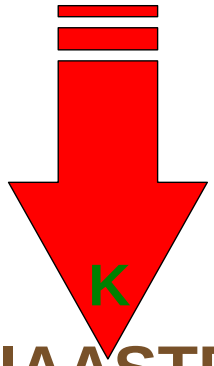

IAASTD: Quo vadis?

Hans R. Herren, Co-Chair IAASTD
President Millennium Institute

IFSA 2010 Vienna July 4-7, 2010

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Presentation overview

1. Background to the IAASTD
2. Global context and recent trends
3. What's the problem? (key findings)
4. Future challenges
5. Options for action
6. What is happening on the implementation side?
7. Next steps for the IAASTD

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IAASTD: The Reports
www.agassessment.org

ISLANDPRESS
Solutions that inspire change.

Global / sub-Global Reports: 400 authors, 52 countries

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IAASTD Development and Sustainability Goals (=MDG)
The 4 main areas where agriculture needs to transition:

- **Eradicating of Hunger and Poverty**
- **Improving Rural Livelihoods**
- **Improving Nutrition and Human Health**
- **Facilitating Environmentally, Socially, Equitable and Economically Sustainable Development**

…under the Challenges of:

- **Climate Change**
- **Population and Demand Growth**
- **Shrinking Natural Resources / Energy**

….to which agriculture itself is contributing negatively

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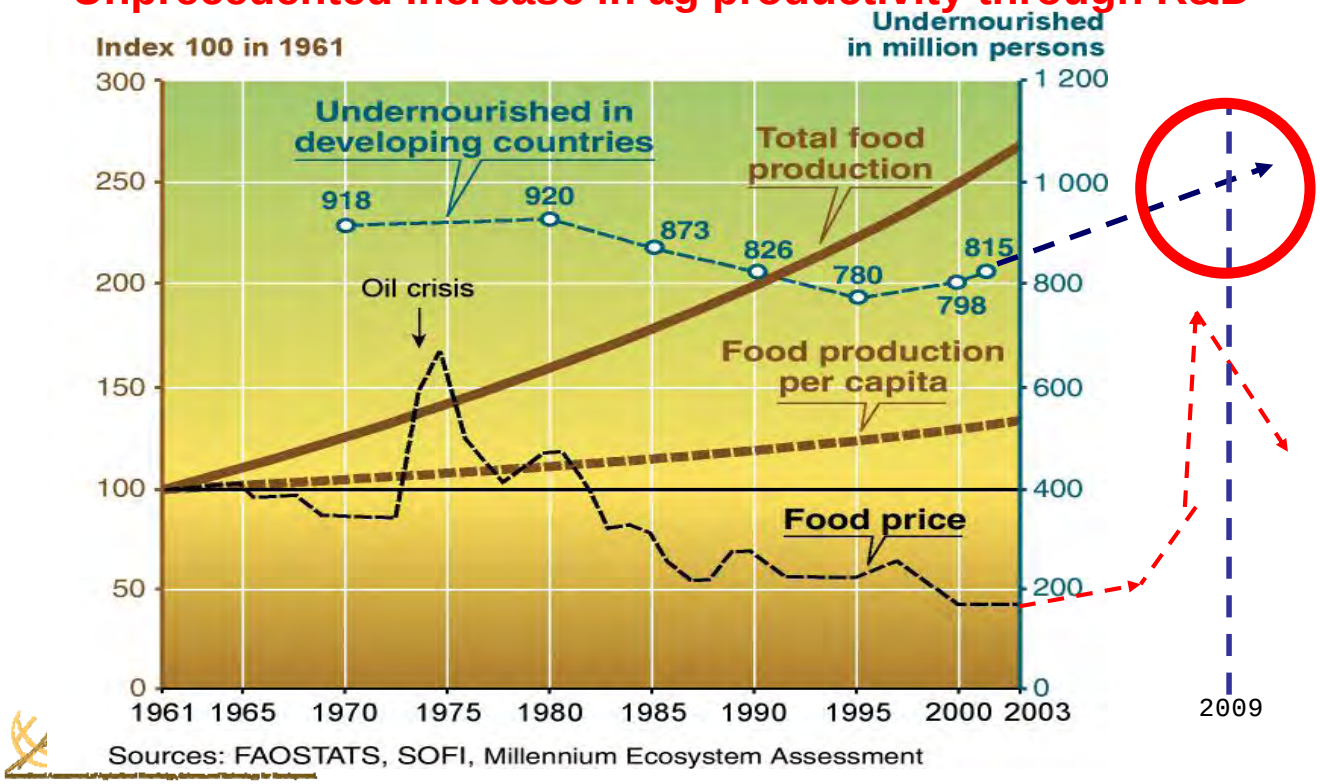
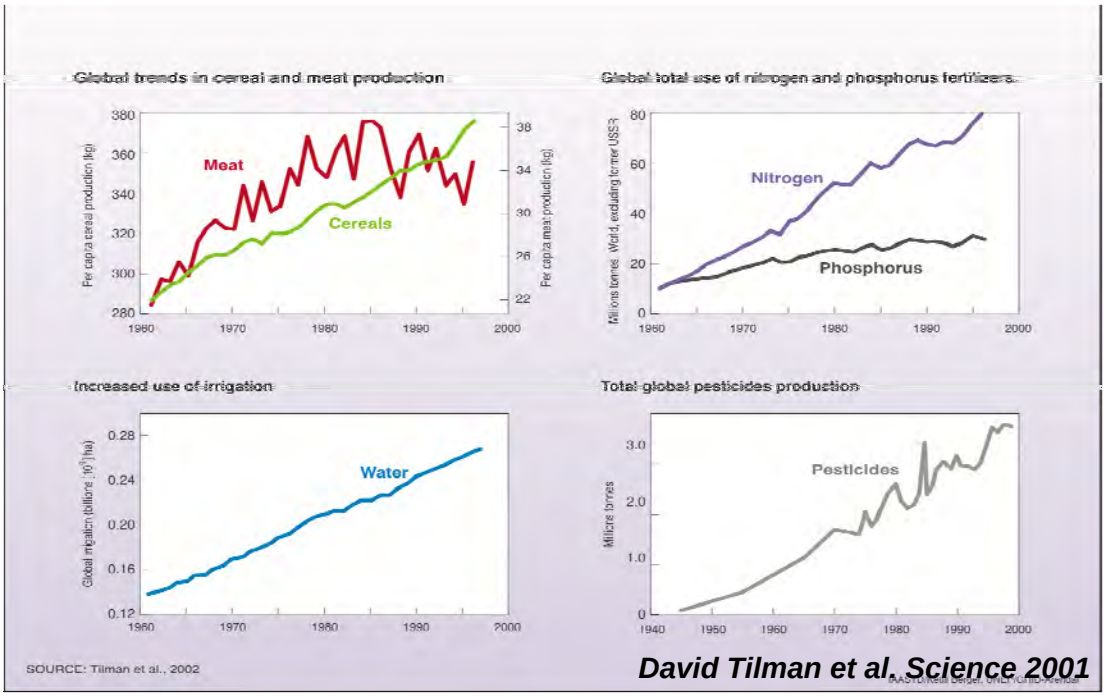
2. Global context and recent trends

