

Research Priorities for Policies and Social Sciences in the Asia and Pacific

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What's different from other regions?

- Dynamic economy
- Diverse stages of development
- Diverse cultural and social basis
- Highly populated (advanced in problems)
- Small scale farming in general
- Monsoon and rice based farming
- Diverse farming system
- Many other constraints in Agriculture

Asia-Pacific Needs Suitable Framework

- It must be flexible and dynamic.
- It must cover diverse players.
- Collective actions are fully utilized.
- Roles of social scientist are critical.
- But, researches has not been so active.

Stern Review: The Economics of Climate Change (2006)

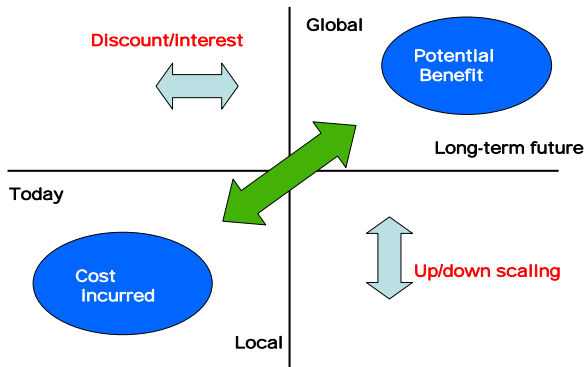
The main message:

The benefits of strong, early action on climate change outweigh the cost.

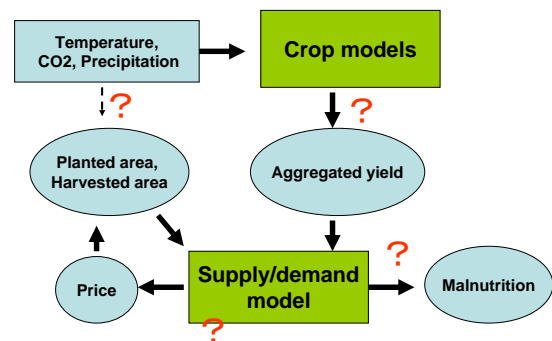
Methodology used

- Disaggregated techniques
- Economic models
- Marginal cost-benefit analysis

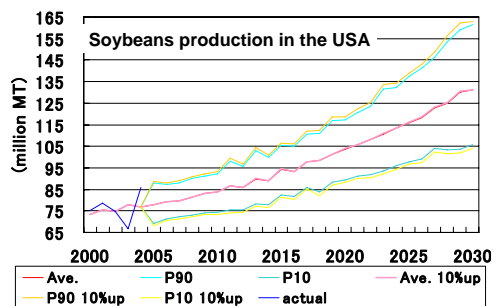
Challenges in Cost-Benefit Analysis



Challenges in Assessment Model



Risk Assessment with a Stochastic Model



By J. Furuya, S. Kobayashi (JIRCAS), S. D. Meyer (MU-FAPRI)

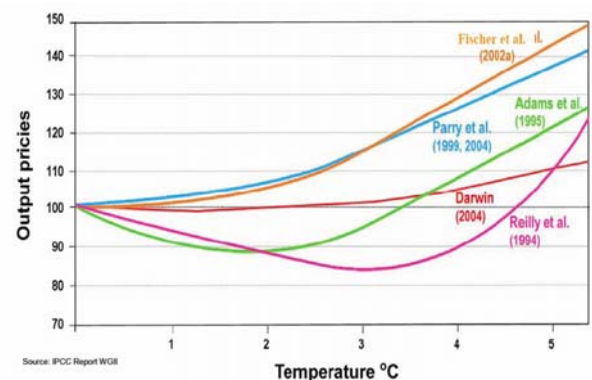
Economic Incentives (Internalization of Externalities)

- Incentives to mitigation functions of Agriculture, such as carbon sequestration in soil and methane emission reduction.
 - GAP promotion
 - Water pricing policy
- Multifunctionality is well recognized in the region.
- Introduction of business mind.
 - CC trading, CC tax, CC subsidy.....

New Mechanisms to be Studied

- EU-ETS (Emission Trading System)
- CDM (Clean Development Mechanism)
 - Currently 50% goes to China and India.
 - Potential areas in agriculture, e.g. N₂O, CH₄, Biofuels ...
- Climate insurance, Regional stock reserve
- **JIRCAS** is about to obtain CER (Certified Emission Reduction) in a small-scale agro-forestry project.

Grain prices and global mean temperature (IPCC)



We have to be sensitive to the magnitude of impacts.

- Recent price soared by more than 300%.
"30-50% increase" is relatively small.
- 800 million malnourished population now.
"Additional several millions in 2050" are not meaningful.
- Asian diet and crops are being diversified.
"Several percent yield reduction" can be superseded.

⇒ **Something is wrong in the assessments!**

Research Priorities

for global and local contribution

1. **Custom-made incentives** to internalize positive and negative externalities must be introduced.
 2. Promote **global agreement/commitment**. It creates a large amount of credit to be used for research and development.
 3. Mitigation and adaptation measures should be in line with the **mainstream research** for development.
- + **Active participation in policy formulation**