

Veggie-based diets could save 8 million lives by 2050 and cut global warming

A global switch to diets that rely less on meat and more on fruit and vegetables could save up to 8 million lives by 2050, reduce greenhouse gas emissions by two thirds, and lead to healthcare-related savings. It could also avoid climate-related damages of \$1.5 trillion (US), Oxford Martin School researchers have found.

The study, published today in the journal, *Proceedings of National Academy of Sciences*, is the first to estimate both the health and climate change effects of moving towards more plant-based diets for all major world regions.

Lead author Dr Marco Springmann, of the Oxford Martin Programme on the Future of Food, said: 'What we eat greatly influences our personal health and the global environment. Imbalanced diets, such as diets low in fruits and vegetables, and high in red and processed meat, are responsible for the greatest health burden globally and in most regions. At the same time the food system is also responsible for more than a quarter of all greenhouse gas emissions, and therefore a major driver of climate change.'

To assess the health and environmental effects, the researchers modelled four different dietary scenarios for the year 2050: a 'business as usual' scenario based on projections of future diets; a scenario based on global dietary guidelines which includes minimum amounts of fruits and vegetables, and limits to the amount of red meat, sugar, and total calories; and vegetarian and vegan scenarios which both conform to the dietary guidelines.

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Dr Marco Springmann, from the Oxford Martin School

They found that adopting diets in line with global dietary guidelines could avoid 5.1 million deaths per year by 2050. Even greater benefits could come from vegetarian diets (avoiding 7.3 million deaths) and vegan diets (avoiding 8.1 million deaths). Approximately half of the avoided deaths were due to reduction of red meat consumption, with the other half due to a combination of increased fruit and vegetable intake and a reduction in calories, leading to fewer people being overweight or obese.

The study projects that by 2050, food-related greenhouse gas emissions could account for half of the emissions the world can afford if global warming is to be limited to less than 2°C. Adopting global dietary guidelines would cut food-related emissions by 29%, vegetarian diets by 63%, and vegan diets by 70%, says the study.

The researchers also modelled the economic benefits of dietary change and found they could save \$700-\$1,000 billion (US) per year on healthcare, unpaid informal care and lost working days. The economic value that society places on the reduced risk of dying could even be as high as 9-13% of global GDP, or \$20-\$30 trillion (US). In addition, the

researchers found that the economic benefit of reduced greenhouse gas emissions from dietary changes could be as much as \$570 billion (US).

'Putting a dollar value on good health and the environment is a sensitive issue,' said Dr Springmann. 'Yet, our results indicate that dietary changes could have large benefits to society, and the value of those benefits makes a strong case for increased public and private spending on programmes aimed to achieve healthier and more environmentally sustainable diets.'

The paper, *Analysis and valuation of the health and climate change cobenefits of dietary change* (<http://www.pnas.org/content/early/2016/03/16/1523119113.full>), is published in *PNAS*