Unprecedented increase in ag productivity through R&D



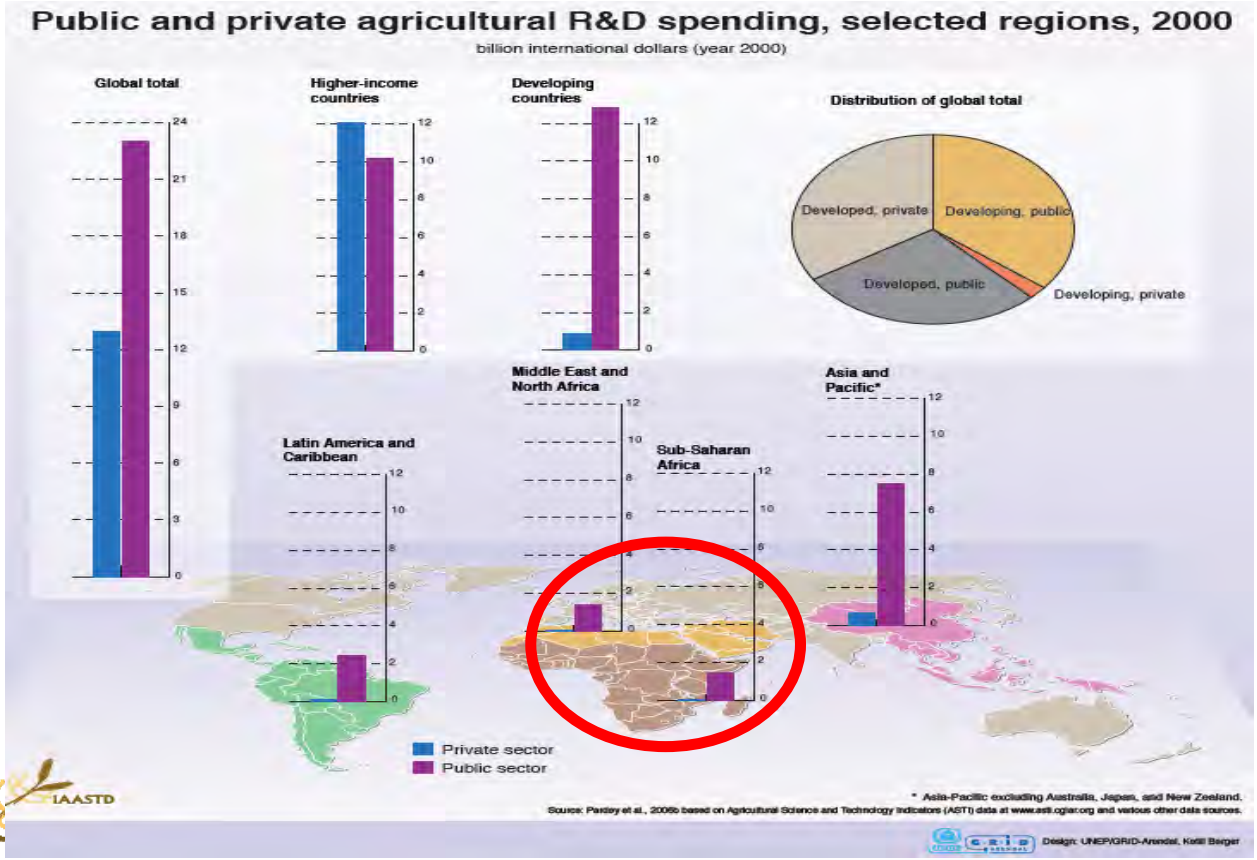
2. Global context and recent trends

Synthetic fertilizers, irrigation and pesticide use are UNSUSTAINABLE

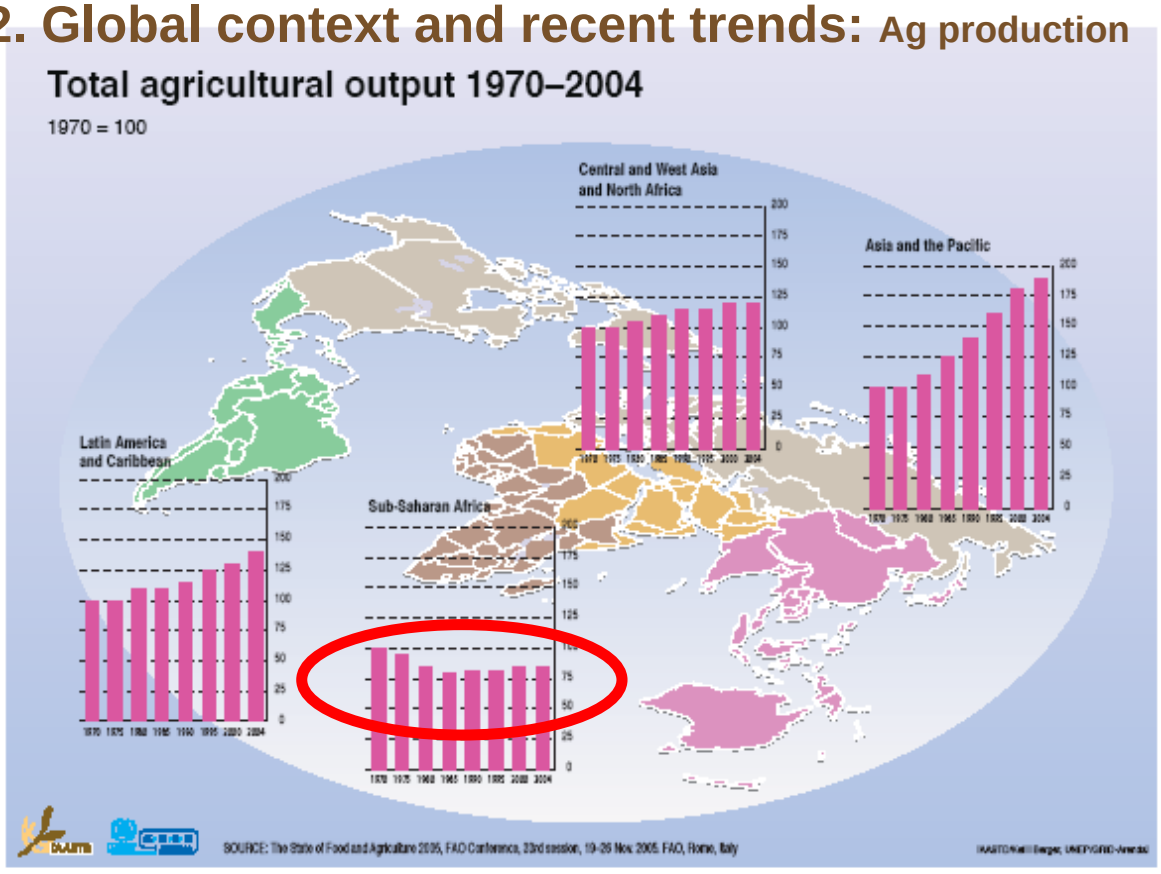


David Tilman et al. Science 2001

2. Global context and recent trends: Investments

