



Going Glocal A Recipe for Sustainable Nutrition

North Dakota Academy of Nutrition
and Dietetics

March 11, 2020

NDC
NATIONAL DAIRY COUNCIL™

Today's Presenter

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National Dairy Council

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@JaniceGiddens





Bringing to life the dairy community's shared vision of a healthy, happy, sustainable world, with science as our foundation

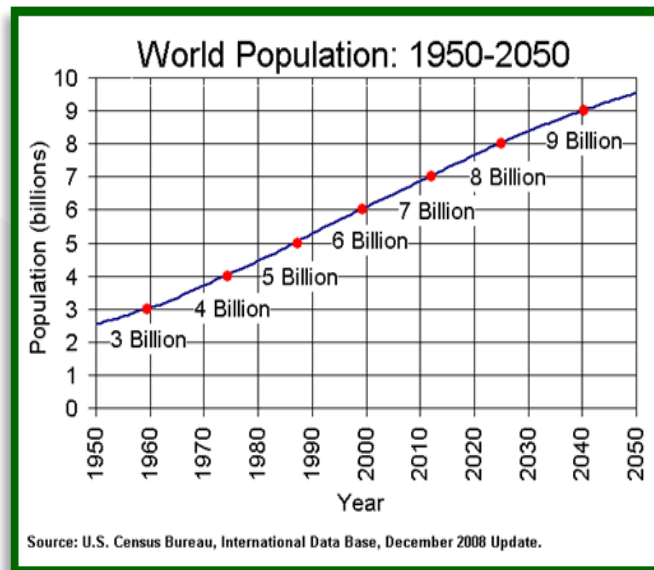
Learning Objectives

1. Understand the complexity of sustainable food systems, including the health, economics, societal and environmental dimensions
2. Recognize systems-level approaches to promote healthy and sustainable food systems in the workplace and community
3. Identify RDNs who are working at key food system entry points to promote health and sustainable food systems



Greatest Challenge of Our Generation:

Nourishing a Growing Global Population with Limited Natural Resources



Food production will need to increase by 70% to feed the world by 2050



70% of the world population will live in cities by 2050



Global middle class will triple by 2030



52% of world population could have severe water scarcity by 2050

Global Spotlight on Nutrition and Sustainability



**SUSTAINABLE
DEVELOPMENT GOALS**
17 GOALS TO TRANSFORM OUR WORLD

UNITED NATIONS DECADE OF
ACTION ON NUTRITION



2016-2025



Sustainable Diets are on Consumers' Minds



Mintel

“The definition of sustainability is extending to encompass the entire product lifecycle.”

“...sales will be driven as much by consumers desire to try new things as by concerns about **health**, getting more plants or **environmental** worries.”

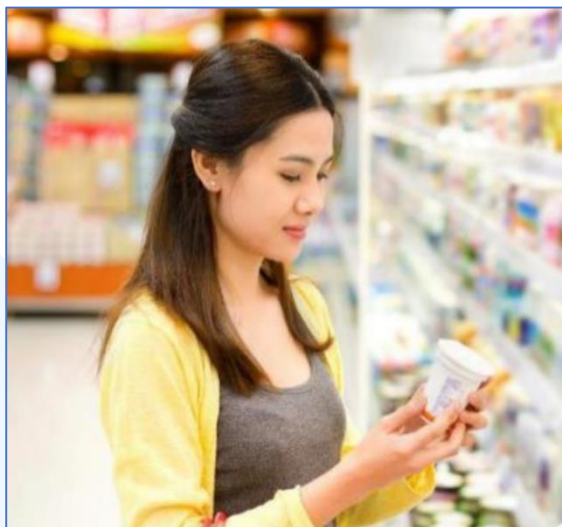
NewNutrition Business



“Consumers pay attention to **health** and **sustainability**... Brands increasingly commit in market actions and innovation... to answer consumer expectation around sustainability.”

People are Asking...

*Is this good for
my body?*



*Is this good for
the animals?*



*Is this good for
the planet?*



Academy of Nutrition & Dietetics: Focusing on Sustainability and Food Systems



Focus Areas

The Strategic Plan includes three areas where the Academy will focus efforts to accelerate progress towards achieving the vision and mission through impact goals in Prevention and Well-being, Health Care and Health Systems and Food and Nutrition Safety and Security. The plan, goals and strategies correlate to the principles. Through 2025, the Academy will prioritize programs and initiatives to demonstrate significant impact in:

Prevention and Well-Being

Impact Goals

- Develop and a
- Increase equita
- Reduce prevale
- Reduce all form

Health Care and

Impact Goals

- Elevate the rol
- Identify and tre
- Leverage data
- Improve health

Food and Nutr

Impact Goals

- Increase equita
 - Advance susta
 - Leverage innov
 - Champion legisla
- tion and regulations that increase food and nutrition security throughout the lifecycle

transformative power of food and nutrition
and well-being through food and nutrition

Food and Nutrition Safety and Security

Impact Goals

- Increase equitable access to and utilization of safe nutritious food and water
- Advance sustainable nutrition and resilient food systems
- Leverage innovations in the reduction of food waste and loss
- Champion legislation and regulations that increase food and nutrition security throughout the lifecycle



Academy of Nutrition & Dietetics Foundation's Future of Food Initiative

Future of Food Resources

- [Future of Food Fact Sheet](#)
- [U.S. Farming 101 Infographic](#)
- [Feeding the World Infographic](#)
- [Sustainable, Resilient, and Healthy Food and Water Systems: A Curriculum for Dietetic Interns](#)

Future of Food Toolkits

- + [Smart Choices. For a Healthy Planet.](#)
- + [Tossed Treasures. How We All Can Waste Less Food.](#)

Related Resources

- + [Healthy Cities Evaluation Project with Feeding America](#)
- + [The State of America's Wasted Food and Opportunities to Make a Difference](#)

