

## BMJ GLOBAL HEALTH

Peer reviewed? Yes

Evidence type: Opinion

Subjects: Ultra-processed food and biodiversity

### Global diets are harming human and planetary health

*Growing ultra-processed food consumption is damaging agricultural biodiversity*

A global diet that increasingly includes ultra-processed foods is having a negative impact on the diversity of plant species available for human consumption while also damaging human and planetary health, according to a commentary published in the journal **BMJ Global Health**.

Experts are warning that an increasingly unhealthy diet is not only bad for human health directly but is causing environmental damage to the planet.

Ultra-processed foods such as sweetened or salty snacks, soft drinks, instant noodles, reconstituted meat products, pre-prepared pizza and pasta dishes, biscuits and confectionery, are made by assembling food substances, mostly commodity ingredients, and 'cosmetic' additives (notably flavours, colours and emulsifiers) through a series of industrial processes.

These products are the basis of a 'globalised diet' and are becoming dominant in the global food supply, with sales and consumption growing in all regions and almost all countries. Currently, their consumption is growing fastest in upper-middle-income and lower-middle income countries.

Consequently, dietary patterns worldwide are becoming increasingly more processed and less diverse, having an impact on agrobiodiversity – the variety and variability of animals, plants and microorganisms used directly or indirectly for food and agriculture.

Nutrition experts from Brazil, the US and Australia have written a commentary after investigating the issue.

They said that the bad effects of ultra-processed foods on human health were well documented, but there was still low awareness of their damaging impact on

planetary health, and ultra-processed foods were missing from international development agendas.

They warned that global agrobiodiversity was declining, especially the genetic diversity of plants used for human consumption.

More than 7,000 edible plant species are used for human food, but fewer than 200 species had significant production in 2014, and just nine crops accounted for more than 66% by weight of all crop production.

As much as 90% of humanity's energy intake comes from just 15 crop plants, and more than four billion people rely on just three of them – rice, wheat and maize.

The authors warned that such a decline in biological diversity in food systems was disrupting and damaging biospheric processes and ecosystems that supported reliable and sustainable food production, reduced diet diversity and created a barrier to healthy, resilient and sustainable food systems.

They pointed to an ongoing study of 7,020 ultra-processed foods sold in the main Brazilian supermarket chains which had found that their five main ingredients included food substances derived from sugar cane (52.4%), milk (29.2%), wheat (27.7%), corn (10.7%) and soy (8.3%).

As a result, peoples' diets were less diverse, with ultra-processed foods replacing the variety of wholefoods necessary for a balanced and healthy diet.

Production of ultra-processed foods involved greater use of ingredients extracted from a handful of high-yielding plant species (such as maize, wheat, soy and oil seed crops) which meant that animal-sourced ingredients used in many ultra-processed foods were often derived from confined animals fed on the same crops.

Another issue of concern was that ultra-processed food production used large quantities of land, water, energy, herbicides and fertilisers, causing environmental degradation from greenhouse gas emissions and accumulation of packaging waste.

The authors concluded: "The very rapid rise of ultra-processed foods in human diets will continue to place pressure on the diversity of plant species available for human consumption.

"Future global food systems fora, biodiversity conventions and climate change conferences need to highlight the destruction of agrobiodiversity caused by ultra-

processed foods, and to agree on policies and actions designed to slow and reverse this disaster.

“Relevant policy makers at all levels, researchers, professional and civil society organisations, and citizen action groups, need to be part of this process.”