Eating to protect our Health & our Planet

Tuesday, June 2nd, 2020 - from 8:30 to 10.00 am (EDT)

Sharon M. Donovan *(USA)*
PhD, RD
*Professor and Melissa MNoel Endowed Chair
in Nutrition and Health, University of Illinois*

Chaired by

Olivier Goulet *(France)*
MD, PhD
*Professor of Pediatrics
Head of the Division of Pediatrics Gastroenterology-Hepatology-
Nutrition Hôpital Necker Enfants Malades-University Paris Descartes*

Creating a sustainable food future: A menu of solutions to feed nearly 10 billion people by 2050

Janet Ranganathan *(USA)*
*MSc in Environmental Techonology by the Imperial College of London
Vice President for Research, Data, and Innovation at the World Resources Institute (WRI).*

Healthy and sustainable diets: what do we learn from modeling studies?

Pieter van't Veer *(The Netherlands)*
*PhD in Nutritional Epidemiology
Professor in Nutrition, Public Health and Sustainability at the University of Wageningen.*

How to achieve sustainable healthy eating in practice?

Jess Haines *(Canada)*
*PhD, MHSc, RD
Associate professor of applied nutrition at the University of Guelph.*

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YOGURT IN NUTRITION
INITIATIVE FOR A BALANCED DIET

Eating to protect our Health & our Planet

Chairs introduction

Sharon M. Donovan

Olivier Goulet

The food system is a major driver of greenhouse gas emissions, water and land use. One of the most pressing issues facing society today is the need to balance diets that are both healthy and sustainable. Sustainable diets are defined as "dietary patterns that promote all dimensions of individuals' health and wellbeing, have low environmental pressure and impact, are accessible, affordable, safe and equitable, and are culturally acceptable" [1].

The overall goal of the 8th summit of the Yogurt in Nutrition Initiative (YINI) is to highlight the need to transform our food systems to ensure a sustainable future for ourselves and the planet. The first speaker, Janet Ranganathan, will set the stage by describing the challenges of balancing the needs of a growing global population and the demand for additional food, particularly animal products, while limiting greenhouse gas emissions. She will also describe solutions proposed by the World Research Institute (WRI). The second speaker, Pieter van't Veer will describe two approaches, Food based Otpimeal model and Data Envelopment Analysis (DEA), for modeling diets that are healthy, sustainable and fit within a prevailing food culture. The final speaker, Jess Haines will use the recommendations for action from the FAO/WHO "Sustainable healthy diets – Guiding principles" report as a framework to provide policy- and consumer-level strategies that are needed to support sustainable healthy eating as well as the key opportunities and challenges to achieving sustainable healthy eating in practice. A short Q&A and panel discussion will follow the three presentations.

About YINI: The Yogurt in Nutrition Initiative for a Balanced Diet (YINI) was created in 2013, by the Danone Institute International and the American Society for Nutrition, with the goals of summarizing the existing scientific data on yogurt, stimulating new research and disseminating this information to professionals and the general public. In 2020, the YINI has expanded its mission to place a broader emphasis on healthy and sustainable diets.

(1) FAO and WHO. 2019. Sustainable healthy diets – Guiding principles. Rome

Janet Ranganathan - USA

Janet Ranganathan is the Vice President for Research, Data, and Innovation at the World Resources Institute (WRI), a global research organization that addresses the urgent sustainability challenges related to food, forests, water, climate, energy, cities and the ocean. She ensures WRI's research is robust and its strategies evidence based. She leads WRI's efforts to harness the data revolution, combining open data, information technologies, artificial intelligence, and human networks to drive more transparent and accountable management of the planet's resources. Janet established WRI's Data Lab and helps ensure WRI's family of "data watches" provide trusted, actionable information. Janet plays a support role for WRI Brazil and WRI's private sector sustainable finance work.