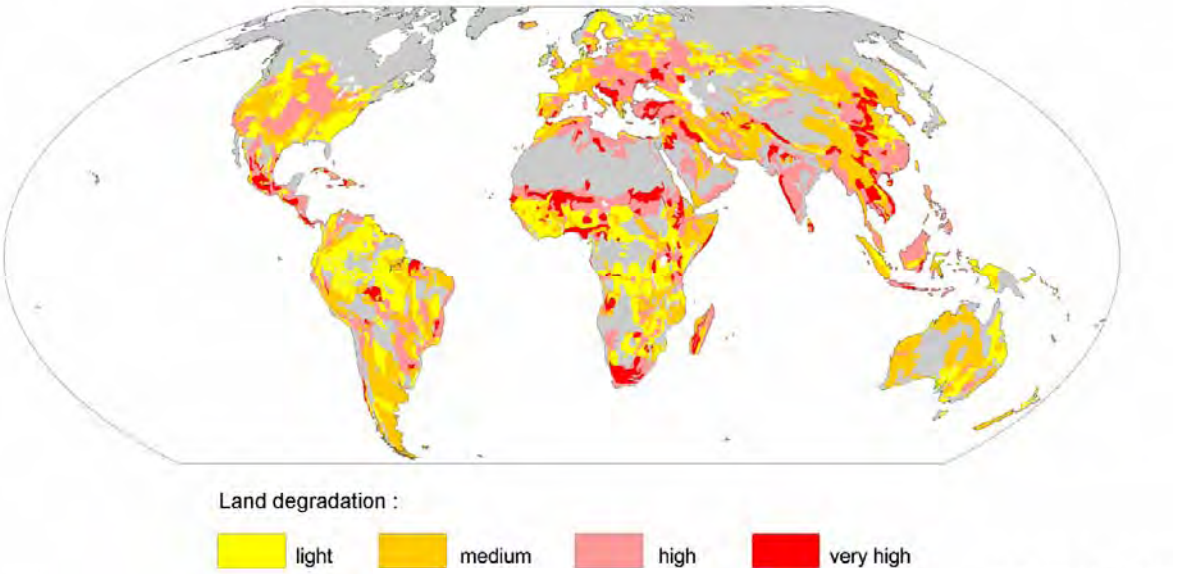


2. Global context and recent trends: Ag production



3. Problem ? Critical Challenges: Soil degradation

Degradation of soil resources:
Most agricultural soils show signs of degradation



World map of severity of land degradation – GLASOD (FAO 2000)

