

Why Understanding Food Choice is Crucial to Transform Food Systems for Improvement of Human and Planetary Health



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Climate change is one of the most complex challenges for humanity in the modern age. Rising sea levels, extreme weather events (e.g., droughts, floods), and abnormally high temperatures are detrimental to the planet and all the species that inhabit it, including humans.¹ Food systems are a major driver of climate change. Food production, processing, transportation, packaging, consumption, and waste contribute to approximately one-third of global greenhouse gas emissions and over two-thirds of the world's biodiversity losses and land and water use changes.² Most climate change mitigation involving food systems transformation aims to make structural or technological changes that emphasize supply-side solutions with little to no attention to individual food choice, a building block for demand. *Actions to transform food systems must account for the role of individual food choice as an important contributor to climate change.*

What drives individual food choices?

Food choices play an important role in food systems and directly impact human and planetary health. Food choice is a decision-making process whereby individuals consider, acquire, prepare, distribute, and consume food.³ Many interconnected biological, psychological, economic, social, cultural, and political factors drive food choices. Decisions are constrained by availability and accessibility within local food environments,⁴ but even in deprived settings, people can and will exercise some agency in their food choices, given real and/or perceived limitations (e.g., cost, time) and personal perspectives (e.g., culture, taste preferences, health needs) which has implications for the success of actions to transform food systems. For example, a study in rural Guinea found that miners with unstable incomes sought out and purchased energy-dense, nutrient-poor foods near their worksites despite the availability of less expensive healthier options, citing tradeoffs between time and convenience over cost and health.⁵ Similar examples of individuals exercising autonomy to make food choices, even in resource-constrained communities, can be found across a wide variety of studies. Food companies, retailers, and vendors recognize that food choice decisions are driven by more than just price and attempt to influence decision-making through direct (e.g., food marketing) and indirect (e.g., industry lobbyist groups) mechanisms.⁶

Over the last century, changes in lifestyles and livelihoods alongside modernization of food environments have steered demand toward foods and ways of eating that are detrimental to human and planetary health. The nutrition transition, characterized by dietary patterns containing high levels of refined carbohydrates, sodium, fats, animal-source foods, or heavily processed foods, has been implicated in rising non-communicable disease (e.g., type 2 diabetes, heart disease).⁷ Due to lengthy supply chains for production and distribution logistics, demand for these foods also has negative environmental consequences.⁸

How do individual food choices contribute to climate change and why should we care?

Understanding how food choice contributes to climate change provides a roadmap for transforming food systems favorable to achieving health and climate goals. To change population-level dietary patterns conducive to both human and planetary health, individuals would need to change their food choice behaviors. Consensus for how to transform food systems is lacking, and some proposed changes may result in challenging unintended consequences if individual food choice is not understood and considered. Using a food choice lens can enhance our ability to account for nuances in context and behaviors that would result in success or failure of efforts for food systems transformation.

Individual food choices contribute to climate change in three major ways.

1. Individual food choice contributes to the aggregate population-level food demand that influences the foods produced, promoted, and sold in the global marketplace.

For example, the drive for affordable food dictates food subsidy policies that attempt to keep food economical for consumers. This requires production systems to switch to high-efficiency operations, such as factory farming and monocropping with large volumes of inputs (e.g., fertilizer, seeds). Such farming methods are propellers of greenhouse gas emissions.^{9,10}

2. Individual perspectives on food safety and quality can lead to food waste generation at consumer and retailer level.

Misperceptions about food safety, quality, aesthetics, and freshness, including misinterpretation of expiration dates and improper storage methods, can lead to edible food disposed of sooner than necessary.¹¹ Food safety concerns can be exacerbated by unreliable infrastructure for cold chain storage in households and retail, leading to premature disposal.¹²

3. An individual's food choices can be a symbolic act, displaying commitment to others for social movements, advocacy, and action.

For instance, one may adopt a plant-based diet for environmental reasons and use social media to connect with others who are also actively pursuing dietary change for a similar reason. Over time, these shared visions may create collective action toward achieving planetary health goals.¹³

Climate change continues to threaten the future of the Earth's inhabitants. Significant changes must take place, particularly in the food systems sector. With thoughtful consideration of what, how, and why individual food choices contribute to climate change, we can work together to design and implement policies, interventions, and other actions that preserve both human and planetary health.

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