During her tenure, Janet has held diverse positions across WRI's programs and helped roll out numerous multi-stakeholder initiatives, including Resource Watch, Partnership for Resilience & Preparedness (a Public-Private Partnership with the U.S. Government, technology companies, and local communities to empower decision makers with a data-driven approach to climate resilience), Better Buying Lab, and Creating a Sustainable Food Future. Janet also founded the Greenhouse Gas Protocol Initiative, an international multi-stakeholder partnership convened by WRI and the World Business Council for Sustainable Development to develop international greenhouse gas accounting and reporting standards. She was the lead author of the Greenhouse Gas Protocol Corporate Standard, which has become the accounting and reporting standard for businesses around the globe.

Janet has written extensively on a broad range of sustainable development topics, including planetary health monitoring, food sustainability, plant-forward diets, business and markets, environmental performance measurement, environmental accounting, climate change, greenhouse gas measurement and reporting, ecosystem services, forests, and global environmental governance.

Janet is Vice-Chair of the Ceres Board of Directors and a member of WRI Europe and WRI Brazil's boards. She is a member of Mars's Science Advisory Committee. She serves on the advisory boards of WRI Africa, the Sustainable Development Solutions Network, Rockefeller Foundation Bellagio Centre, SAI (Sustainable Agriculture Initiative), and the U.K. Research and Innovation and Natural Environment Research Council Digital Environment Expert Network.

Janet grew up in Cornwall, England. She is married to Kumar and has two daughters, Angela and Serena.

Creating a sustainable food future: A menu of solutions to feed nearly 10 billion people by 2050

As the global population grows toward 10 billion in 2050, and incomes grow across the developing world, overall food demand is on course to increase by more than 50 percent relative to 2010, and demand for animal-based foods by nearly 70 percent. Feeding 10 billion people sustainably by 2050, then, requires closing three gaps:

• A 56 percent food gap between crop calories produced in 2010 and those needed in 2050 under "business as usual" growth;

• A 593 million-hectare land gap (an area nearly twice the size of India) between global agricultural land area in 2010 and expected agricultural expansion by 2050; and

• An 11-gigaton GHG mitigation gap between expected agricultural emissions in 2050 and the target level needed to hold global warming below 2oC (3.6°F), the level necessary for preventing the worst climate impacts.

There is no silver bullet to close these gaps. WRI's research has identified 22 solutions that need to be simultaneously applied to close these gaps. The relative importance of each solution varies from country to country. This presentation will summarize the solutions organized into a five-course menu: (1) reduce growth in demand for food and other agricultural products; (2) increase food production without expanding agricultural land; (3) protect and restore natural ecosystems; (4) increase fish supply; and (5) reduce GHG emissions from agricultural production.

Pieter van 't Veer - The Netherlands

Pieter van 't Veer (1957) holds a special chair in Nutrition, Public Health and Sustainability at Wageningen University. He studied Human Nutrition (Wageningen, 1982) and Epidemiology (Harvard School Public Health, 1982). He obtained his PhD in Nutritional Epidemiology (Maastricht, 1990) and was employed by The Netherlands Cancer Foundation (1982), TNO Nutrition Institute (1984) and Wageningen University (1993). Before his current position, he chaired the Nutrition and Epidemiology group, Division of Human Nutrition and Health (2002 -2015). His scientific career initially focused on

diet and carcinogenesis and gradually shifted to NCDs, biomarkers, exposure assessment, dietary habits and prevention and finally environmental sustainability and food systems. He (co)supervised projects on diet and breast cancer, GI-tract cancers and cardiovascular disease (EURAMIC study), standardization of dietary assessment for pan-EU surveillance (EFCOVAL), harmonizing dietary requirements (EURRECA), consumer behaviour (DEDIPAC) and public health (community health centres).

More recently, his work extended to the environmental aspects of the diet

in, e.g., the SUSFANS project and the SHARP model. Building on the H2020-projects EuroDISH and RICHFIELDS, he is actively involved in the development of a pan-European research infrastructure, which aims to facilitate interdisciplinary, multi stakeholder research for the food, nutrition and health research community.

Healthy and sustainable diets: what do we learn from modeling studies?

