

EATING TO PROTECT OUR HEALTH & OUR PLANET



THURSDAY, DECEMBER 8, 2022

from 09:00am to 10:30am (Tokyo local time)
Tokyo International Forum – Room 7 (Hall D7)

CHAired BY:

Sharon Donovan, PhD, RD
University of Illinois, United States of America

Olivier Goulet, PhD, MD
Université Paris-Descartes, France

TALK ONE

Creating a sustainable food future
Video Presentation

Dr. Janet Ranganathan
The World Resources Institute, USA

TALK TWO

**Balancing nutritional adequacy
and environmental sustainability:
what do we learn
from modeling studies ?**

Dr. Frans Kok
University of Wageningen, Netherlands

TALK THREE

**Family-based interventions to
promote sustainable healthy diets**

Dr. Jess Haines
University of Guelph, Canada

EATING TO PROTECT OUR HEALTH & OUR PLANET



SESSION THEME

The food system is a major driver of greenhouse gas emissions, water and land use and a primary driver of biodiversity loss. Therefore, one of the most pressing issues facing society is the need to deliver diets that are both healthy and sustainable. The FAO and WHO have defined this 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 application of modeling/optimization strategies to identify sustainable dietary patterns that satisfy environmental and nutritional requirements of adults will be reviewed. Lastly, examples of how to guide and educate individuals to adopt more sustainable healthy diets will be presented.

At the conclusion of this symposium, attendees will better understand the environmental challenges confronting the food system as well as strategies to address these challenges through shifting to more sustainable diets. They will also understand what defines sustainable diets and the importance of considering the complexity of the food system when modeling the environmental and nutritional impacts of the diet. Finally, they will be provided with tools for consumer education.

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About YINI: The Yogurt in Nutrition Initiative for Sustainable and Balanced Diets (YINI) was created in 2013, as a collaboration between the Danone Institute International and the American Society for Nutrition. YINI originally aimed to provide knowledge and evidence on the benefits of fermented dairy products such as yogurts. Nowadays, because protecting the planet has become a priority, YINI’s mission has evolved to integrate both health benefits of yogurts and sustainability aspects. Today, the mission of YINI is to promote and advance scientific knowledge and practice on healthy sustainable diets and the importance of all food groups - with a focus on fermented dairy and plant-based alternatives - to meet nutritional needs across the lifespan, while respecting local food cultures, affordability, and accessibility. YINI aims to achieve this mission by summarize existing scientific data on sustainable healthy diets, promote scientific research on this topic, and broadly disseminating this information to professionals and the general public.

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

Janet Ranganathan – USA

Janet Ranganathan is the Managing Director and Executive Vice President for Strategy, Learning and Results at the World Resources Institute (WRI), a global research organization that addresses urgent sustainability challenges. She leads the development and execution of WRI's five-year strategy and oversees WRI's Research Integrity, Managing for Results, and Data Lab teams.

Janet Ranganathan has written on a broad range of sustainability-related topics. She is a co-author of WRI's flagship report, *Creating a Sustainable Food Future*. She co-founded the Greenhouse Protocol which has become the global greenhouse gas accounting and reporting standard for businesses.



➤ Creating a Sustainable Food Future

Global human population is projected to increase to around 10 billion by 2050. As incomes rise, people increasingly consume more resource-intensive foods. At the same time, we need to cut greenhouse gas (GHG) emissions and stop conversion of natural ecosystems. Sustainably feeding a population of 10 billion requires closing three gaps:

1. A 56 percent food gap between crop calories produced in 2010 and those needed in 2050 under “business as usual” growth.
2. 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.
3. An 11-gigaton GHG mitigation gap between expected agricultural emissions in 2050 and the level needed to hold global warming below 2°C (3.6°F).

The presentation will outline a five-course menu to address these three gaps: (1) reduce growth in demand (2) increase food production without expanding agricultural land (3) protect and restore natural ecosystems (4) increase fish supply (5) reduce GHG emissions from agricultural production. It draws on WRI's *Creating a Sustainable Food Future* report and real-world examples of how the five-course menu is being put into practice.

Frans Kok – Netherlands

Frans Kok is Emeritus Professor in Nutrition & Health and former head of the Division of Human Nutrition at Wageningen University, The Netherlands. He was trained in human nutrition in Wageningen and epidemiology at Harvard University, Boston USA.

Kok's scientific research covers topics such as diet in disease prevention, dietary behaviour, and overweight. In emerging economies in Asia and Africa, attention is on diet and deficiency disorders. He is author of around 350 original scientific publications and supervised 70 PhD graduates. Frans Kok is editor of three nutrition textbooks 'Personalized Nutrition – Principles and Applications', 'Introduction to Human Nutrition' and 'Biomarkers of Dietary Exposure'.

