

Is Our Diet Cooking The Planet?

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Introduction

The way we eat does not only affect our own health and wellbeing, but also has both direct and indirect impacts on the health of our planet. It is without doubt that feeding the continuously growing human population while also respecting our planetary boundaries will be one of the greatest challenges of this century. Several solutions to this challenge have been proposed and some of them tested, such as the genetical modification of plants to improve their resilience to climate change, reduction of food waste, as well as different technological solutions to increase food production without increasing agricultural lands. Another potential solution that has been suggested, causing a considerable degree of controversy and scepticism from both the general public and the scientific community, has been to substantially reduce the global meat consumption and to collectively navigate towards a plant-based diet. The global meat and dairy production have increased threefold in the past 50 years, with a rather prominent correlation between meat consumption and wealth, i.e., the richer we become, the more animal products we tend to consume (Ritchie & Roser, 2017). One of the driving mechanisms behind the heavy increase in meat and dairy production is the global industrialization of animal agriculture over the past 50 years (Mirle, C., 2012).

Environmental impacts of food production

Food production significantly influences the environment and lies at the heart of most noticeable changes occurring in our surrounding. Compared to most of human history, there have been tremendous changes in land use over the past centuries. Currently, half of the world's habitable land is used for agriculture (Ritchie & Roser, 2022). This expansion has become a threat for many species and is the greatest pressure on biodiversity. Nowadays, 94% of mammal biomass is livestock, which greatly outweighs wild mammals, again, resulting in biodiversity loss (Ritchie & Roser, 2022). Moreover, food production accounts for one-quarter of greenhouse gas emissions. According to an analysis of GHG emissions across the supply chain, for most food both land use change and processes at the farm stage are the highest contributors and account for more than 80% of the European footprint (Ritchie & Roser, 2022). For instance, a high amount of methane is emitted through the digestive system of ruminant livestock. On the other hand, transport is usually responsible for less than 10% of emissions (Ritchie & Roser, 2022). Therefore, eating local beef or lamb has a relatively little influence on the total emissions since most of the global food is transported by sea. However,

some products are shipped by air, making all the difference, as air-shipped food emits around 50 times as much GHG as the same amount transported by sea. Eutrophication is another major issue caused by the runoff of nitrogen and other nutrients from agricultural production. Among all products, it can be observed that meat highly contributes to the pollution of water bodies and ecosystems. The last factor is food waste being responsible for 6% of global GHG emissions because around one-quarter of the produced calories are wasted at different stages (Ritchie & Roser, 2022). The land, water, energy, pesticides, and fertilizers used to produce that food causes environmental damage. According to the analysis of all these key factors, meat and dairy tend to have a higher impact on the environment than plant-based food. They are responsible for large amounts of greenhouse gases, land use changes and are significant contributors to ongoing eutrophication process and water use (Ritchie & Roser, 2022).

The historical importance of meat and the dietary differences between the global north and the south

Since humankind started to evolve meat has been a natural food source, but not the most important one. (Buckley et al., 2017; Jenkins et al., 2003; Solomons, N.W., 2000) However, in the industrialized world, meat is no longer a natural and sustainable food source, and the easy access has caused it to be strongly embedded into our culture and diet. The diets also vary on a global scale, especially when comparing the global north and the global south. While the food we consume in the north often is processed and contains meat, the story is different in the global south, where people still eat similar food as our ancestors throughout history.

Before the global north became as industrialized and rich as it is today, meat was more of a luxury and not as abundant as it is today (Mango, D., 2021). Larger parts of everyday meals consisted of locally grown vegetables. However, with the green revolution the cost of meat dropped, and the purchasing power increased. This made meat more available, and its consumption increased. The global trade increased as well, leading to more international foods in the global north cuisine. In the 21st century, meat can be found in almost every dish, and it is normalized to eat meat at every meal throughout the day (Helsedirektoratet, 2018). However, the meat consumption might be decreasing as the consequences has gotten more attention, and more and more people choose a vegetarian or vegan diet (Jakobsen, S., 2022).

The story is different in low-income countries. In these countries the access to food itself can be difficult, and meat is not available for everyone. In these countries, traditional dishes consist mostly of locally produced greens, grains, seafood, and occasionally meat (Oldways, 2022). People in poorer countries also tend to eat more seasonally, choosing the foods available at the time (Kaur, S. et al., 2021). From an environmental point of view this diet is much more sustainable. It could however be said that the diet itself might not be sustainable on the health

aspect. In addition, the food security in the global south is low and threatened by the resource out-flow to the global north. A so-called nutrition transition is happening in the global south where there is a clear transition from these locally produced and sustainable diets to a diet that consists of more processed and imported foods (Rawlinson & Ward, 2015).

What should the diet of the future look like to take care of our health and planet?

Johan Rockström is one of several that has asked this difficult question and stated that we must change today's diet (SUN Movement, 2018). The reason this question is so hard to give a concrete answer to, is because it is not only our planet's wellbeing we have to consider, but also personal preferences, economy, health, population growth and food security, making it even harder to find a good solution. Johan Rockström and other members of an international group of researchers have come up with a proposal for the so-called "EAT-Lancet diet" (Woolston, C., 2020). This diet is a global food plan designed to meet the needs of a growing population, while at the same time covering all the important nutrients that we need for staying healthy while staying within the planetary boundaries. In short, this plan suggests that we must consume more plant-based protein and reduce meat-based protein sources. It does not exclude enjoying a good beef dinner sometimes but proposes a general reduction in meat intake. As mentioned earlier, diets are not the same worldwide. High-income countries have a much higher meat intake, compared to low-income countries. According to the EAT-Lancet diet, it is in fact mainly high-income countries that must reduce meat intake, as meat consumption in low-income countries is already very low (for economic reasons there is often a more carbohydrate-based diet with a lot of rice) (Woolston, C., 2020).

The EAT-Lancet diet is one of several suggestions. Another solution could be to "go back in time" and start with self-sufficiency: growing your own food. The idea sounds nice, but the question remains if its implementation will be realistic as the human population is predicted to reach 10 billion people requiring food security. This could be difficult as the land available for farming is limited. One thing that can be said with great certainty is that a transition to a more plant-based diet is necessary and will neither destroy our health, nor hurt our planet. At the end of the day, the choice of diet has the greatest impact, leaving little meaning to distance travelled by food or its packing procedure. The highest amount of food production emissions comes from agricultural processes and land use change, so this is what should be the focus of attention. According to data, plant-based food tends to have a lower carbon footprint than meat or dairy (Ritchie, H., 2020).

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