

Changing diets to tackle climate change 'unattainable' for minority groups

September 16 2021



Credit: CC0 Public Domain

Making food more affordable for ethnic minority groups is crucial to reducing greenhouse gas emissions from our diets, scientists have suggested.

According to a new study of food habits in the US, a [healthy diet](#) with lower environmental impacts is achievable for a large portion of the population. But it is unaffordable for up to 38% of Black and Hispanic individuals in the lowest income and education groups, twice the percentage of white individuals in the same group.

Though the diets of individuals of higher socio-[economic status](#) are currently responsible for higher environmental impacts, these individuals are also more likely to be able to afford a shift to a healthier diet.

The results have been published in the journal *Nature Food*.

The team of scientists say a diet including more whole grains, dairy, fruit and vegetables, seafood, and plant protein, combined with lower levels of added sugars, refined grains, saturated fats and sodium, could be achieved within current food budgets for 95% of the US population.

This optimized diet would result in average decreases of 2% in food-related [greenhouse gas emissions](#), 24% in [land use](#) and 4% in energy consumption; however, there would be a 28% increase in water consumption.

The researchers say that while individuals with higher income and education levels are more likely to be self-motivated in changing their diets towards a healthy pattern, healthier diets can result in higher costs and potentially create a barrier for individuals of lower socio-economic status.

The team have called on policy makers to consider improving urban planning and infrastructure to lessen the time and monetary burden in accessing healthy food choices, as well as developing educational programs in schools to promote healthy eating and a change in behavior.

Per capita, land use and greenhouse gas emissions associated with US diets are nearly double the world average.

Furthermore, US nutrition surveys show that, although diets have improved over the past 20 years, disparities in nutritional quality associated with income, education and race persist.

In their study, the team quantified the environmental impacts and nutritional quality of the dietary records of individuals from a biannual nationally representative nutrition survey, National Health and Nutrition Examination Survey (NHANES), from 2005 to 2016.

The team used algorithms to figure out new diets that satisfied nutritional requirements and were close to an individual's existing diet, calculating the expenditure and environmental impacts associated with this diet switch.

They showed that on average, a person's daily diet generated 3.4 kg of carbon dioxide emissions, 15.6 m² of land use, 972 liters of blue water and 28.9 MJ of energy consumption.

At the national level, this equated to 385 megatons of carbon dioxide emissions, 1.77 million km² of land, 110 billion m³ of water and 3.27 million TJ of energy over the course of a year.

The analysis indicated that individuals of higher socio-economic status are responsible for higher environmental impacts because they consume more impact-intensive protein foods including dairy and livestock products, and seafood. Legumes, nuts and seeds, as well as fruits, also contribute to the difference.

The team showed that shifting to healthy diets could lead to a critical change in environmental impacts for all socio-economic groups.

However, 38% of Black and Hispanic individuals in the lowest income and education group, twice the percentage of white individuals, cannot afford such dietary patterns.

Moreover, among those who can afford the better diet, 32% of Black individuals and 37% of Hispanic individuals would be considered financially burdened as they spend over twice the national average of income share on food.

"Our study shows that those who are well-paid and/or well educated are more likely to adopt healthier diets but are also responsible for larger environmental impacts in terms of greenhouse gas emissions, blue water footprint, land occupation, as well as [energy consumption](#)," said co-author of the study Dr Pan He, from Cardiff University's School of Earth and Environmental Sciences.

"While shifting to a healthy diet can reduce the environmental impacts and is affordable for most people, this would be unattainable for disadvantaged groups who may still be stuck on the way of change.

"Policies that make nutritious [food](#) more affordable are needed to promote better nutrition and improved environmental outcomes simultaneously, particularly for more vulnerable socio-economic groups."

More information: Pan He et al, Shifts towards healthy diets in the US can reduce environmental impacts but would be unaffordable for poorer minorities, *Nature Food* (2021). [DOI: 10.1038/s43016-021-00350-5](https://doi.org/10.1038/s43016-021-00350-5)

Provided by Cardiff University

Citation: Changing diets to tackle climate change 'unattainable' for minority groups (2021, September 16) retrieved 13 March 2024 from <https://phys.org/news/2021-09-diets-tackle-climate-unattainable-minority.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.