

Reflections on the Climatic Costs of Our Food Choices

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The issue of climate change is ubiquitous and addressing the issue would indeed require a concerted universal action. However, in recent years we have witnessed a spate of climate activism and “Greta moments” that rather manifests indignation than the proposition of real solutions. The climate change issue has morphed into a “doomsday prediction” or an “apocalyptic situation” for many, with climate *Malthusians* ringing the death knell of our ecosystem. The sense of urgency and the fear climate activists sometime try to instill in order to persuade the general public is rather a consequence of their reactionary psychological predisposition than adhering to real facts. The real facts are many, and most people do not dispute them – like the accelerated melting of the polar ice caps, the unusual number of hot days in summer, increased tensions over freshwater resources, climate refugees *et al* (Geraghty, 2019). Today we are bombarded with an incessant amount of information on climate change, urging us to reflect on our lives and change our consumption habits. From policy-makers to slogan chanting activists and university students, there is a sense of urgency in their refrain. However, it is the message of the impending apocalypse that feed peoples apathy and drive them away. Such activism, albeit well-intentioned, is

great for sound bytes – but sound bytes will not save the planet. Such fearmongering also results in misplaced narratives about our environment. The second issue relates to how we set narratives. Our shared and common future highlighted by the Agenda 2030 is another example. While the goals are real and vital, they remain abstract, theoretical, numeric, and far away from the average daily lives of normal citizens. This is a double-edged sword – on one hand the narrative remains mostly out of the comprehension of average citizens, and second, this leads them to pass the buck and believe that there is “someone else” dealing with the climate problem. Hence what we need are small, informed, decisive and micro-steps in our daily lives that will go a long way in addressing the climate issue, rather than euphoric notions of utopia and doomsday.

Feeding the Planet

In the environmental front, one issue of great interest is about our food consumption patterns and its overall impact on the climate. Today we produce enough food to feed 10 billion people, but still, around a billion go hungry. Agriculture is one of the greatest contributors of climate change. Food production, both plant and meat, contribute more greenhouse gases (methane, nitrous oxide and carbon dioxide) to the environment than all global transportation put together. Furthermore, feeding the planet uses the most freshwater, is the primary cause for deforestation, and accelerates the loss of biodiversity (Foley *et al*, n.d). Additionally, today we use land the size of South America for growing crops, and the size of Africa for livestock (Foley *et al*, n.d).

If we forecast a linear global population

of 10 billion by 2050 (2.5 billion more approximately than today), then we have three main issues at hand. First, we would need 60% more food, which also means an added pressure on arable land, energy and freshwater inputs¹. What is driving the demand is the increase in total global population, the increase in global affluence and prosperity (particularly in emerging countries) leading to a shift in dietary habits, and the production of food crops for biofuels (Institute on the Environment, n.d). Second, with business as usual, we would need additional land twice the size of India to accommodate the rising food demand by 2050 (Ranganathan *et al*, 2018). Finally, by 2050, we will have an additional 11 gigaton GHG from agricultural emissions over the required target level necessary to keep global warming below two degrees (Ranganathan *et al*, 2018).

The Climate Cost of Food Production

According to one of the most holistic studies conducted by Poore & Nemecek (2018), which led 570 studies with data from 38,700 commercial farms to calculate the environmental impact of food production, out of 32.5 gigatons of CO₂ emitted globally in 2017 – 8.46 gigatons (26%) resulted from food production. From the 8.46 gigatons of CO₂ emitted, 58% (4.9 gigatons) was generated by animal products (meat and dairy), 50% (2.45 gigatons) being generated from the production of beef and lamb alone (Poore & Nemecek, 2018).² The report also shows that without any meat and dairy consumption, the total amount of global farmland can be dramatically reduced by 76%, which

is an area that is equivalent to the size of the USA, China, European Union and Australia combined, yet there will still be enough food to feed the entire global population. And CO₂ is not the only issue here. According to USEPA (2015), Methane (CH₄) is 25 times more potent in trapping heat in the atmosphere than CO₂, and most of this GHG is from livestock production. Also, Nitrous Oxide (N₂O) is 300 times more potent than CO₂, and the meat, dairy and egg industries contribute a staggering 65% of total global N₂O emissions (PETA, n.d). Finally, the amount of fossil fuels required to produce animal protein is about 11 times higher than that required to produce the same amount of protein from grains and vegetables (Pimentel & Pimentel, 2003: 661-662). Hence it is estimated that the average daily emissions from meat eaters is 2 times more than vegetarians and 2.5 times more than vegans (Scarborough *et al*, 2014: 179-192).

