

### Science for Global Insight

Leen Hordijk Director

International Institute for Applied Systems Analysis Laxenburg, Austria

Fall 2007



# History

- 1967 initiative of US President Johnson and Prime Minister Kosygin, Soviet Union
- Create research center as a
  "neutral bridge between east and west"
- > Original Charter signed in 1972 by 12 countries
- > 1994 Ministerial Conference: renewed mandate as independent, scientific institution
- In addition to East–West also North–South, meaning Global



### Mission

The Institute's strategic goal is to conduct international and interdisciplinary scientific studies to provide timely and relevant information and options, addressing critical issues of global environmental, economic and social change, for the benefit of the public, the scientific community, and national and international institutions.

From: IIASA Enters the Twenty-first Century, 2000



# Identity

A renowned research institute that is

- International
- Interdisciplinary (40 % social science)
- Independent
- Sponsored by a consortium of National Member
  Organizations from 19 countries
- Has an international scientific staff (currently 184 persons, 85 person years from 27 nations)



- Austria
- China
- Czech Republic
- Egypt
- Estonia
- Finland
- Germany
- Hungary
- India
- Japan

- Netherlands
- Norway
- Pakistan
- Poland
- Republic of Korea
- Russian Federation
- South Africa
- Sweden
- Ukraine
- United States of America



# **Science for Global Insight**

### **IIASA Core Research Themes**

Environment and Natural Resources Population and Society Energy and Technology Special projects & cross-cutting activities



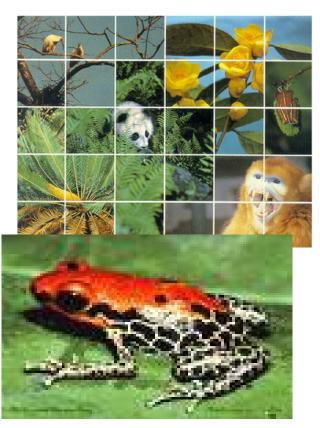
### **IIASA:** The 21<sup>st</sup> Century Challenges **Environment and Natural Resources**

#### **Atmospheric Pollution**





#### **Evolution and Ecology**



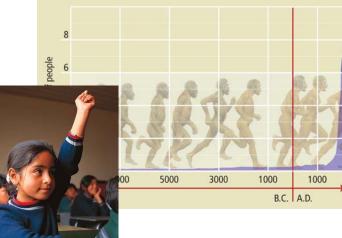


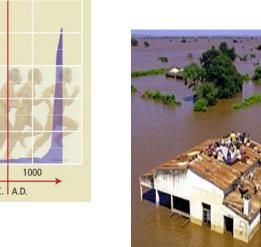


### IIASA: The 21<sup>st</sup> Century Challenges Population and Society

#### **World Population**

### **Risk and Vulnerability**









**International Negotiation** 



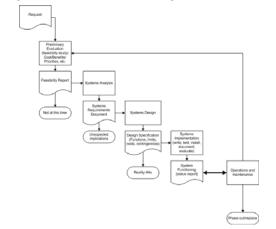


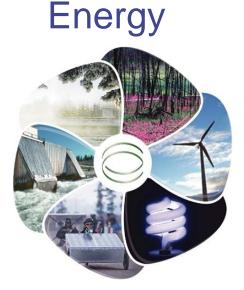
**Population and Climate Change** 



### IIASA: The 21<sup>st</sup> Century Challenges Energy and Technology

### **Dynamic Systems**





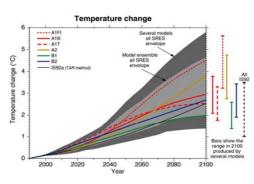
### **New Technologies**



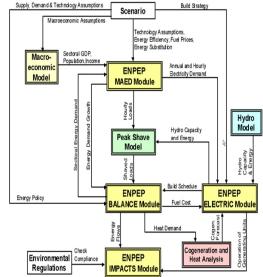


### IIASA: The 21<sup>st</sup> Century Challenges Special projects & cross-cutting activities





Health & Global Change Integrated Modeling Greenhouse Gas Initiative Methodology Forum Water Activities













