

ILSI Research Foundation Gathers Stakeholder Input on the Ability of Our Food Systems to Achieve Long-term Nutrition Security



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Washington, DC

Public and private sector scientists evaluate novel metrics for determining how we must adapt the way we produce food to meet challenges posed by climate change and resource scarcity.

The world's food systems face an escalating challenge to meet accelerating demand for sustainably-produced, nutritious food in the face of climate change, human population pressure, resource scarcity, and ecosystem preservation. About 1 billion people lack sufficient food and another 2 billion suffer from micronutrient deficiencies.

Paradoxically, more than 2 billion adults are overweight, of which 500 million are obese. It is clear that actions are needed, but how can we reliably choose the path forward having the best overall outcomes, considering both human nutritional needs and sustainability requirements? We must have quantifiable metrics in order to identify areas of greatest current and future concern, to set meaningful goals, and to track progress.

The ILSI Research Foundation Center for Integrated Modeling of Sustainable Agriculture and Nutrition Security (CIMSANS) is fostering new public/private partnerships on novel food system modeling metrics, intended to better inform adaptation to the increasing impacts of climate change and resource scarcity on sustainable nutrition security (SNS). An important first step in this work took place on February 17, when 40 agriculture and nutrition scientists from public sector, governmental and private sector organizations attended a CIMSANS workshop in Washington DC.

The purpose of the workshop was to allow a broad set of stakeholders to agree upon a set of seven novel food system metrics and how they should be quantified for use in planned food system assessments.

Presentations

The meeting commenced with a series of context-setting presentations relevant to food system metrics. Four experts shared examples of useful tools for quantifying agricultural sustainability and nutrition security. Martijn Gijpman (BASF) presented AgBalance™, a tool used to assess the environmental and socio-economic sustainability of agricultural systems. Gerard Kramer (Blonk Consultants) illustrated Optimeal™, which optimizes Dutch diets according to various nutrition and environmental sustainability constraints. Sherman Robinson (IFPRI) discussed how their sophisticated economic simulation model, IMPACT, could be enhanced through the use of food system metrics to assess nutrition and sustainability outcomes. Anne Roulin and Karen Cooper (both with Nestlé) presented first new examples on the use of IMPACT model results in combination with such food system metrics.

Lastly, John Ingram (Oxford) gave a brief update on the plan of work for SUSFANS (Metrics, Models and Foresight for European Sustainable Food And Nutrition Security), a highly



The workshop provided a unique opportunity for public- and private-sector scientists to reach a consensus on methods for quantifying the role of food systems in providing for sustainable nutrition security.

Laura Birx, Bill and Melinda Gates Foundation

Nestlé is pleased to have been a supporter of this CIMSANS workshop and other ILSI Research Foundation efforts to better quantify food system contributions to sustainable agriculture and nutrition security.

Anne Roulin, Nestlé

relevant new food systems modeling initiative now being launched by the European Union as part of "Horizon 2020."

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Breakout Sessions & Reworked Metrics

After lunch, workshop participants broke out into four groups to discuss and redefine the list of metrics, with the goal of reaching an initial consensus on the best set of food system metrics for quantifying sustainable nutrition security. They used as a starting point the list of seven such metrics proposed in a working document released by CIMSANS during 2014: *Assessing Sustainable Nutrition Security: The Role of Food Systems*. Suggestions included consolidating the dietary quality and dietary diversity metrics into a general caloric and nutrient adequacy metric which covers all nutritional aspects. Sustainability of the food system was identified as a second overarching goal of the metrics, and environmental impacts and resiliency of the food system were recognized as key aspects of this goal. Food safety, affordability/accessibility, and cultural appropriateness were also brought up as important indicators to include.

After a full group discussion of consensus on the best metrics, four parallel breakout groups each explored one of the redefined metrics, discussing detailed methods and options for quantifying these indicators. The four metrics examined in detail were:

- Dietary Adequacy
- Affordability/Accessibility
- Environmental Sustainability
- Resiliency

Groups reported back on their results, suggesting a number of viable options for converting these indicators into quantifiable metrics.

The discussions begun at the workshop will now continue on-line and on the phone as a document summarizing the metrics is circulated and refined. The finalized food system metrics will then be utilized in a set of regional SNS assessments that CIMSANS will conduct in selected small countries and regions within larger countries. A manuscript describing the finalized food system metrics will then be submitted for publication in the peer-reviewed scientific literature, prior to their use in a planned global SNS assessment.

The workshop effectively highlighted the key role of economics in the ability of agriculture to meet increased global demand for food and to meet this demand in a sustainable manner.
Mary Bohman, US Department of Agriculture

BASF was pleased to serve as a workshop sponsor and looks forward to continued collaboration with the global stakeholder community on quantifying the sustainability of food systems from field to table.
Martijn Gipmans, BASF

Links

[AgBalance - BASF](#)
[Optimeal - Blonk Consultants](#)
[IMPACT - IFPRI](#)
[IMPACT - Nestle](#)
[SUSFANS - LEI/Wageningen University](#)

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