Future of Food Webinars

- + [New - What's in Our Food? The Science and Safety of Food Additives](#)
- + [New - Tossed Treasures. America's Wasted Food Problem, and How Dietetic Professionals Can Help.](#)
- + [New - The Nutrition Professional's Guide to GMOs](#)
- + [A Flavorful Pairing: Nutrition Education in Food Banks](#)
- + [Changing the Way We Look at Agriculture: Opportunities for RDNs](#)
- + [Contributors and Effects of Food Insecurity: Nutrition and Beyond](#)
- + [Food Production and Our Environmental Responsibility](#)
- + [Food Security and Nutrition](#)
- + [Hungry and Overweight: How is it Possible?](#)

Spring 2019 HOD Meeting: Sustainability & Food Systems

House of Delegates Backgrounder Spring 2019



Food Systems and Sustainability: Shaping Dietary Guidance

The House of Delegates (HOD) selected the topic of *Consumer Awareness and Changing Drivers of Food Choices* for discussion at the Spring 2019 meeting. This selection was based on the Council on Future Practice's (CFP) Visioning Report 2017: A Preferred Path Forward for the Nutrition and Dietetics Profession,¹ the Academy's Strategic Plan,² and delegate input through HOD meetings and surveys. Recognizing the broad scope of this topic, the HOD will examine it through three relevant lenses to achieve meaningful outcomes from the dialogue: food systems and sustainability, evidence-based practice, and communications.

Food systems and sustainability is also a very broad topic, but within the Academy and its Foundation work is already being done in the area. The goal of the dialogue is to inform current efforts as well as to potentially identify new areas



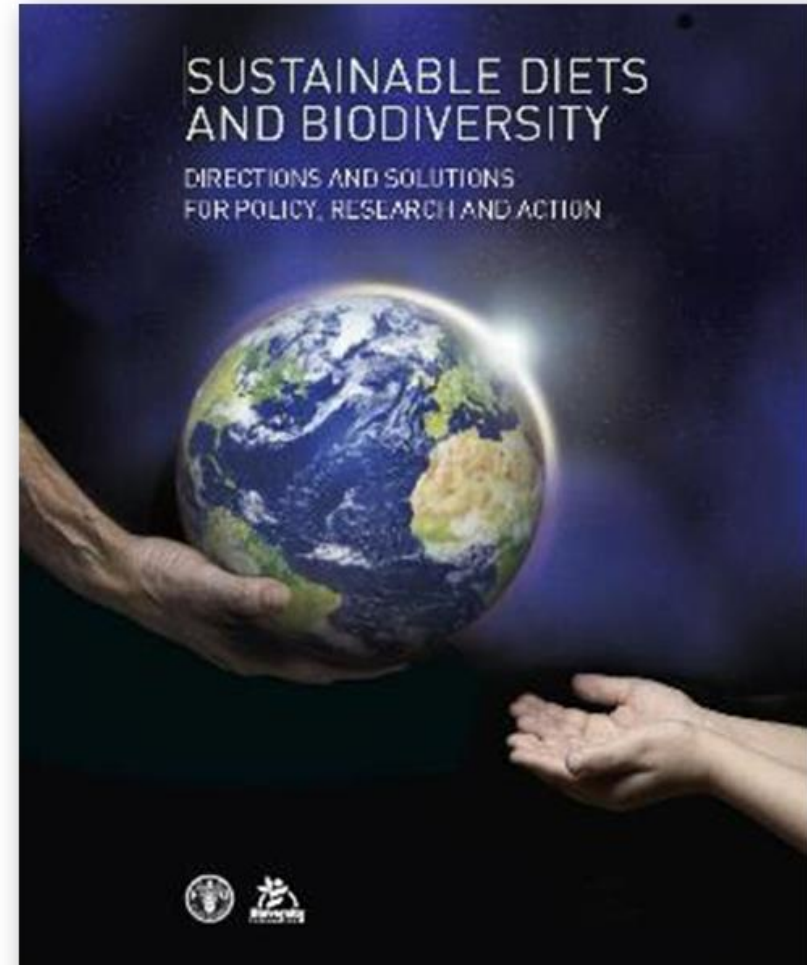
The nutrition and dietetics practitioner can not only shape the nature of dietary guidance through research and translation, but can also use the best available evidence to communicate nutrition information to consumers in light of changing drivers of food choice that include food systems and sustainability.