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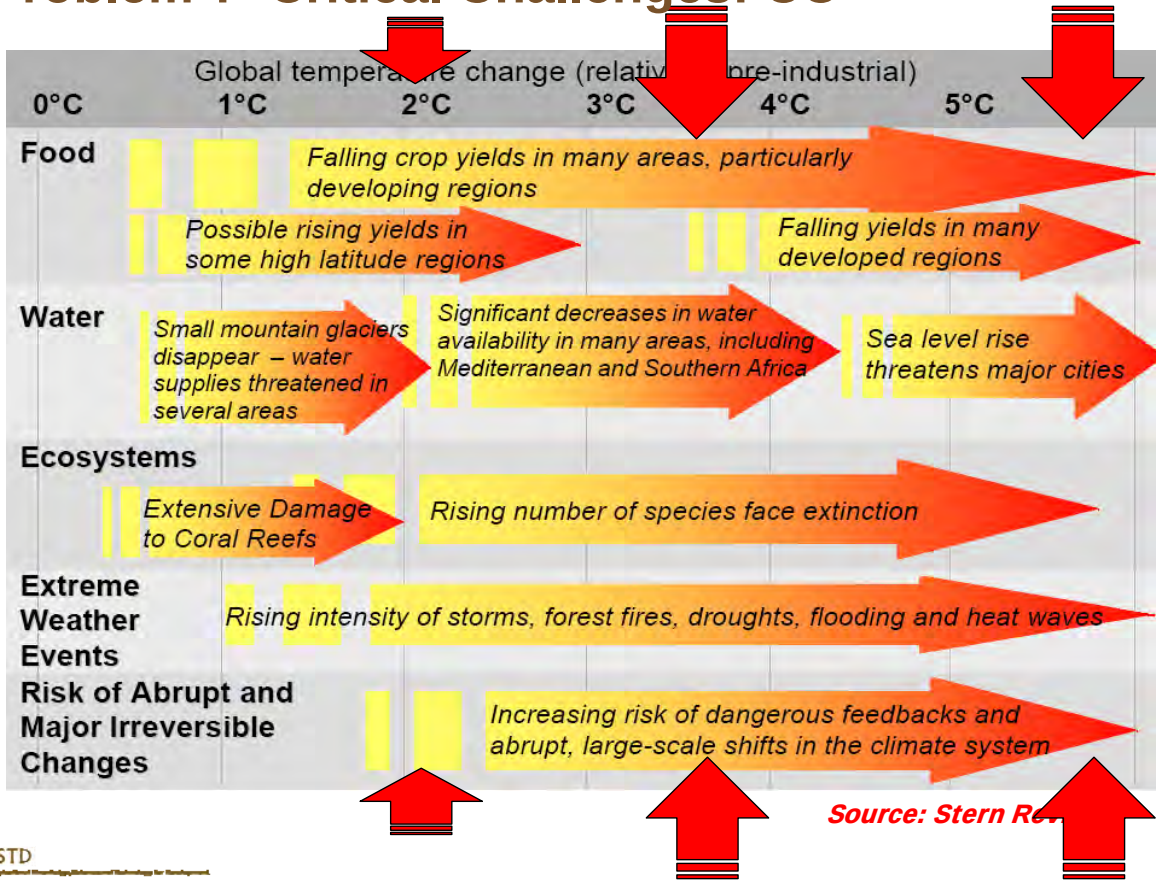
3. Problem ? Critical Challenges: CC



Source: Stern Re

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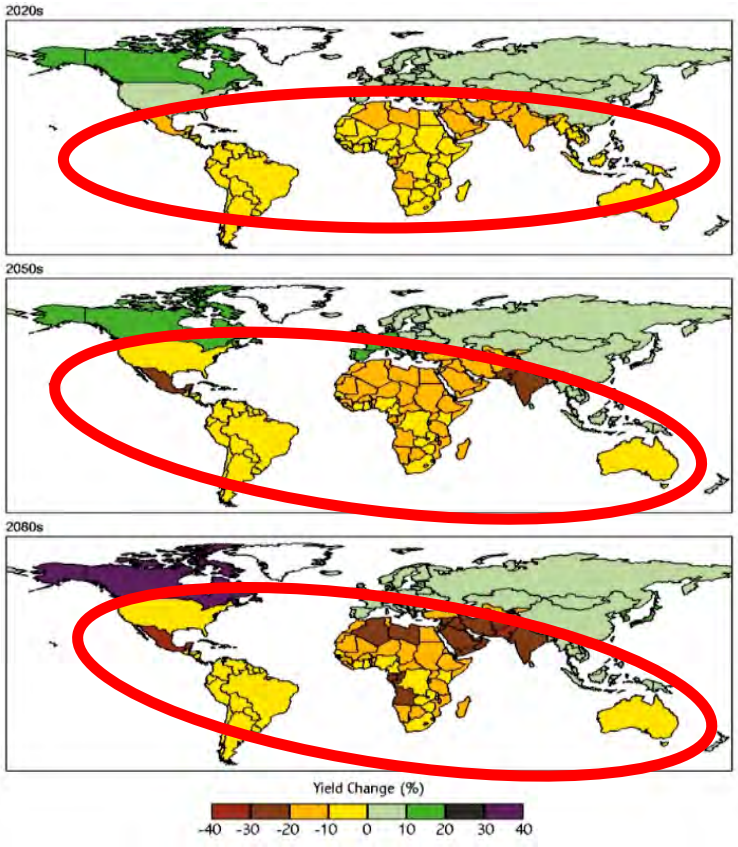
3. Problem ? CC and water / temperature stresses

2020

2040

2060



% change in average crop yields for mid-range climate change

Yields are projected to decrease as soon as 2020 in SSA and parts of Asia

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IAASTD….the bottom line
……..Business as usual is NOT an option

"a fundamental shift in AKST and the linked agri-food system policies, institutions, capacity development and investments"

Paradigm change: Transition to sustainable / organic / ecological / resilient agriculture

i.e., addresses the multifunctionality:

- needs of the small-scale and family farms (social & economics);
- systemic and holistic approach (environmental);
- is part of the solution to CC

