

THE CONNECTIONS BETWEEN DIET, PEOPLE AND PLANET

There is mounting evidence that a healthy, sustainable diet protects public health, the planet and our climate. But what, exactly, qualifies as a healthy, sustainable diet? That's a tall order! A healthy, sustainable diet provides good nutrition and safe food; uses natural resources with a conservation mind-set; aims to reduce the incidence of non-communicable diseases associated with obesity and poor diets; rebuilds and nurtures ecosystems; and, we hope, mitigates climate change.

Climate change is one of the most visible ways that we are witnessing the degradation of ecosystems and the irresponsible use of natural resources—and our

global diets are, in part, exacerbating the problems. By shifting our diets toward plants and away from meat—placing more emphasis on the obligation of high-income countries (HIC) to do so, as opposed to putting the onus on low- and middle-income countries (LMIC)—we not only make strides toward improved public health but also take steps toward stewarding the environment and slowing climate change.

In alignment with the EAT Stockholm Food Forum, the Johns Hopkins Center for a Livable Future (CLF) has highlighted some ways that everyone can address health, environment and climate change at the table.

Healthy diets: more plants, less meat and dairy

Many chronic health problems are associated with higher intake of animal products, particularly red meat and high-fat dairy, as well as lower consumption of vegetables, fruit, whole grains and plant-based proteins, such as nuts and legumes. As diets shift toward eating more meat around the world, health consequences will continue to rise. Chronic diseases are expensive to treat, adding a significant burden to stressed healthcare systems. Globally, chronic or non-communicable diseases (NCDs) are the leading cause of death, contributing to 67 percent of all deaths.

^[i] Chronic diseases are not limited to higher income countries; 80 percent of NCD deaths occur in low- and middle-income countries. Roughly a quarter of

these deaths are people under the age of 60, part of the active workforce.^{[ii], [iii]}

Diets that are high in plant-based foods and low in animal-based foods, particularly red and processed meats and high fat dairy, offer significant health benefits, along with climate and other environment benefits, including more efficient use of land, water, nitrogen, and other resources.^{[iv], [v], [vi]} Behavioral campaigns, such as Meatless Monday, can raise awareness of the impacts of dietary shifts, and introduce consumers to plant-based eating patterns through social media, food-service, restaurants and local/regional food policies.

Reduce wasted food for better health, better climate

Globally about 30 percent of the food supply is never eaten.^[vii] If all the world's food losses and waste were represented as a country, that "country" would be the third highest greenhouse gas (GHG) emitter, after China and the US.^[viii] Discarding food is akin to discarding all the embodied GHG emissions involved in its production, processing, transportation, cold storage,

and preparation. Additionally, when food decomposes in landfills, it generates significant quantities of methane, a GHG that is up to 84 times more potent than carbon dioxide.^[ix]

The United Nations Sustainable Development Goal 12.3 calls for cutting wasted food in half by 2030.^[x]

The United States Environmental Protection Agency and US Department of Agriculture have set the same goal.^[xi] Interventions to reduce wasted food in higher-income countries should focus on the consumer, including expiration date labeling and quality standards, improving shopping/eating practices, and controlling market supply. In lower- and middle-in-

come countries, the greatest need for change is at the production end, including improvements to infrastructure, storage capacity, mechanization, packaging and roads. According to estimates by climate scientists, meeting this goal alone can reduce projected food production-related carbon dioxide equivalents by 22 percent in 2050.^[xii]

Can changing diet and reducing waste mitigate climate change?

World leaders have agreed on the goal of keeping average global temperature rise within 2° C above pre-industrial levels in order to avoid the most catastrophic climate change scenarios. Even if this goal is met, climate change is projected to have significant global impacts, many of which will likely continue for centuries.^[xiii]

In order to have at least a 66 percent chance of keeping global warming below 2° C, estimates indicate that global greenhouse gas (GHG) emissions from human activities must be kept at or below 21 gigatons of carbon dioxide equivalents per year.^[xiv] Under the business-as-usual scenario modeled by researchers,^[xv] in which global population increases to 9.6 billion and global meat and dairy consumption increases with rising GDP, emissions from food production alone would nearly exhaust the emissions budget in 2050. This projection includes emissions associated with land-use change, such as deforestation. Combined with non-agricultural sectors, global emissions would greatly exceed 21 gigatons, with severe consequences for people, public health, economies, and ecosystems.

Additional studies have demonstrated the need for dietary shifts to mitigate climate change.^{[xvi] [xvii] [xviii] [xix] [xx]}

Food system activities, including producing, transporting and disposing of food, generate up to 30 percent of total global greenhouse gas (GHG) emissions.^{[xxi] [xxii]} Of these sources, livestock production is the largest, accounting for an estimated 14.5 percent of global GHG emissions from human activities, according to the United Nations.^[xxiii] Meat and dairy from ruminant animals, such as cattle and goats, are particularly emissions-intensive.^[xxiv]

Ultimately, changing the types of foods people eat and how those foods are produced is better for the climate than reducing the distances foods travel. One study from the United Kingdom estimated that avoiding air-freighted and hothouse-grown foods could reduce dietary GHG emissions by 5 percent—compared with a 35 percent reduction from eliminating meat from diets.^[xxv] Another study from the US found that avoiding red meat and dairy one day a week reduces GHG emissions more than eating locally every day.^[xxvi]

What is the Johns Hopkins Center for a Livable Future doing?

- Generating evidence on how to cut wasted food in half by 2030:
- Developed a report on Government plans to address wasted food (2017)
- Studied US consumer attitudes and behaviors related to wasted food (2015)
- Modeling country-specific environmental impacts of wasted food interventions (in progress)
- Advancing the science and awareness about the diet-climate connection:
- Modeling the climate and water footprints of 11 diets specific to 140 countries (in progress)
- Completed White Paper for presentation at COP21: The Importance of Reducing Animal Product Consumption and Wasted Food in Mitigating Catastrophic Climate Change. Johns Hopkins Center for a Livable Future (2015)
- Organized and convened “Less Meat, Less Heat: A Workshop on Civil Society Engagement at COP23 and Beyond” workshop (April 2017)
- Co-leading the Food and Climate Coalition, a group of NGOs and academics who research and advocate for a more sustainable global food system
- Supported the inclusion of sustainability considerations in the Dietary Guidelines for Americans 2015-2020, as recommended by the Dietary Guidelines Advisory Committee
- Providing guidance for advancing sustainable, healthy diets globally
- Providing ongoing technical assistance to the Meatless Monday Campaign and their global partners
- Guiding and evaluating efforts to implement meat reduction initiatives in institutional food service settings, with resources such

- as this report and accompanying toolkit on Meatless Monday best practices in food service operations
- Translating food systems science into free, online resources for public audiences:
- Food System Primer on food and climate change
- Lesson plan for high school teachers on food and climate change
- Webinars/videos:
- Addressing Food Waste Through Governmental Plans, Moving up the Food Recovery Hierarchy
- Tackling Resilience through Food Policy Councils (accompanying blog post)
- Less Meat, Less Heat: The Importance of Changing Diets for Climate Mitigation

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