-world countries where clean and safe drinking water sources are scarce. Mass deforestation of Amazon rainforests is mainly due to farmers clear-cutting and burning forests to make more room for cattle ranches ("Cattle Ranching in the Amazon Region | Global Forest Atlas", 2018). Deforestation causes habitat destruction of endangered species and release of carbon dioxide from carbon stores. Animal agriculture contributes negatively to the destruction of the environment and the global rise in temperature.

“In 2015, methane accounted for about 10 percent of all U.S. greenhouse gas emissions from human activities”(“Overview of Greenhouse Gases | US EPA", 2018). Methane is emitted into the atmosphere through the digestive systems of livestock animals. The gas is produced through a process called ‘enteric fermentation’. “Enteric fermentation is a natural part of the digestive process in ruminant

animals such as cattle, sheep, goats, and buffalo. Microbes in the digestive tract, or rumen, decompose and ferment food, producing methane as a by-product” (“Enteric fermentation | Climate & Clean Air Coalition”, 2018). Methane is more efficient than carbon dioxide at trapping radiation. “Pound for pound, the comparative impact of methane is more than 25 times greater than carbon dioxide over a 100-year period” (“Overview of Greenhouse Gases | US EPA”, 2018). Therefore, although methane is less abundant in the atmosphere than carbon dioxide, methane compensates with its high potency. This greenhouse gas can have detrimental effects on the environment; causing Earth to be insulated with radiation therefore increasing global temperatures.

Waste pollution from livestock farms pollutes water and soil and can cause respiratory and other health issues in nearby human inhabitants. In a peer-reviewed report published by the University of Victoria, it was found that people near hog farms experienced a multitude of symptoms; many of which affected the respiratory, gastrointestinal and immune systems (Setton, Cheasley & Palmer, n.d.). Fecal pollution from farms can also have negative effects on the soil by infesting natural marshlands with disease-causing organisms (“Fecal Pollution of Water. | Science Inventory | US EPA”, 2018). Often times the effects of fecal pollution in drinking water happens in underdeveloped countries where there is a shortage of clean and safe drinking water (“Fecal Pollution of Water. | Science Inventory | US EPA”, 2018). Many deaths in third-world countries due to fecal contamination of water could be prevented by educating local farmers and community members about the dangers of manure run-off into drinking wells and streams.

Deforestation and burning of lands destroys animal habitats and releases large amounts of carbon dioxide into the atmosphere. “Cattle ranching is the largest driver of deforestation in every Amazon country, accounting for 80% of current deforestation rates. Amazon Brazil is home to approximately 200 million head of cattle, and is the largest exporter in the world, supplying about one-quarter of the global

market.” (“Cattle Ranching in the Amazon Region | Global Forest Atlas”, 2018). In addition to the large release of carbon dioxide during deforestation, many habitats of endangered and non-endangered animals are destroyed. The majority of deforestation due to animal agriculture happens in South America, the same region where there is a great diversity of animals, some of which are endangered. Deforestation contributes to the endangerment of these animals which could become extinct if this pattern continues.

In conclusion, animal agriculture has extreme effects on the environment and contributes greatly to climate change and environmental destruction worldwide. With the annual rise in global temperature, oceans are becoming unsustainable for its inhabitants. For example the coral in Australia. According to the World Wildlife Fund, approximately 3 billion people rely on the ocean for their primary source of protein (“Sustainable Seafood | Industries | WWF”, 2018). In conjunction with the global overfishing problem, the ocean temperature is also contributing to a decline in the number of fish and marine organisms. Declining marine life populations could have extremely negative effects on countries, cities and villages whose economies rely on the fish market. Along with economic effects, animal agriculture can have negative effects on human health; especially marginalized groups of people. African American communities are often close to hog and cattle farms and suffer the worst effects of the fecal pollution. In poor countries, small-scale farmers often pollute their own village drinking water sources because of their lack of education surrounding pollution and health. This is preventable by simply educating farmers and giving them alternative waste elimination strategies. Worldwide, it would be difficult, if not impossible, to govern how every farmer runs their livestock farms. But, campaigns vouching to lower the global consumption of meat and dairy are more effective. The negative effects of animal agriculture can also be decreased by reducing the global consumption of meat and dairy, specifically cattle and hogs. Choosing a vegan or vegetarian diet can reduce demand for animal products and therefore in years to come, meat and dairy producers will decrease their supply of animal products. Even small changes to diet such as “Meatless Mondays” can have an impact on the economics of the animal agriculture market. Although

animal agriculture is a large environmental and economic problem, the consumers are ultimately responsible for the fate of our planet.

## References

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