HELPING THE PLANET BY CHANGING YOUR DIET

Jane Student
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In recent years, there has been an explosion of plant-based meat and dairy substitutes on grocery store shelves and in restaurants. The companies who make these products, including big names like Impossible and Beyond, are seeking to make affordable substitutes that taste as close to the real thing as possible. While there are many benefits to these kinds of plant-based substitutes, including important health benefits, one of the potential benefits that is essential as it relates to a pressing concern in the world is the possible environmental benefits. The most common ways that suppliers, and thus American consumers, get meat are from factory farms. This type of animal agriculture has been enormously damaging to the environment, particularly to the water and air qualities of the United States, and this only increases as population growth makes meat consumption grow. To combat this, many individuals are choosing to eat less meat, or to go entirely plant-based. If more people choose plant-based diets, and if the government and industry leaders choose to develop policies and practices that increase production of plant-based substitutes, then the United States has the potential to curb or even undo the environmental damage created by animal agriculture.

Despite the small but vocal number of climate change deniers in the United States, most people do believe that climate change is one of the most pressing concerns facing governments and citizens alike. A 2019 survey conducted by the Pew Research Center found that "About two-thirds of U.S. adults (67%) say the federal government is doing too little to reduce the effects of climate change, and similar shares say the same about government efforts to protect air (67%) and water quality (68%)".[1] They say that these numbers are generally consistent with the numbers from 2018, which shows that concern for these areas has not gone down. It is also

[1] Cary Funk and Meg Hefferon, "U.S. Public Views on Climate and Energy," Pew Research Center, Nov. 2019, https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy.

important to this argument that the elements of climate change that American citizens pointed out as most significant are air and water quality, as these are two of the areas that animal agriculture has impacted the most.

Even though the majority of people do see the real danger created by climate change, the Pew Research Center survey indicates that most people do not associate animal agriculture with climate change. On a question that asks about whether eating less meat might help the climate, only about a quarter of people surveyed believed that it can have a significant impact on climate change. However, 41% of respondents stated that they consciously choose to eat less meat in case it does have an impact.[2] This seems to indicate that with more education, it might be possible to convince many Americans to eat less meat and to possibly support more plant-based substitutes for the animal products that they regularly consume.

Further, in a personal representative interview, a longtime vegetarian who was asked whether the environment played into her decision to eat less meat said "It wasn't the biggest reason initially, but it's become the biggest reason why I've chosen to continue to abstain from meat. I know that one person can't make that much difference, but I do believe that small changes add up, so I'm happy to play a part in that way".[3] If more people can be persuaded that small changes can add up, then maybe there can be more balance between the percentages of people who believe climate change is a pressing issue and the percentage of people who contribute less frequently to animal agriculture. To help do this, it is important to discuss the statistics about the role that meat consumption plays in climate change.

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[2] Funk and Hefferon.

[3] Samantha Sams in discussion with the author, December 2019.

Food and Water Watch is a non-profit organization in Washington D.C. that advocates for accountability from the U.S. government and industries within the U.S. about their burden on the climate. In 2018, they published a fact sheet that details the impact factory farming has on greenhouse emissions. They say that "livestock production is responsible for 14.5% of all human sources of greenhouse gases. The greatest contribution to these emissions comes from producing and processing animal feed (45%)".[4] The other 55% of emissions from livestock is methane emissions from the digestive processes of cows and manure storage and processing.[5] These numbers are staggering, and while cattle is by far the highest contributor, they caution that it would not be enough to propose a solution such as eating more chicken as opposed to cattle, as poultry farms "create the same problems with air and water pollution as other types of factory farms while relying on large quantities of corn and soy as feed".[6] This all means that the reliance of developed nations like the U.S. on factory farming has significant consequences for the health of the entire planet, and the solutions must go beyond shifting to different types of animal agriculture.

Beyond greenhouse emissions, however, are the damaging effects on water supplies that are created by animal agriculture. Brian Henning, a professor and ethicist, writes that when governments and organizations discuss the reason for water shortages and damaged water quality, that they are often overlooking animal agriculture as a major culprit. He says, "what many often neglect is the key role that agriculture, and livestock in particular, play in both the

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[4] Food and Water Watch. "Factory Farms and Climate Change: Fact Sheet," Food and Water Watch, June 2018, https://www.foodandwaterwatch.org/insight/factory-farms-and-climate-change.

[5] Food and Water Watch.

[6] Food and Water Watch.

depletion and degradation of freshwater supplies".[7] In addition, it is apparent that the amount of water required to feed and raise livestock is immense. A study by *National Geographic* notes that it takes roughly 1,800 gallons of water to create a single pound of beef, and while the numbers go down for other forms of livestock like pigs or poultry, they are still significant.[8] These numbers overall paint a picture of an industry that is contributing significantly to the factors that dictate the rate of climate change.

Beyond this, though, is the ability of factory farms to wreak significant damage on local ecosystems. In the aftermath of Hurricane Florence in 2018, for example, communities surrounding hog farms in North Carolina were bombarded with the toxic runoff from waste pits on the farms that were flooded in the wake of the storm. The risks of storms of this nature on surrounding communities are severe: "fields saturated with rainwater can't absorb nutrients from waste pits; excess nitrogen and phosphorous instead appear in rivers and streams, at worst causing algae blooms and fish kills. Manure pits can burst or overflow, sending sludge, microbes, and potentially antibiotic-resistant bacteria into floodwaters, heightening their risk to public health".[9] Hurricane Florence was the most recent time this damaging runoff happened, but it has happened several times in the past. Hog farming relies heavily on "Open-air pits of animal

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[7] Brian Henning, "Standing in Livestock's ''Long Shadow'': The Ethics of Eating Meat on a Small Planet," *Ethics & the Environment* 16, no. 2 (2011): 70.

[8] National Geographic, quoted in Brian Henning, "Standing in Livestock's ''Long Shadow'': The Ethics of Eating Meat on a Small Planet," *Ethics & the Environment* 16, no. 2 (2011).

[9] Elizabeth Ouzts, "In North Carolina, hog waste pollution a familiar result. Will things ever change?," *Environmental Health News*, 21 Sept. 2018, https://www.ehn.org/hurricane-florence-floods-north-carolina-hog-farms-2606610607.html.

feces – periodically reduced by spraying excess liquid onto crop fields",[10] and these waste pits often flood when threatened by severe weather. As severe weather and hurricanes increase due to climate change, so too does the impact of animal agriculture on the communities and climate of these areas.

These statistics prove how big of a problem this is, but it also proves how big an industry animal agriculture is in the United States. The people who believe that a single person consuming less meat is not going to change much have a point that is difficult to ignore; however, many people choosing to eat less meat would likely have a marked effect on the need for new factory farms to be developed. Yet the environmental benefits of plant-based products, particularly when contrasted with the damage created by factory farms specifically and animal agriculture generally is impossible to ignore.

[10] Ouzts.

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