Confronting the Challenges of Energy for Sustainable Development: The Role of Scientific and Technical Analysis

### IIASA

International Institute for Applied Systems Analysis and its international partners present the

www.GlobalEnergyAssessment.org



# Young Scientists Summer Program (YSSP)

- > Advanced students
- June August
- Work with IIASA programs
- Funded by NMO & other sources
- Publication
- Peccei and Mikhalevich awards





# YSSP 2007

+ 2000 Enquiries
 + 600 Applications
 182 Considerations
 §51 Acceptances



# Our policy relevant research results

- Biology: Changing traits of fish
- > Air pollution: Cheap abatement options when combined with climate change
- > Agriculture: Effects of climate change
- Population: Decline in Europe
- > Technology: Web is dominated by the West
- Forests: The missing sink
- Disaster management: Cost sharing
- Climate change: New scenarios

# **Important Current Science Issues**

- Uncertainty, robustness
- Spatial specificity
- Integrated assessment for climate change
- Problem interdependencies
- Stakeholder involvement
- Bridge science-policy divide

#### Springer RUDOLF AVENHAUS Accounting for I. WILLIAM ZARTMAN Editors **Climate Change** Diplomacy Uncertainty in Greenhouse Games Gas Inventories-Verification, Accounting for Compliance, and Trading **Climate Change** Formal Models and International Negotiations Uncertainty in Greenhouse Gas Inventories - Verification, Springer Compliance, and Trading **Diplomacy Games** Daniel Lieberman - Matthias Jonas - Zbigniew Nahorski - Sten Nilsson Editors Formal Models and ICF 🔉 🤵 2 Springer International Negotiations D Springer ASA LECTURE NOTES IN ECONOMICS AND MATHEMATICAL SYSTEMS Kurt Marti Yuri Ermoliev · Marek Makowski Georg Pflug Coping

#### Earthscan

#### e New Generations of Europeans

Demography and Families in the Enlarged European Union

#### The New Generations of Europeans

Demography and Families in the Enlarged European Union

edited by wolfgang lutz, rudolf richter and chris wilson

Coping with Uncertainty Modeling and Policy Issues

Springer Coping with Uncertainty Modeling and Policy Issues

#### Palgrave Clumsy Solutions for a Complex World

Governance, Politics and Plural Perceptions



oovernance, Pointes and Pioral Perceptio

Edited by Marco Verweij and Michael Thompson

#### AVOIDING DANGEROUS CLIMATE CHANGE

EDITED BY Hans Joachim Schellnhuber, Wolfgang Cramer, Nebojsa Nakicenovic, Tom Wigley and Gary Yohe



Cambridge University Press Avoiding Dangerous Climate Change



Cambridge Studies in Adaptive Dynamics

Evolutionary Conservation Biology



OPTIMIZATION OF TECHNOLOGICAL GROWTH

> Editors Arkady Kryankhinskiy International Josefical Systems Anal Latenberg, America and Chiltiro Watanabe Tokyon Interime of Technology Tokyon, Jopan

> > GENDAITOSHO

#### Gendaitosho Optimization of Technological Growth

#### Cambridge University Press Evolutionary Conservation Biology







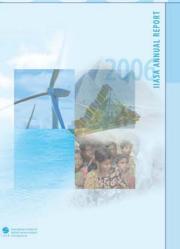




A Secure World: How science can he (Summer 2006)

Climate Change: Strategies for the fu (Winter 2006)





Annual Report 2006



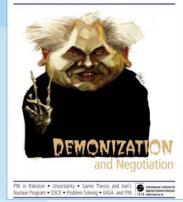
The Forces Driving

ecedented Population Agein



Popnet Maula Devulation





**PINPoints** Due see a flater ational Varia Coinsticts



Calendar 2007



### What do these have in common?









# Global Development: Science and Policies for the Future



- > Over 30 speakers
- > Audience of senior scientists, diplomats, and policy makers
- On the Occasion of IIASA's 35<sup>th</sup> Anniversary
- Hofburg Imperial Palace, Vienna
- > 14-15 November 2007

www.iiasa.ac.at/iiasa35



# Thank you for your attention

# For further information about IIASA: www.iiasa.ac.at