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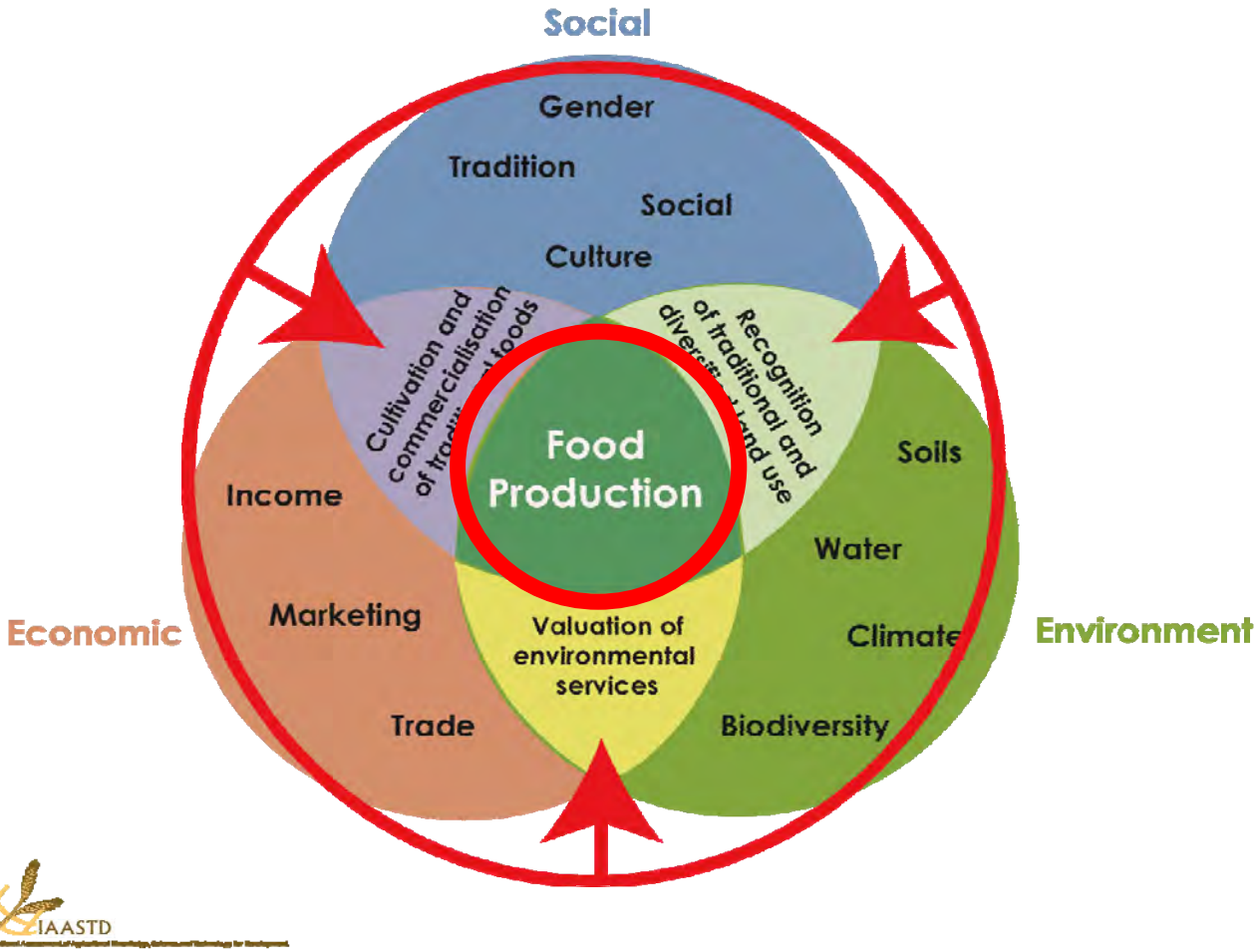
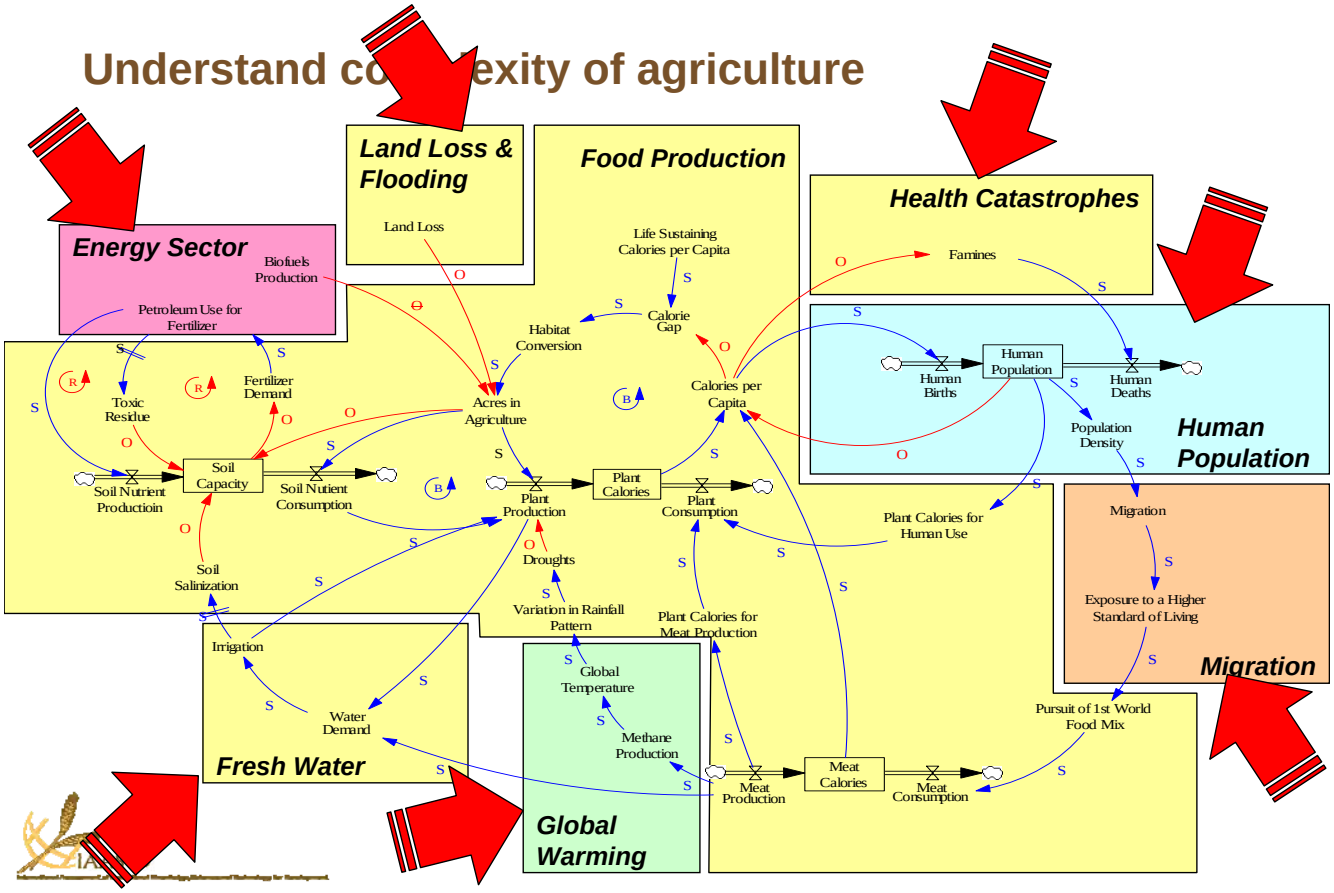
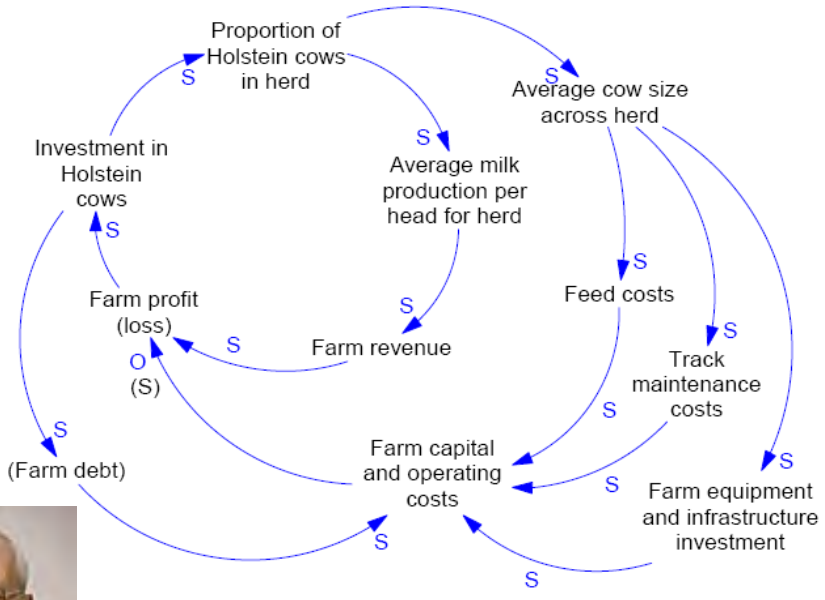