Definition: Sustainable Diets

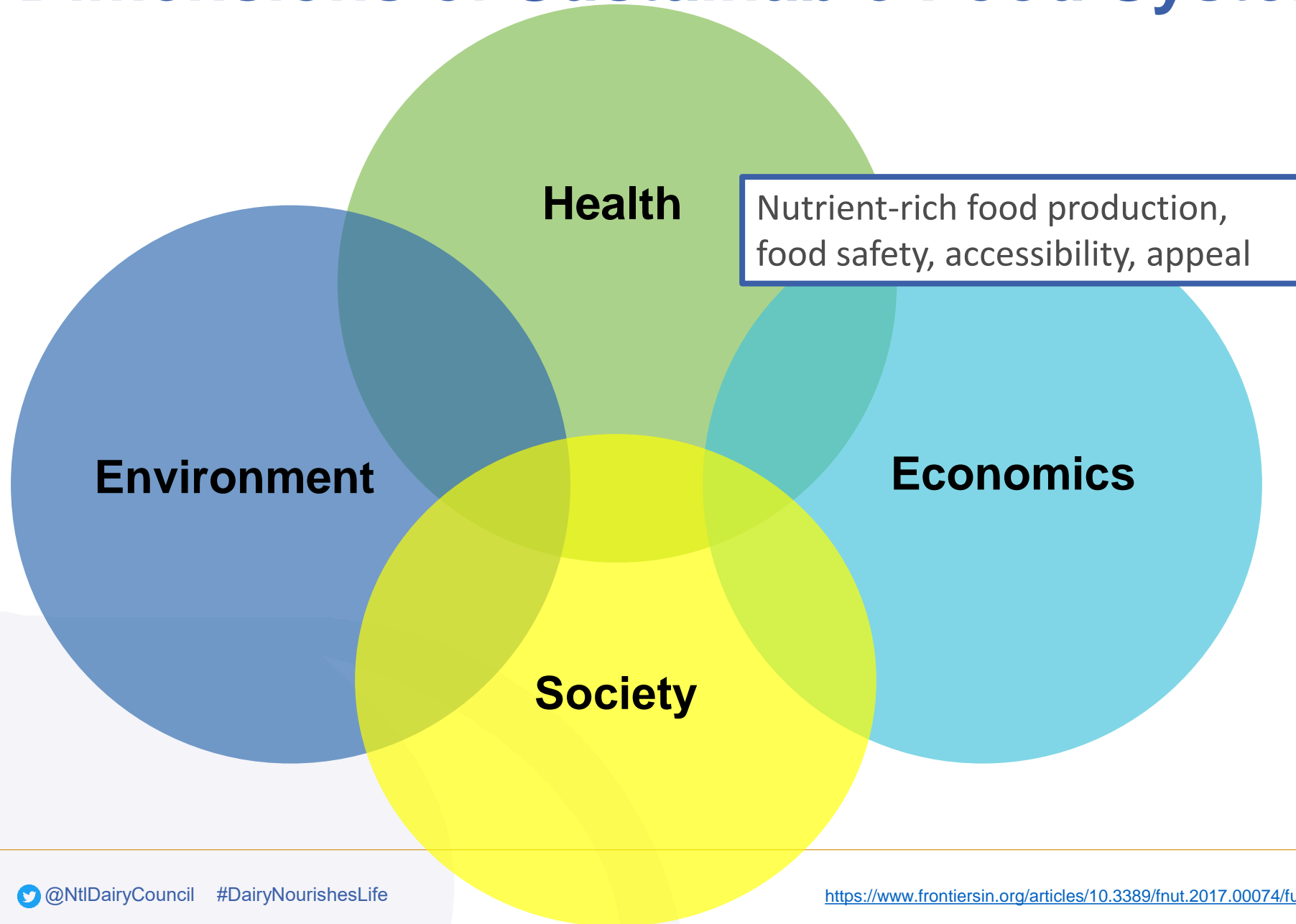


“Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.”

- FAO and Bioversity International 2012



Four Dimensions of Sustainable Food Systems



The Triple Burden of Malnutrition

Undernutrition

**~821
MILLION**

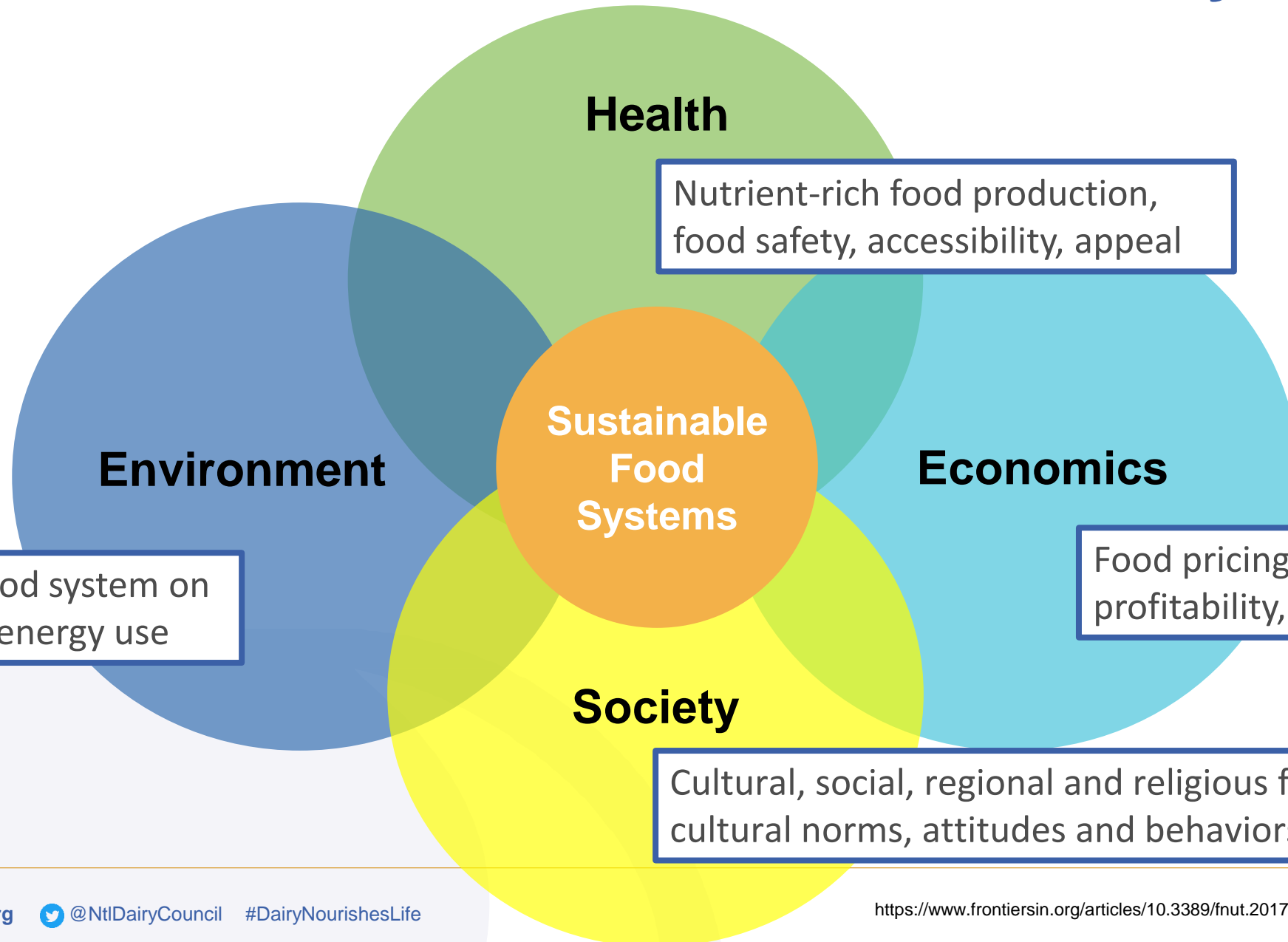
**Overweight &
Obesity**

**~2
BILLION**

**Micronutrient
Deficiencies**

**>2
BILLION**

Four Dimensions of Sustainable Food Systems



Dairy's Economic and Social Contributions to Sustainability

- Milk is produced in every state; most milk travels ~300 miles and 48 hours from farm to store
- The dairy community supports nearly 3 million jobs & contributes \$625 billion to the U.S. economy every year
- 95% of dairy farms in the U.S. are family owned and operated
- The livelihoods of ~1 billion people globally are connected to dairy
- 37 million dairy farms globally are led by women
- Dairy foods are accessible and affordable



