

# THE NATIONAL ACADEMIES

*Advisers to the Nation on Science, Engineering, and Medicine*

## **A Sustainability Challenge: Food Security for All**

### **Workshop 1: Measuring Food Insecurity and Assessing the Sustainability of Global Food Systems**

**Date:** February 16-17, 2011

**Location:** Keck Center of the National Academies  
500 Fifth Street NW, Room 201  
Washington, DC

#### **OBJECTIVES:**

The overarching objective of the workshop is to contribute to the global effort towards sustainable food security through the improvement of indicators used to assess and monitor progress. More specific objectives are:

- To help establish the dimensions of the sustainable food security challenge
- To review commonly used indicators from the point of view of: the data used (quality, frequency, consistency), construction of the metric/indicator and analyze methodological strengths and weaknesses
- To examine current uses and misuses of the indicators
- To identify priorities for improving existing processes and developing better data and indicators to meet the needs of users.
- To explore possible peer review mechanisms for monitoring and suggesting improvements to the metrics/indicators and promote their proper use for policies and programs.

#### **NOTES:**

The workshop will bring together a small group of experts including those responsible for key indicators of food security, key critics of those metrics, a number users and members of the Academies' committee. Participants are expected to review existing metrics, analyze plans for revision, propose directions for revision, and to consider whether or not a peer review mechanism might be useful. Background papers, briefing notes, and presentations will review and synthesize the key data and estimation problems in assessing food security and malnutrition, poverty and environmental sustainability. Members of the planning committee will prepare a workshop report.

#### ***Wednesday, February 16, 2011***

- 8:00 AM      Breakfast available
- 8:30 AM      **Welcome and Introduction**  
Per Pinstrup Andersen, Cornell University, Committee Chair
- 8:45 AM      **Workshop Overview**  
Kostas Stamoulis

#### **MAJOR DIMENSIONS ASSOCIATED WITH SUSTAINABLE FOOD SECURITY**

- 9:00 AM      **What Do We Really Know? --- Metrics for Food Insecurity and Malnutrition**  
Presentation of Overview Paper: Hartwig de Haen, Former FAO Assistant  
Director-General, Economic and Social Development Department

*Numerous statistics are published reporting on world hunger and malnutrition conditions. Do we really know how many hungry people are in the world and in each country? Do we know how many under and over nourished children and adults exist world wide and in each country? How good have the data been projecting future changes?*

9:45 AM Questions for Clarification

10:00 AM BREAK

10:15 AM **Hunger and Malnutrition (Panel Discussion)**  
Moderator: Marie Ruel, International Food Policy Research Institute  
*In this session, those knowledgeable about the construction of food consumption indices and outcome measures will present what they perceive to be their major strengths and weaknesses (including data used), plans for revision, and uses and misuses.*

**A. Food Consumption Indicators**

- Benjamin Senauer, University of Minnesota (FAO Undernourishment Indicator)
- Pietro Gennari, FAO (FAO Undernourishment Indicator)

**B. Outcome Indicators**

- Lynnette Neufeld, Micronutrient Initiative (Measures of Malnutrition)
- Ricardo Uauy, London School of Hygiene and Tropical Medicine (Measures of Overnutrition / Obesity)

11:30 AM **General Discussion: How Indicators are Used and Needs of National Decision-Makers**

Moderator: Marie Ruel, International Food Policy Research Institute

- Shahla Shapouri, U.S. Department of Agriculture
- Adelheid Onyango, World Health Organization

12:15 PM LUNCH

**POVERTY**

1:15 PM **Measures of National and Global Poverty and Their Use in Policy Making**

Martin Ravallion, The World Bank

*Presentation on measures of global poverty and food access: Advantages, shortcomings, and what should they be used for.*

1:45 PM Clarification Questions

2:00 PM **Poverty Indicators (Panel Discussion)**

Moderator: Marco Ferroni, The Syngenta Foundation for Sustainable Agriculture

*Panel will focus on the way forward for the measurement of poverty and inequality and how to assure that measures are useful for policy makers.*

- James Foster, The George Washington University (Oxford Poverty and Human Development Initiative)
- Sanjay Reddy, New School for Social Research (teleconference)

- 2:30 PM      **General Discussion on Indicators for Hunger, Malnutrition, and Poverty**  
Moderator: Marco Ferroni, The Syngenta Foundation for Sustainable Agriculture
- How important are global numbers for hunger, malnutrition and poverty? For whom?
  - Do measures of poverty, food security, and malnutrition move in the same direction? If not why not? Is this a problem with the measures or does it highlight more complex issues?
  - Are numbers comparable between countries and overtime?
  - What information do decision-makers really need and for what?