4. Future challenges

Understand co exity of agriculture



Causal Loop Mapping Example: Holstein cows for dairy productivity—"seeking the wrong goal"?



S = same

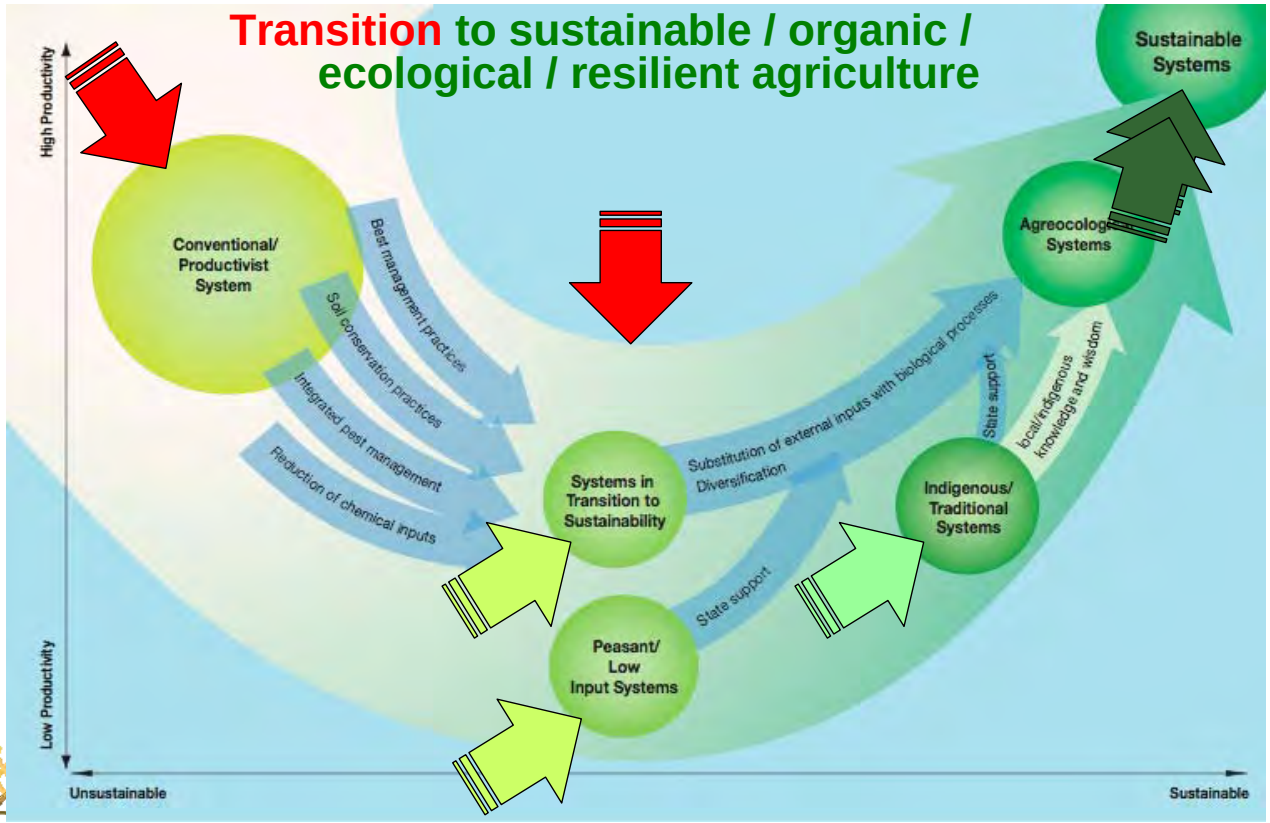
O = opposite

Jay Forrester

Courtesy: Ray Ison

Donella Meadows

4. Future challenges



5. Options for action

New Equitable & Sustainable Way Forward

Empower, involve and support farmers (women) with sustainable agricultural practices (information), restoration and management of ecosystem services; crop/animal and labor productivity increases; safety nets

1. Improve access to production resources and remunerative employment on and off farm; recognize the critical role of women and empower them (education, land tenure, add value locally to agricultural products)
1. Improve markets, infrastructure, and institutions
2. Expand and disseminate agro-ecosystem sustainability oriented research, knowledge, and technology with stakeholder participation (soil fertility, animals on farms, diversity, organic agriculture, IPG)

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Expand and disseminate ecosystem sustainability oriented research, knowledge, and technology with stakeholder participation (soil fertility, animals on farms, diversity, organic agriculture, IPG)