Dairy and the Environment

Dairy Life Cycle Assessment (LCA): Understanding Dairy From Grass to Glass



Dairy's Environmental Footprint. A Summary of Findings, 2009-2012. Production of Feed: USDA Economic Research Service, 2007; Milk Production: USDA, National Agricultural Statistics Service, 2012; Milk Transport: "Greenhouse Gas Emissions of Fluid Milk in the U.S.", University of Arkansas, 2010 Processing: USDA, National Agricultural Statistics Service, Agricultural Statistics Board, 2010; Retail: Progressive Grocer, 2008



Over the past 10 years, we've reduced our impact...

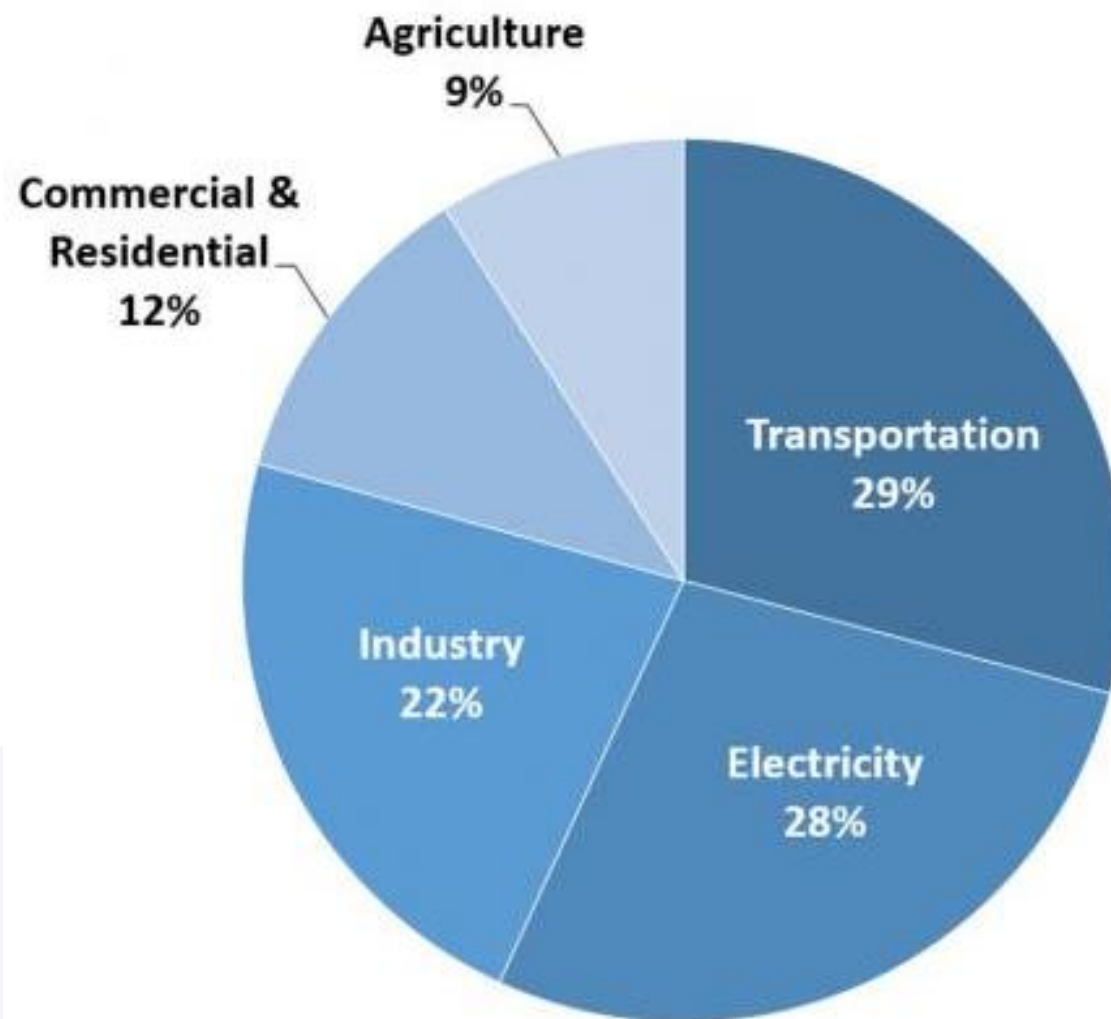
21%
less land

30%
less water

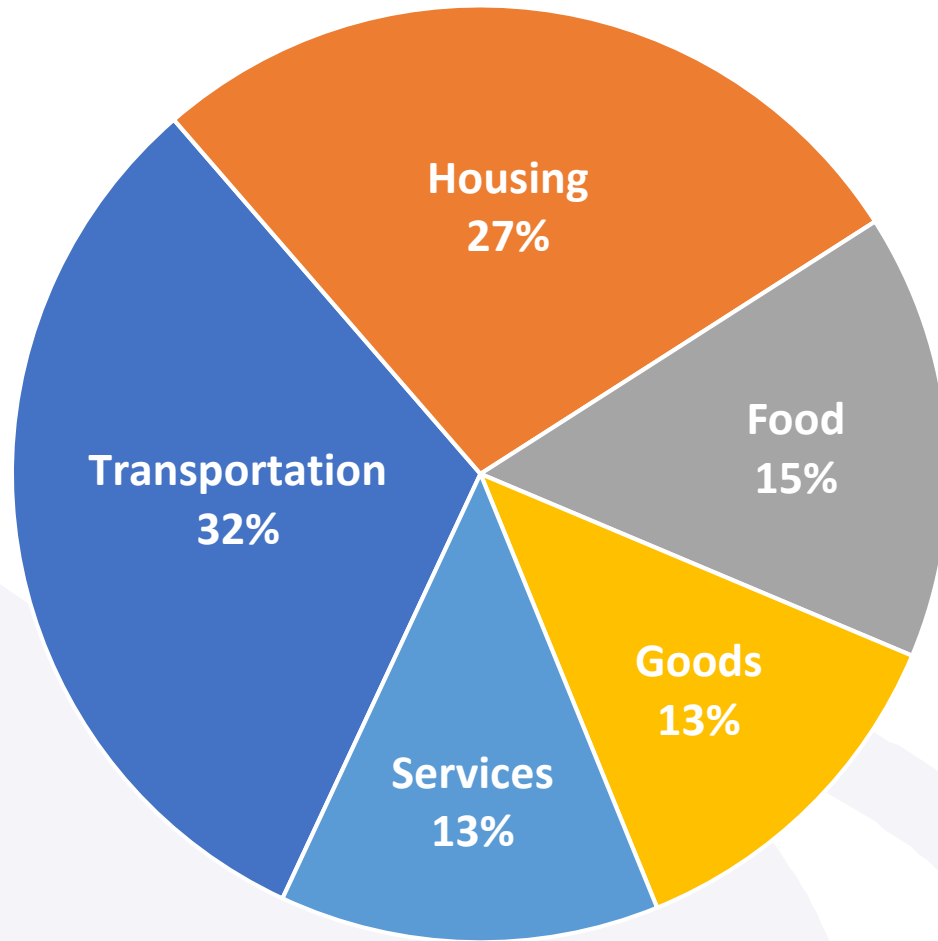
20%
less
manure

19%
less GHG

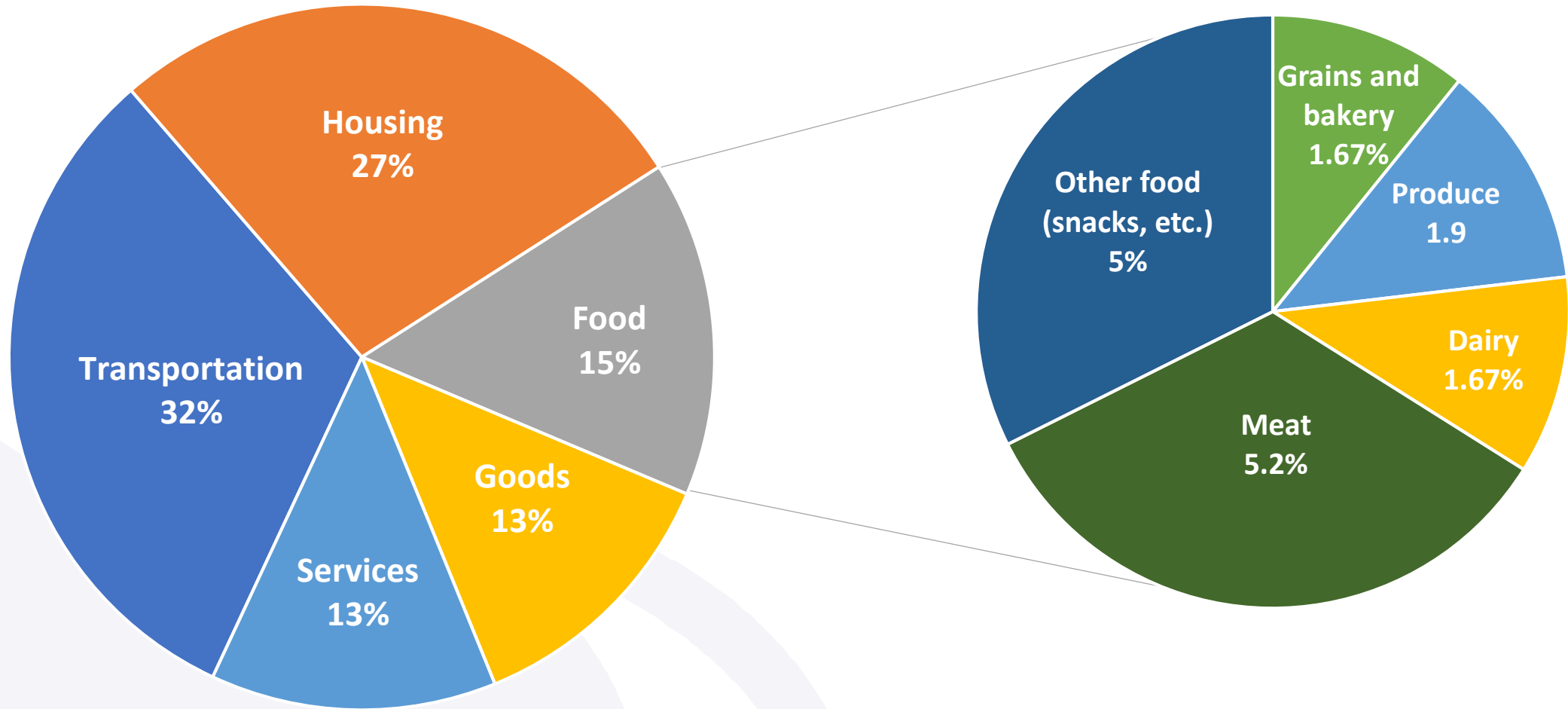
Greenhouse Gas Emissions By Economic Sector