3:15 PM      Break

### **NATURAL RESOURCES AND AGRICULTURAL PRODUCTIVITY**

- 3:30 PM      **Introductory Comments: Natural Resources and Agricultural Productivity**  
Emmy Simmons, U.S. Agency for International Development (ret.)
- 3:45 PM      **A. Measuring Productivity and Natural Assets (Panel Discussion 1)**  
Moderator: Philip Pardey, University of Minnesota  
*Panel will examine measures of agricultural productivity and natural resource use with regard to sustainable food security.*
- Richard Perrin, University of Nebraska-Lincoln (Measures and Meaning of Agricultural Productivity)
  - Stanley Wood, IFPRI (Expanding Agricultural Productivity Measures and Linking to Eco-System Services--A Spatially Explicit Approach)
  - Steve Polasky, University of Minnesota (Measuring and Valuing Natural Assets)
  - Peter McCornick, Duke University (Water, Agricultural Productivity and Environmental/Health Services)
- 4:45 PM      **General Discussion on Measuring Productivity and Natural Assets**  
Moderator: Philip Pardey, University of Minnesota
- 5:00 PM      ADJOURN
- 6:00 PM      **Working Dinner for Steering Committee and Invited Guests**  
*Acadiana Restaurant -- 901 New York Avenue NW Washington, DC 20001*

### ***Thursday, February 17, 2011***

- 8:00 AM      Breakfast available
- 8:30 AM      **Review of Day One and Welcome to Day Two**  
Per Pinstруп Andersen, Cornell University, Committee Chair
- 8:45 AM      **B. Composite Indicators for Sustainable Production (Panel Discussion 2)**  
Moderator: Mike Bushell, Syngenta Global R&D  
*Panel will look at composite indicators for sustainable production and natural resource use and how they can be used practically to promote sustainable practices and inform consumers and policy maker.*

- Greg Thoma, University of Arkansas – The Sustainability Consortium work (Overview of Metrics and Indicators, Different Approaches, Strengths and Weaknesses)
- Jennifer Shaw, Head of Sustainability, Syngenta, Greensboro (Industry Perspective on Use of Metrics)
- Dirk Voeste, BASF (Experience on Gathering Meaningful Data for Life Cycle Analyses)

9:45 AM

**C. Food Security and the Environment (Panel Discussion 3)**

Moderator: Jason Clay, The World Wildlife Fund,  
“Feeding 9 Billion and Maintaining the Planet”

*Panel will discuss plausible trajectories for sustainably increasing food supplies and identify data that are available and needed to understand possibilities and trade-offs.*

- Jon Foley, University of Minnesota (Food Security and Land Cropping Potential)
- Paul Vlek, University of Bonn (Contribution of Agriculture to Climate Change and Potential for Mitigating the Effects of Climate Change)
- Jude Capper, Washington State University (Animal Protein Production Impacts and Trends) (teleconference)

10:45 AM

Break

11:00 AM

**General Discussion on Indicators for Natural Resources and Agricultural Productivity**

Moderator: Jason Clay, The World Wildlife Fund

11:30 PM

Lunch

**THE WAY FORWARD**

12:30 PM

**Breakout Discussions: The Way Forward**

Group 1: Hunger and Malnutrition, Poverty (Kostas Stamoulis)

Group 2: Natural Resources and Agricultural Productivity (Phil Pardey)

*Each breakout group of participants will be asked to answer the set of questions based on their expertise and information presented during the workshop’s earlier sessions. Additional questions specific to the topic may be added later.*

- Meeting the challenge—providing the right data and information and the right institutional and organizational system.
- How can existing and new data collection efforts be developed to efficiently provide needed information?
- What additional research is needed to inform processes and to develop more appropriate indicators?
- What institutional arrangements are needed?

1:30 PM

**Feedback from Breakout Groups**

Per Pinstrup Andersen, Cornell University, Committee Chair

2:00 PM

**General Discussion – Key Recommendations**

Per Pinstrup Andersen, Cornell University, Committee Chair

2:45 PM      **Wrap Up and Summary**  
Per Pinstrup Andersen, Cornell University, Committee Chair

3:00 PM      ADJOURN for Public Session

**CLOSED SESSION (Committee and NRC staff only)**

3:15 PM      **Discussion of Workshop Report**

- Review outline
- Agree on major themes/points of consensus
- Committee assignments
- Deadlines etc.

5:00 PM      Adjourn