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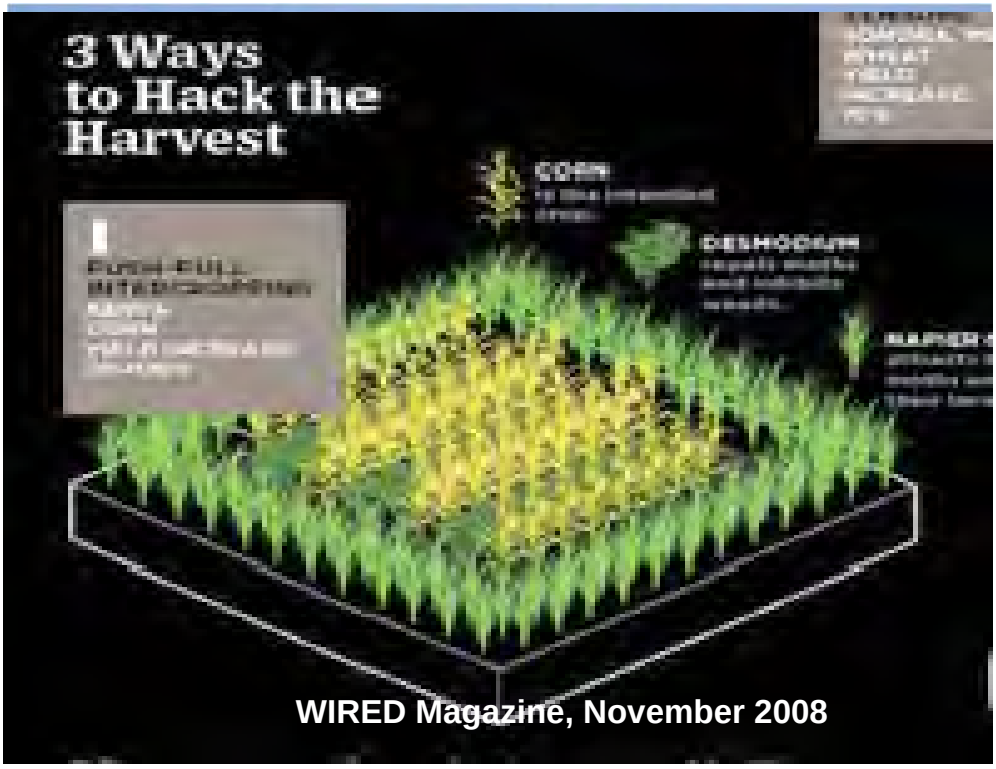
5. Options for action

Using natural systems to regulate pest outbreaks

(example of **push-pull** greater farm productivity vs higher yields 2 to 10X)



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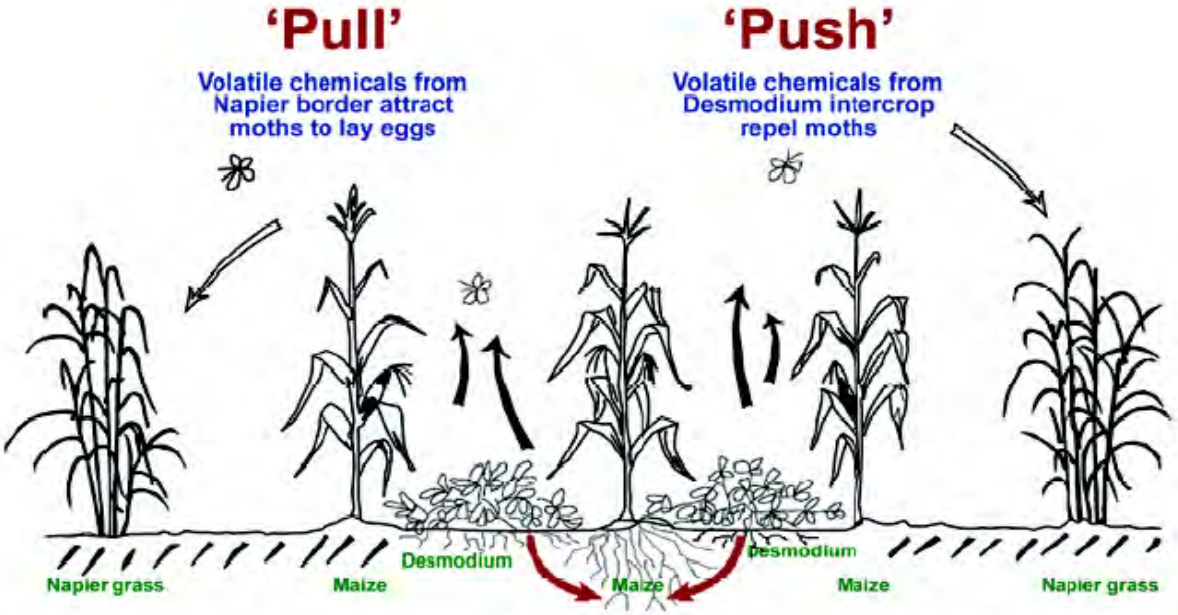
"Push – Pull" for Stemborer and Striga Control



Chemicals (isoflavones) secreted by desmodium roots inhibit attachment of striga to maize roots and cause suicidal germination of striga seed in soil

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5. Options for action: Mechanization

CA: Advantages for the farmer

- Mechanized Farmers:
  - less machinery
  - 70% fuel saving

- Smallholder farmers:
  - 50% labour saving
  - less drudgery (new mechanization)
  - stable yields, food security

For all = better livelihood / income

Modified from A. Kassam

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5. Options for action: crop and animal diversity

Managing crops and animals to benefit people and biodiversity

Encouraging a wider genetic base in agriculture…trees, fruits, grains, vegetables, lost crops, animals

for nutrition, cultural diversity, incomes, pest control, resilience to climate change

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5. Options for action: plant and soil health

Promoting soil health through maintenance or restoration of the soil flora and fauna diversity for increased and sustainable productivity