During his career, he acted as Dean of Science of Wageningen University being responsible for the quality of the University's academic research and postdoctoral training. Frans Kok has been member of several national and international scientific committees, including director of the European Nutrition Leadership Program in Luxembourg.



Balancing nutritional adequacy and environmental sustainability: what do we learn from modeling studies?

Food systems are major drivers of greenhouse gas (GHG) emissions, water and land use, eutrophication (N, P), and biodiversity. Some supply chains are short, others are long, reaching across the globe. The EAT-Lancet commission provided a picture of healthy and sustainable diets for large global regions. However, the evidence base is still scarce on what this means on national and local level, as well as how this translates to consumers and their food choices. Thus, food categories need to be evaluated regarding health-environment-culture-cost trade-offs.

Animal products such as meat, especially beef, and dairy have a higher environmental burden than most plant products. For estimating the impact, it is important to differentiate in the type of meat (beef, pork, chicken) and dairy (milk, cheese, yogurt). Moreover, dietary change towards more sustainable diets should fulfil nutritional requirements, be cultural and socially acceptable, and affordable.

Key nutrients that require attention in more plant-based diets (flexitarians, pescatarians, vegetarians, and vegans) and affluent western diets are calcium, iodine, vitamin B12, omega-3 fatty acids, zinc, and iron. However, diets in low and middle income countries would benefit from more (micro)nutrient and protein dense foods from animal sources. Therefore, trade-offs for inclusion of foods in healthy and sustainable diets will differ between Western and non-Western countries.

To evaluate to what extent food categories can be part of sustainable diets, observational and scenario-based approaches, and modeling/optimization strategies have been used. Results indicate that dairy has a moderate impact on sustainability: an emerging rank order is beef, other meat (chicken, pork), (hard)cheese, milk, plant products. Daily intake of 1-2 servings of dairy may fit in sustainable and healthy diets. Yogurt and milk are of special interest, because of their nutrient richness and low fat content, but more studies are necessary to quantify their impact.

Sustainable diets can be composed in different ways. Ideally, current local dietary habits and eating cultures should be the basis for change. In future analyses, we need to increase the evidence base beyond summaries of national case studies by using optimization approaches with individual data on dietary intake. Most probably, convergence guidelines which recommend a reduction and substitution rather than elimination approach may be more effective in increasing dietary transition rates for planetary health.

Jess Haines – Canada

Jess Haines, PhD, MHSc, RD is an Associate Professor of Applied Nutrition at the University of Guelph in Canada. Along with an interdisciplinary team of colleagues at the University of Guelph, she is currently testing interventions designed to promote sustainable healthy eating among families. She is also the co-Director of the Guelph Family Health Study, a longitudinal family-based cohort.

For her work, Dr. Haines received the 2020 Danone International Prize for Alimentation and was named as a member of the Royal Society of Canada College of New Scholars, Artists, and Scientists, which is "Canada's top academic honour for outstanding achievement in the arts, social sciences and sciences."

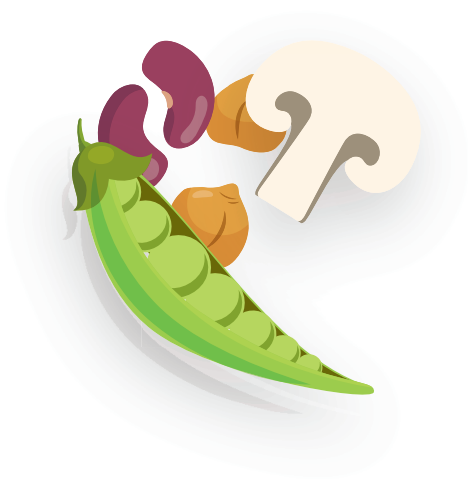


Family-based interventions to promote sustainable healthy diets

Identifying effective strategies to promote environmentally sustainable and healthy diets is a critical component of creating sustainable food systems. The objective of this presentation is to describe the development, implementation and evaluation of family based interventions designed to promote sustainable healthy diets.

Formative assessment with both parents and children were conducted to identify feasible and contextually-relevant intervention strategies to increase intake of plant-based proteins and reduce household food waste. These results informed the development and testing of family-based interventions focused on the promotion of sustainable healthy eating.

Findings from feasible studies among families with children aged 9-12 years suggest our intervention strategies are well accepted by families and may increase intake of plant-based protein and reduce level of household food waste. Key learnings and next steps regarding approaches to promote sustainable healthy diets will be discussed.





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The Symposium will take place at the Tokyo International Forum (<https://www.t-i-forum.co.jp/en/>)
under the thematic: FOOD CULTURE PRACTICES AND NUTRITION EDUCATION
This event is a symposium of IUNS-ICN