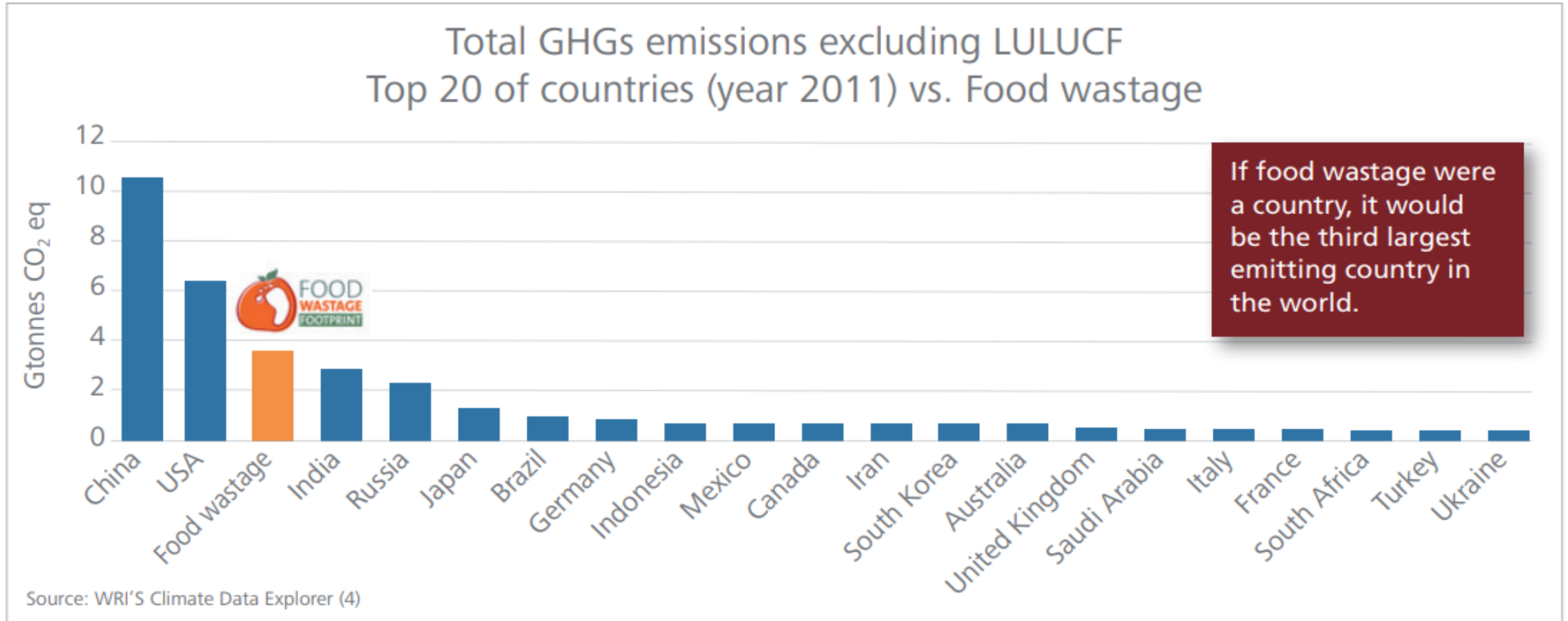
The Average U.S. Household Carbon Footprint



The Average U.S. Household Carbon Footprint

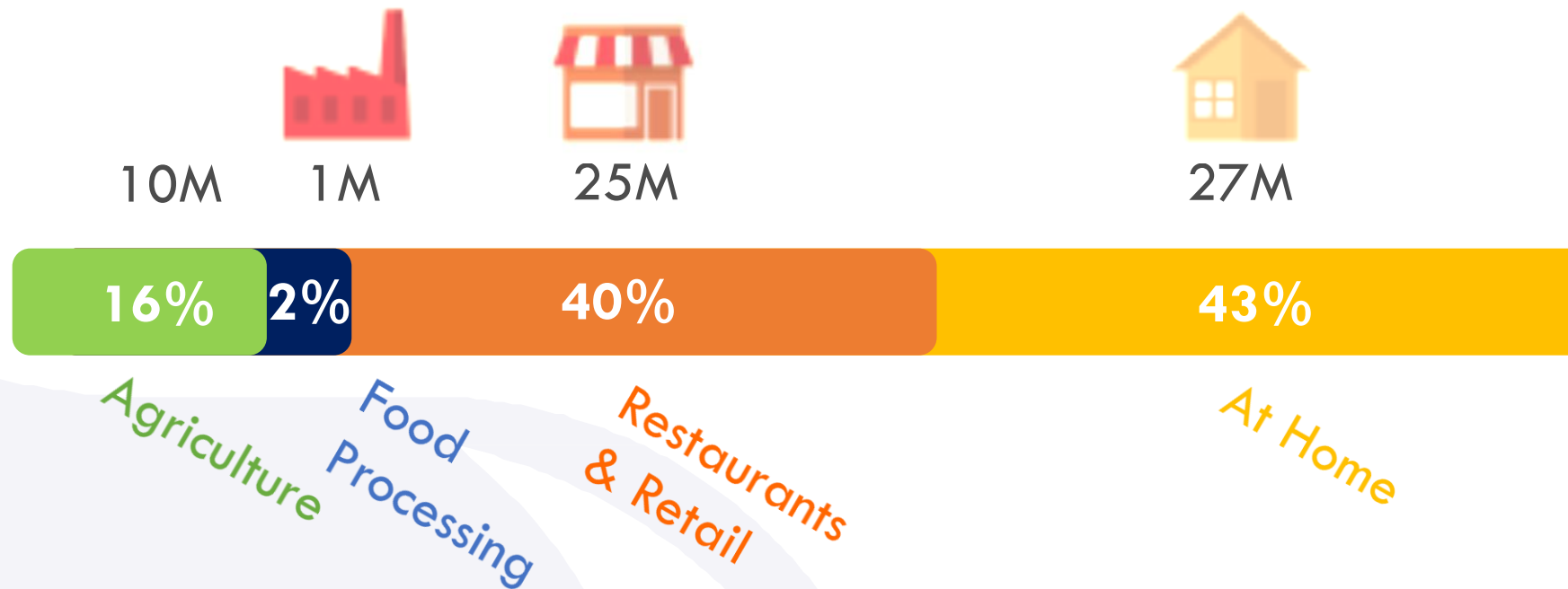


Carbon Footprint of Global Food Waste



Food Waste = 63 million tons

Value of Wasted Food = \$218 billion



Preserving Nutrients

Nutrient losses per person per day =

- 1,217 calories
- 33 grams protein
- 5.9 grams dietary fiber
- 1.7 micrograms vitamin D
- 826 milligrams calcium
- 880 milligrams potassium

If food loss was reduced by just **15%**, we would save enough valuable nutrients to nourish **25 million more Americans**

-Natural Resources Defense Council



RESEARCH

Original Research



Wasted Food, Wasted Nutrients: Nutrient Loss from Wasted Food in the United States and Comparison to Gaps in Dietary Intake

Marie L. Spiker, MSPH, RD; Hazel A. B. Hiza, PhD, RD; Sameer M. Siddiq; Roni A. Neff, PhD, ScM

ARTICLE INFORMATION

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Low adjusted food availability
Nutrient loss
United States

Supplementary materials:

Podcast available at www.jandonline.org/content/podcast. Tables 1, 2, 4, 5, 6, 7, 9, 10, 11, 12, and 13 are available at www.jandonline.org. PowerPoint presentation available at www.jandonline.org.