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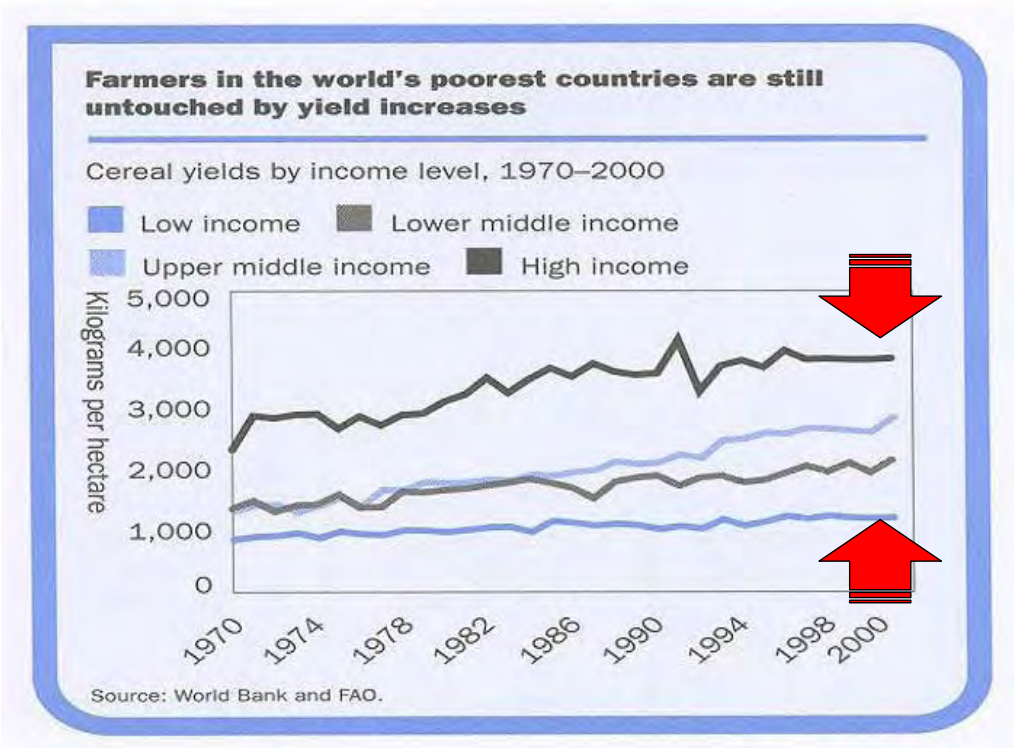
5. Options for action: closing the yield gap



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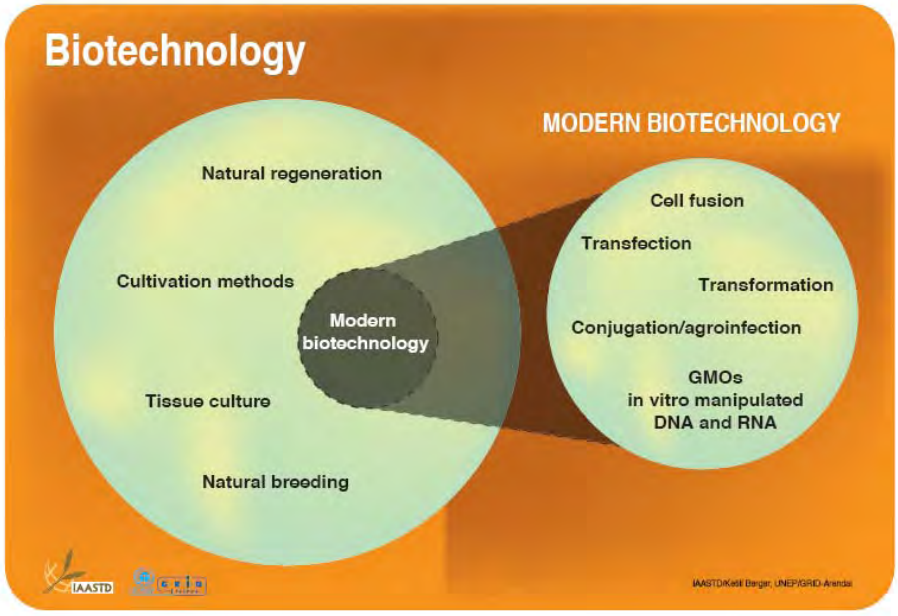
5. Options for action: technologies

Biotechnology

- Issue of definition (conventional, modern)



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5. Options for action: mind the system

New Equitable & Sustainable Way Forward

Bring all sectors responsible for sustainable development into a comprehensive systemic analysis, to recognize that policy decisions in one sector (i.e., transportation) strongly affect other sectors (input & market access)

6. Promote responsible governance at global, regional and local levels

7. Invest in long term gains versus short term quick fixes (i.e., deal with the cause not the symptoms by understanding the system)

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5. Options for action: Governance

New Equitable & Sustainable Way Forward

5. Bring all sectors responsible for sustainable development into a comprehensive systemic analysis, to recognize that policy decisions in one sector (i.e., transportation) strongly affect other sectors (input & market access)

Promote responsible governance at global, regional and local levels (trade, subsidies)

7. Invest in long term gains versus short term quick fixes (i.e., deal with the cause not the symptoms by understanding the system)

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5. Options for action: system thinking

The Equitable & Sustainable Way Forward

5. Bring all sectors responsible for sustainable development into a comprehensive systemic analysis, to recognize that policy decisions in one sector (i.e., transportation) strongly affect other sectors (input & market access)

6. Promote responsible governance at global, regional and local levels

Invest in long term gains versus short term quick fixes (i.e., deal with the cause not the symptoms by understanding the system)

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5. Options for action: consumption patterns and sustainable development

Business as usual is not an option

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6. What is happening on the implementation side?

1. FAO strategy
2. GCARD, NARIS, ARIS and the IARCs
3. Governments Industrialized and Less Developed Countries
4. NGOs

7. Next steps for the IAASTD

1. Interim – Office (www.Biovision.ch)
2. New website and information resource
3. Institutionalization documents

Business as usual is not an option

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You cannot solve the problem with the same kind of thinking that created the problem

Albert Einstein

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