Food Security, Environmental Sustainability and Bio-fuels: Global Challenges and Opportunities

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Outline

- Before the crisis
- Nature of Agriculture
- Path to the current crisis
- Triggers of the crisis
- Opportunities
- Concluding remarks
Agriculture and Poverty

- Developing world
  - 5.5 billion people
  - 2.5 billion are in households involved in agriculture
  - 1.5 billion are smallholder households

- 800 million people food insecure

- 80% of food insecure people are in rural areas

- In many developing countries:
  - >50% of employment
  - >25% of GDP

- Increase in GDP from agriculture is twice more efficient for poverty reduction than any sector
Global Anthropogenic GHG Emissions

(a) Global annual emissions of anthropogenic GHGs from 1970 to 2004. (b) Share of different anthropogenic GHGs in total emissions in 2004 in terms of CO$_2$-eq. (c) Share of different sectors in total anthropogenic GHG emissions in 2004 in terms of CO$_2$-eq (Forestry includes deforestation.)

GHG for ag and forestry is to address the 31% of annual emissions coming. If we take care of this we take care of 0.26% Searchinger, et al.
Biofuels are not the Solution to:

- Climate Change
- Energy crisis
- Economic development / Poverty Reduction
The Nature of Agriculture

- Productive capacity is highly dependant on natural endowment: land, soils, water, climate.
- Natural endowment can be enhanced through investment: research, infrastructure, support to producers.
- Unlike factories, cropland cannot be moved.
- Trade liberalization have little chance to enhance production capacity and alter trade flows.
Path to the current crisis

- Elimination of supply management programs and the role of government in keeping adequate level of food inventories
- Over-emphasis on trade in developing countries directed agricultural investment to high value export products: fruits and vegetables.
- Increased diet based on animal protein and displacement of local foodstuffs (cereals): production and consumption
Biofuels Expansion took off when world inventories were declining.
Long term trend in agricultural commodity prices

30+ years of declining and or flat prices

Soybeans and expansion of cropland
US supply management weakened
US supply management eliminated 1996
CAP Reform

Triggers of the Current Crisis

- Expansion of grains based biofuels
- Below normal production levels
- Speculation (in financial markets)
Grains for Feed and Fuel Use

- Feed long term driver of ag. demand
- Developing countries are reproducing diet of the west based on high content of animal protein
- Biofuels demand, the straw that broke the camel's back

The story thus far:

- Roots of current crisis are mostly structural: consumption pattern, blind de-regulation, and lack of investment in food stuffs productive capacity
- Biofuels: “straw that broke the camel’s back”
- Current industrial agricultural system is not sustainable
- Today’s agricultural economic, environmental, and social problems are not caused but exacerbated by biofuels.
The Question is

- Under which conditions high prices (and biofuels) can be an opportunity for:
  - Poverty reduction
  - Climate change / environmental benefit
  - Energy crisis / energy independence
Trade off Between Agricultural Prices and Food Security

Increase in ag. prices is not necessarily a bad for food security, specially if coming from low prices.
Expand the Impact of Higher Prices in Food Security

Investments directed to improve share of high prices capture by farmers and reduce cost to consumers would improve food security.
Under current agricultural practices and food consumption patterns, an increase in ag prices could accelerate environmental costs.
Higher Ag Prices Create Conditions to Invest in reducing Environmental Cost

Investment in agricultural technologies less intensive in fossil inputs, and in tune with local soil and food habits would reduce environmental cost of agriculture.
Concluding Remarks

- If nothing is done, missed opportunity for poverty reduction, agriculture, and climate change
- If nothing is done crisis would result in a massive transfer of resources to the Agricultural North
- We can not afford to go back to the pre-crisis agriculture
- Agriculture priorities: production and consumption of local crops, invest in productive capacity in the South, revalorization of small holders and rural development
- Be prepare for lower prices!
www.ecofair-trade.org

Thanks!

Agricultural Policy Analysis Center
www.agpolicy.org
Strategy for Poverty Reduction

- Increase farmers' ability to capture larger share of higher prices:
  - Invest in farmers’ access to markets, improving marketing & distribution systems
  - Improve product quality

- Democratize access to land, water and productive resources

- Invest in research and extension to improve productivity to supply the now profitable local market with local crops

- Implement programs to ensure access to food for vulnerable population
Strategy for Climate Change

- Drastically change diet composition towards more efficient sources of protein and food from local origin
- Invest in Research & Extension oriented to:
  - Reduce use of fossil based inputs in agriculture
  - Improve management practices which increase the environmental performance of production agriculture
  - Ensure the best use of soils and landscape
- Recuperate the complementarity of crop and livestock activities in the farm
- Integrate GHG emissions and other environmental impacts into farmers balance sheet
Institutional Investment

- Strengthen land property rights and enforcing mechanisms to support and protect smallholders and rural workers
- Re-develop domestic institutionality to support transformation of agriculture
- Direct research efforts in enhancing contribution of native food crops
- International food reserve system
- Global coordination of biofuels development