A Meatless Future?

Studies point out that eating green is indisputably better for the environment than eating meat and animal-based products. The increase in global awareness has led to a rainbow of terms that describe the spectrum of eating green. We now have a Vegetarian Awareness Month, a World Vegetarian Day and a World Vegan Day. Other terms such as *Meatless Mondays*, *Veganuary*, *Weekday Vegetarian*, *Flexitarian*, *Freegan* and *Locavore* are fast proliferating the glossary of eating green (Badore, 2013). However, before we join the bandwagon or another health fad, we need to caution ourselves to

¹ On an average, the virtual water embedded in the production of a single hamburger amounts to 2500 liters of freshwater.

² Cutting the consumption of beef alone would decrease the overall food GHGs by 33%.

think more rationally and realistically to prevent any sort of reactionary and knee-jerk responses. The choice people make to give up meat and turn vegetarian or vegan is generally dependent on three factors, *vis-à-vis*, concerns about the ethical treatment of animals, health and lifestyle concerns and finally concerns for the environment (which this article exclusively deals with). What sometimes contributes to people's apathy is the missionary zeal regarding how this message is conveyed. Rather than positive reinforcements, eating-green activists use "shame" tactics that further exacerbates in isolating people from the idea. Furthermore, some of the methods are drastic. The truth is that people will continue to eat meat and other meat-based products (at least a good percentage). The strategy should be aligned towards how we can reduce our environmental impact of such consumption and not condemn people for their choices.

This is where the eat-green advocates err in their message. Eating meat is still an essential (and sometimes cheaper) component of protein intake in developing and least developed countries. As they become prosperous, their choice of diets become richer in meat, fish, eggs and dairy. Still their diets are far less meat intensive per capita than their western and industrialized counterparts. For example, an average Ethiopian consumes 7 kilos of meat per year compared to 80-90 kilos in Western Europe (Ritchie, 2019). Hence, an argument can be made for differentiated responsibilities for western consumers. The solution could be to eat less meat, have meat-free days, eat local, control portion size, and avoid food wastage. In fact, one third of all food produced in the world is wasted/lost, and industrialized countries are notorious on this issue. Industrialized countries, representing a

fraction of the global population waste more or as much food per year than all developing countries combined, and more than the combined net food production of sub-Saharan Africa (FAO, 2019). Also, on this issue, it is fruits, vegetables, roots and tubers that have the highest rate of wastage – and not meat (FAO, 2019). Addressing food waste can go further in addressing the climate issue than just food choices. This can be addressed more efficiently in industrialized countries, as food waste here occurs towards the end of the supply chain – at the level of supermarkets and consumers. Here micro-level changes in consumption habits can make a huge difference.

Also, there is sometimes a gap between our actions acting guided by best intentions and the actual outcome of such actions. Many today advocate the consumption of "free range", "pasture-fed", "organic" meat over factory farms as being a more environmentally conscious choice. Not only is this more expensive, however, if we look at total emissions, the organic and free-range choice maybe more polluting than the later depending on the methods used. And it is not only about methane emissions, but the amount of forest area that needs to be cleared to support this. Therefore, there is room for nuance.

Finally, it is not the absolute global emissions that should encourage people to switch diets. In this situation, individual choices and averages (even on a vegetarian or vegan diet) provide a far better method of calculating one's carbon footprint. For instance, the argument to eat local and vegetarian could have far more disastrous consequences than eating meat when say, the local tomatoes in the UK, are mostly produced in massive greenhouses which are notorious for the

environment. Or, that the providence of our daily quinoa is South America. Here, individual choices make a greater difference between meat eaters and vegetarians/vegans, or products that involve higher air travel significantly contribute more GHG.

Conclusion

While it cannot be refuted that meat or meat-based product contribute more GHG in absolute terms, we must be still cautious while shifting our diets and focus more on our individual choices. More pertinent questions would be, for instance, where does our food originate? How much do we waste? How much does our food travel between farm and table? While eating should never be complicated, we certainly need a more nuanced approach regarding our choices.

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