International Assessment of Agricultural Science and Technology for Development

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The IAASTD

• What is IAASTD?
• Global context and recent trends
• What’s the problem?
• Options for action
Recent trends (plenty cheap food.....)

Sources: FAOSTATS, SOFI, Millennium Ecosystem Assessment
Total agricultural output 1970–2004

1970 = 100

Status of Agriculture:
Characterized by Disconnects, both the in
developed and developing world

Disconnects between agriculture and
the environment;

Disconnects between consumers and
farmers or land and cities;

Disconnects between policies and
expectations.

Do not disconnect.
Status of Agriculture:
Characterized by Disconnects, both in developed and developing world

Disconnects between agriculture and the environment:
- water
- energy
- biodiversity
- soil
- productivity / sustainability
- ecosystem service / multifunctionality
A Critical Challenge - Water

Proportion of water withdrawal for agriculture, 2001

SOURCE: FAO, Aquastat, 2007
Status of Agriculture:
Characterized by Disconnects, both the in
developed and developing world

Disconnects between consumers and
farmers:

- food prices
- externalities (health)
- trust in quality / safety

Do not disconnect.
Asia
By Subnational Administrative Level

Measure of Poverty
Child Malnutrition

Children are defined as underweight if their weight-for-age z-scores are more than two standard deviations (2 SD) below the median of the NCHS/CDC/WHO International Reference Population.
Status of Agriculture: Characterized by Disconnects, both the in developed and developing world

Disconnects between policies and expectations:

- investments in research & education
- pro-poor investments
- investments in infrastructure
- trade
- incentives
Future Challenges

• Demand for food will double within the next 25-50 years, primarily in developing countries

• We need sustained growth in the agricultural sector
  • to feed the world
  • to enhance rural livelihoods
  • to stimulate economic growth

• Meet food safety standards

In an environmentally and socially sustainable manner
# Projected Impacts of Climate Change

<table>
<thead>
<tr>
<th>Source: Stern Review</th>
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<table>
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<tr>
<th>Global temperature change (relative to pre-industrial)</th>
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<tbody>
<tr>
<td>0°C</td>
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<td>:---:</td>
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<tr>
<td><strong>Food</strong></td>
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<td>Falling crop yields in many areas, particularly developing regions</td>
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<td><strong>Water</strong></td>
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<td><strong>Ecosystems</strong></td>
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<td><strong>Extreme Weather Events</strong></td>
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<td><strong>Risk of Abrupt and Major Irreversible Changes</strong></td>
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Multifunctional agriculture

The inescapable interconnectedness of agriculture’s different roles and functions

- Economic
  - Income
  - Marketing
  - Trade
- Social
  - Health
  - Gender
  - Tradition
  - Social
  - Culture
- Food production
  - Valuation of environmental services
  - Recognition and diversified land use
  - Cultivation and commercialization of traditional foods
- Environmental
  - Soils
  - Water
  - Climate
  - Biodiversity
Immediate/Short Term Suggestions for decision-makers

• Increase AKST focus on drylands, fisheries, Mountain and Coastal ecosystems, orphan crops, crop-livestock systems, and climate change impacts

• Increase national public investment and regional co-operation in AKST

• Build rural safety nets and non-farm rural employment

• Enhance basic sciences, technological and institutional changes to address water and land problems
Medium/Long Term Suggestions for decision-makers

• Improve public-private-CSO involvement in AKST with accountability for social and environmental outcomes

• Develop macro-level policy changes to enable AKST linkages with development goals

• Shift focus from production technologies to understanding and enhancing the production and adapting to environmental climate change impacts

• Build and reform AKST skill base (basic sciences, social, political and legal knowledge) and innovation capacities of rural communities and consumers
Trade Issues

Opening national agricultural markets to international competition can offer economic benefits, but can lead to long term negative effects on poverty alleviation, food security and the environment without basic national institutions and infrastructure being in place.
QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.
...there is only one!