2212-2672/Copyright © 2017 by the Academy of Nutrition and Dietetics. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). <http://dx.doi.org/10.1016/j.jand.2017.05.015>

ABSTRACT

Background Previous research has estimated that wasted food in the United States contains between 1,249 and 1,400 kcal per capita per day, but little is known about amounts of other nutrients embedded in the 31% to 40% of food that is wasted.

Objective This research aimed to calculate the nutritional value of food wasted at the retail and consumer levels in the US food supply, and contextualize the amount of nutrient loss in terms of gaps between current and recommended intakes and estimated food recovery potential.

Design Data from the National Nutrient Database for Standard Reference were used to calculate the nutritional value of retail- and consumer-level waste of 213 commodities in the US Department of Agriculture Loss-Adjusted Food Availability data series for 27 nutrients in 2012.

Results Food wasted at the retail and consumer levels of the US food supply in 2012 contained 1,217 kcal, 33 g protein, 5.9 g dietary fiber, 1.7 µg vitamin D, 286 mg calcium, and 880 mg potassium per capita per day. Using dietary fiber as an example, 5.9 g dietary fiber is 23% of the Recommended Dietary Allowance for women. This is equivalent to the fiber Recommended Dietary Allowance for 74 million adult women. Adult women in 2012 underconsumed dietary fiber by 8.9 g/day, and the amount of wasted fiber is equivalent to this gap for 206.6 million adult women.

Conclusions This was the first study to document the loss of nutrients from wasted food in the US food supply, to our knowledge. Although only a portion of discarded food can realistically be made available for human consumption, efforts to redistribute surplus foods where appropriate and prevent food waste in the first place could increase the availability of nutrients for Americans, while saving money and natural resources. *J Acad Nutr Diet.* 2017;117:1031-1040.

IN THE UNITED STATES, BETWEEN 31% AND 40% OF THE food supply is wasted before it reaches consumers.^{1,2} Policies and interventions to reduce waste and redirect surplus food can reduce food costs, benefit the environment, and improve food security.¹⁻⁶ As described in a recent report from the Academy of Nutrition and Dietetics, nutrition and dietetics practitioners have an important role to play in addressing this waste while advancing nutrition, such as promoting consumer behavior change through nutrition education.⁷ In this article, “nutrient loss” refers to the nutrient content embedded within food loss and waste. Although the terms “food loss,” “food waste” and “wasted food” are sometimes used interchangeably, in this article “wasted food” is primarily used.

Tracking Caloric and Nutrient Losses

Most research efforts to quantify wasted food have focused on food weight or economic value, or on waste as a proportion of available food by supply chain level.⁸⁻¹¹ The few studies examining nutritional value have focused primarily on calories. For example, Buzby and colleagues¹ linked US Department of Agriculture (USDA) data with underlying loss assumptions, estimating that retail- and consumer-level food loss in 2010 was equivalent to 1,249 kcal per capita per day.

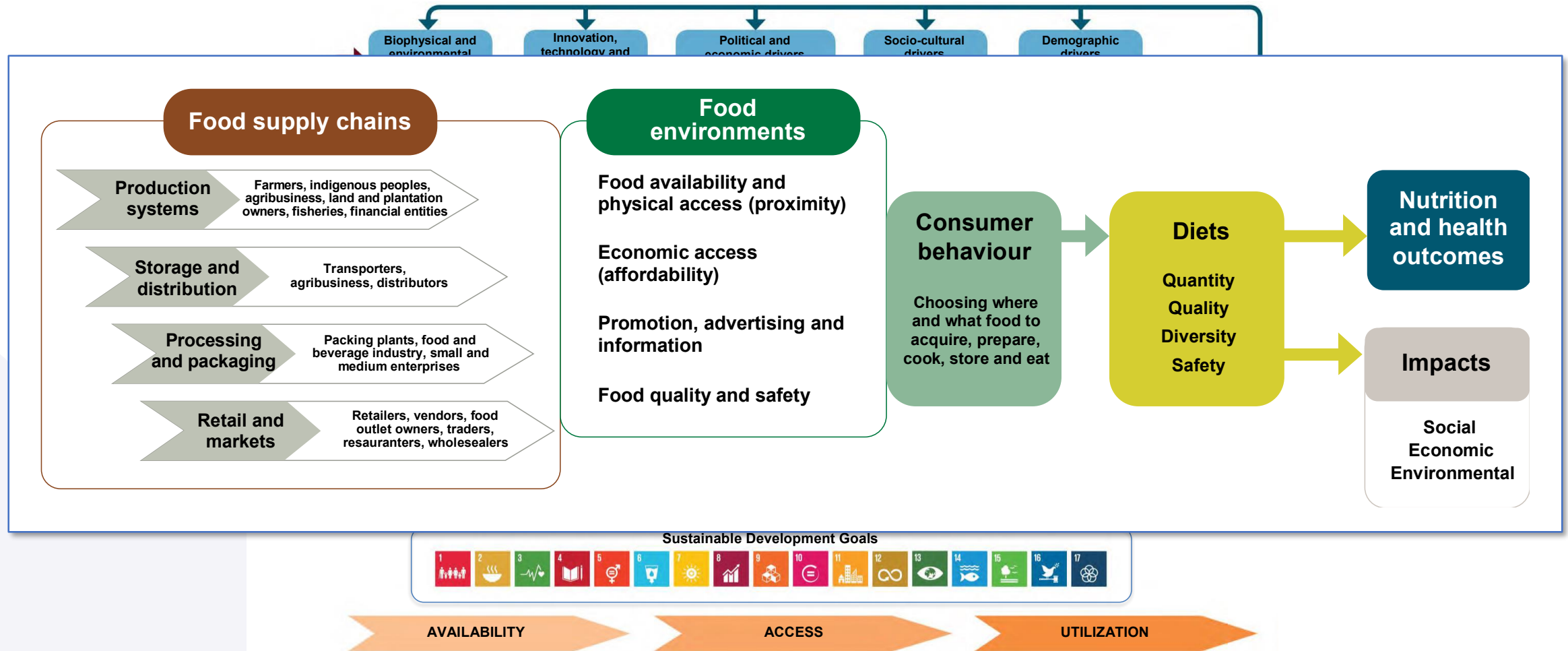
The Continuing Professional Education (CPE) quiz for this article is available for free to Academy members through the MyCDEgo app (available for iOS and Android devices) and via www.eatright.org. Simply log in with your Academy of Nutrition and Dietetics or Commission on Dietetic Registration username and password, go to the My Account section of My Academy.