To design healthy and sustainable diets, linear programming has been used extensively. This technique combines separate foods into a diet that fulfils present criteria on daily nutrient requirements and environmental indicators such as greenhouse gas emissions (GHGE). However, acceptability to consumers is hard to account for. Data Envelopment Analysis (DEA) is a benchmarking approach that bypasses this shortcoming. It combines existing 'best practices' (benchmarks) of whole diets into new diets that are subsequently optimized for e.g. minimal deviation from current diets, nutritional quality, and environmental sustainability. We present results from food- and diet-based models to illustrate their pro's and con's.

The food-based Optimeal model was used to generate diets for Dutch adults. Its input data were current average food consumption, food composition data, LCA footprints, nutrient requirements, and GHGE-targets; consumer acceptability was incorporated by a (quadratic) score for deviance from the current average Dutch diet. Results showed that a healthy diet that meets the 2030 and 2050 GHGE-targets consistent with the Paris agreement on Climate Change (1.50C; ca 50% and 75% reduction of current emissions), required a shift from animal- to plant-sourced foods, reduction (2030 target) or elimination (2050 target) of cheese, whereas liquid dairy was reduced by 1-30% (2030 target) or by 70% (2050 target). An increase was observed for Ca and vitB12 enriched soy drinks (x2 and x10 for the 2030 and 2050 targets respectively). The diet shifts were stronger and diets became unrealistic when very strict criteria for GHGE reduction (2050 target) were applied.

The diet-based DEA model was applied to adults from four EU countries (DK, CZ, IT, FR). Input data were averaged daily diets

from food consumption surveys, best practices were based on food based dietary guidelines (FBDGs), and optimisation was based on either nutrients, GHGE or a (linear) score for deviance from the initial diet. The model aims to design and compare diets that are SHARP: environmentally Sustainable, nutritionally Healthy, and Affordable, Reliable and Preferable for consumers. When environmental sustainability was used to optimise the diets, the Nutrient Rich Diet score (NRD15.3) became ~9% higher, GHGE was ~21% lower, and ~73% of food intake remained similar. Modelled diets had a similar proportion of animal-sourced foods, and plant-based food increased at the expense of alcoholic and sweet beverages. Protein sources, however, shifted from red and processed meat to either eggs, fish or dairy. Depending on the country, liquid dairy and cheese changed by +28% (5 to 45%) or –8% (–23 to +22%), with lowest and highest values for DK and CZ respectively.

Both modelling approaches suggest that liquid dairy (and to a lower extent cheese) fit into healthy and sustainable diets. This is because of the nutrient richness and lower GHGE footprints of liquid dairy as compared to other animal-sourced products like cheese and especially beef meat. Depending on the nutrient provision in a country, cheese may need reduction when strict GHGE targets are set. As compared to Optimeal, the SHARP-benchmarking model resulted in less extreme dietary changes with smaller improvements in nutritional quality and GHGE-reduction. Optimeal provides advice at the population level and needs explicit criteria for acceptability, whereas the SHARP-model provides individual diet advice that fits within the prevailing food culture.

Jess Haines - Canada

Associate Professor of Applied Nutrition and Co-Director of the Guelph Family Health Study, University of Guelph, Canada.

Dr. Haines's research aims to bridge epidemiologic research on the determinants of health behaviours with the design, implementation, and evaluation of family-based interventions to support children's healthy eating and growth. She is the co-Director of the Guelph Family Health Study and the Director of the Parent-Child Feeding Laboratory. Along with colleagues at the University of Guelph, she is currently testing interventions designed to increase fruit and vegetable intake and reduce household food waste by improving family food literacy.

How to achieve sustainable healthy eating in practice?

Transforming our food systems to ensure a sustainable future will require a transformation of our food consumption and waste patterns. Using the recommendations for action for the implementation of sustainable healthy diets from the FAO/WHO "Sustainable healthy diets – Guiding principles" report as a framework, this presentation will provide an overview of the policy- and consumer-level strategies that are needed to support sustainable healthy eating as well as the key opportunities and challenges to achieving sustainable healthy eating in practice. A practical example of a consumer-level strategy will also be presented. Weeknight Supper Savers, is a community-based program, funded by Danone Institute North America One Planet. One Health. Initiative, which aims to increase intake of fruits and vegetables and reduce household food waste.
www.guelphfamilyhealthstudy.com - 🐦 @JessHainesPhD

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