RDNs: Positioned to Promote Change



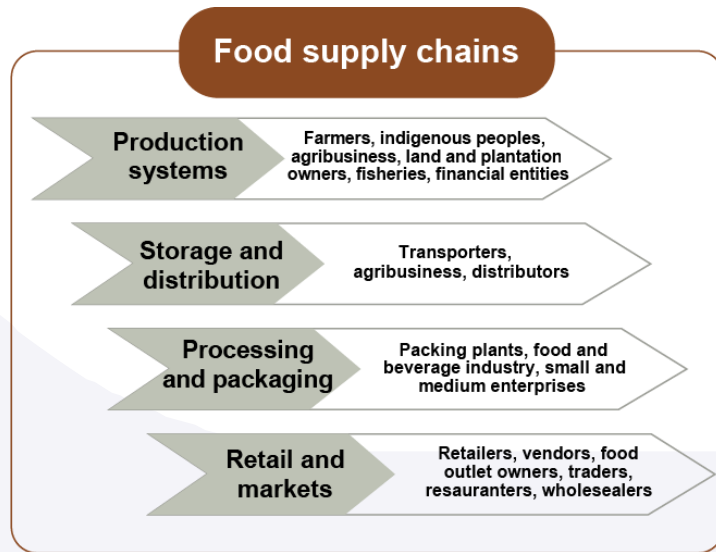
Opportunities to Spark Change

Figure 1 Conceptual framework of food systems for diets and nutrition



Food Supply Chain

Who is a Change Agent at the Food Supply Chain Level?



Retail



Food Service



Culinary Nutrition

Jessica Patel, RDN, LDN

Corporate Responsibility Manager, ALDI

Works closely with suppliers, buyers and key industry partners on ALDI's commitment to source sustainable palm oil, cocoa, coffee and wood-based products



“Before working on the supply chain at ALDI, I had no idea what it took to get a product to shelf and on your plate. Food supply chains are incredibly interesting and complex. I have gained a lot of knowledge on the complexities in the supply chain, which in turn has given me a deeper appreciation for the people that produce our food.”

Food Environments

Who is a Change Agent at the Food Environment Level?

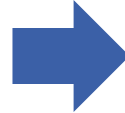
Food environments

Food availability and physical access (proximity)

Economic access (affordability)

Promotion, advertising and information

Food quality and safety



Food service



School Nutrition



Community

Tamara Melton, MS, RDN, CPHIMS

Director of Nutrition and Sustainability, Chartwells K12

Supports school district sustainability initiatives, such as reducing food and plastic waste, utilizing local farm produce, and establishing food recovery programs



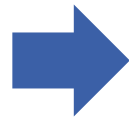
“Working in sustainability is so exciting because you are creating brand new ways to solve problems that end up helping to improve the nutrition of the communities that you serve.”

Consumer Behavior

Who is a Change Agent at the Consumer Behavior Level?

Consumer behaviour

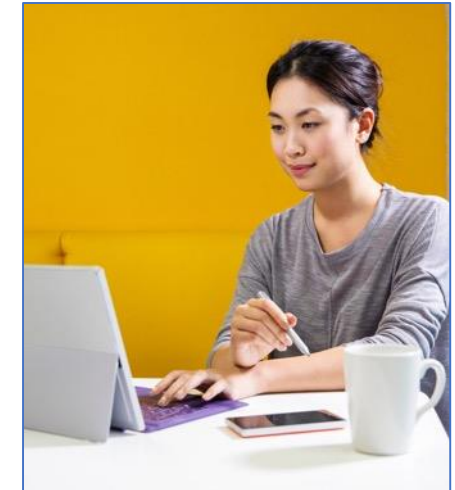
Choosing where and what food to acquire, prepare, cook, store and eat



Clinical & Private Practice



Education



Marketing & Communication

Katie Beck, MPH, RDN

Senior Nutrition Program Manager for Partners In Health, Rwanda

Accompanying a progressive health system to strengthen nutrition capacity and reach the most vulnerable to prevent and treat malnutrition.



“Undernutrition disproportionately affects poor and vulnerable groups in all parts of the world. As nutrition professionals, we have a particular skill set and knowledge-base that can be utilized for achieving equity and preventing malnutrition and its related diseases.”

RDNs as Champions of Change



Support sustainable practices across the supply chain and the producers, organizations and companies leading the way



Promote access to healthy food and promote safe, healthy and sustainable food environments



Lead by example as a sustainably minded consumer and encourage behavior change in others through education and outreach

“The real danger is that you are intimidated and paralyzed to act.” – Eileen Kennedy, DSc, RD

Resources

Additional Resources



NC STATE EXTENSION



National Dairy Council Resources

1. Dairy as a driver of the Sustainable Development Goals
2. Global Dairy and GHG Emissions
3. Dairy's role in addressing the triple burden of malnutrition
4. Dairy Nourishes Life Webinar Series



Invitation to Join

Dairy Nourishes
— NETWORK —

Members receive:

- Quarterly newsletters
- Advance notice of free CEU webinars
- Recipe ideas/meal tips
- Engaging contests
- Opportunities to be highlighted on NDC's social
- In-person educational and networking events

NationalDairyCouncil.org/DairyNourishesNetwork

Questions?