IFPRI's perspective on food security

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IFPRI recommendations

http://www.ifpri.org/publication/urgent-actions-needed-prevent-recurring-food-crises

1. Effective policies and technology investments to minimize food–fuel competition;
2. Social protection, especially social safety nets;
3. Transparent, fair, and open global trade;
4. A global *emergency* physical grain reserve;
5. Policies and investments to promote agricultural growth, in particular smallholder productivity, in the face of climate change;
6. Investments by national governments in climate change adaptation and mitigation using the full potential that agriculture offers;
7. An international working group to regularly monitor the world food situation

About achieving food security efficiently

2. **Social protection, especially social safety nets;**
   - Food security is not only about food production and in food prices, real income matters.
     - Reducing poverty ex-ante is the best strategy
     - Ex post, stabilizing prices is costly and inefficient: targeted measures more efficient
3. **Transparent, fair, and open global trade;**
   - Food security is not food self sufficiency
   - Trade is a necessary condition but not a sufficient one.

In both cases, Agricultural R&D is a part of the story

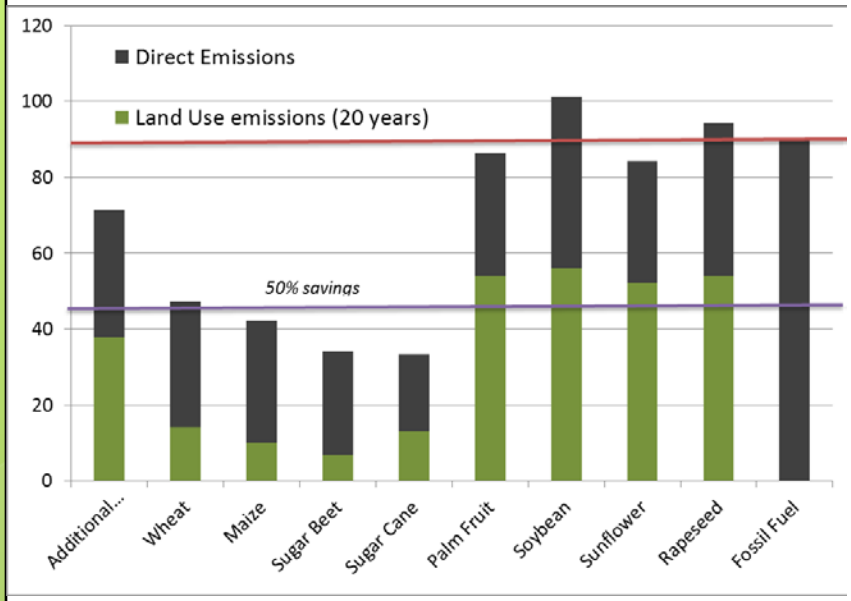
Food security, Agriculture and Climate Change

- Agriculture is an important driver of climate change (global, local)
- A part of the problem and the part of the solution
- Competing land use for a world hungry for food and energy
- Agriculture is dependent on weather
- Agriculture is a part of the **mitigation** and **adaptation** strategy.

Bioenergy and Biofuels

New Hope or Phantom Menace for Climate change **mitigation** and food security

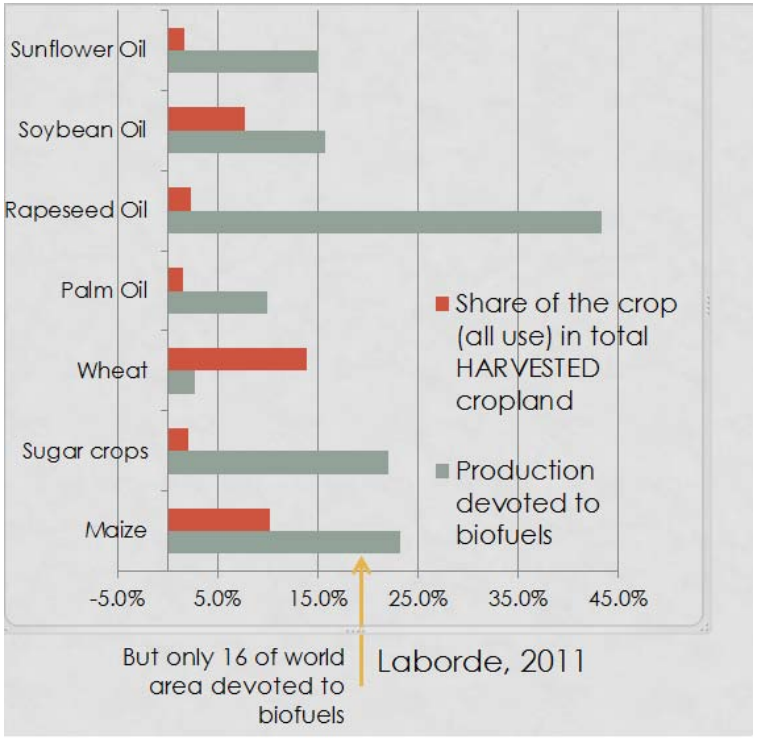
- More bioenergy= More land use (++ emissions), or more hunger?
- One solution: increasing yield without energy intensive techniques.
- Good illustration of inefficient use of public money: supporting biofuel production and consumption instead of R&D.
- And biofuel mandatory policies increase price volatility



grCO2eq emissions for producing 1MJ of energy from different feedstocks

EU policy, (Laborde, 2011)

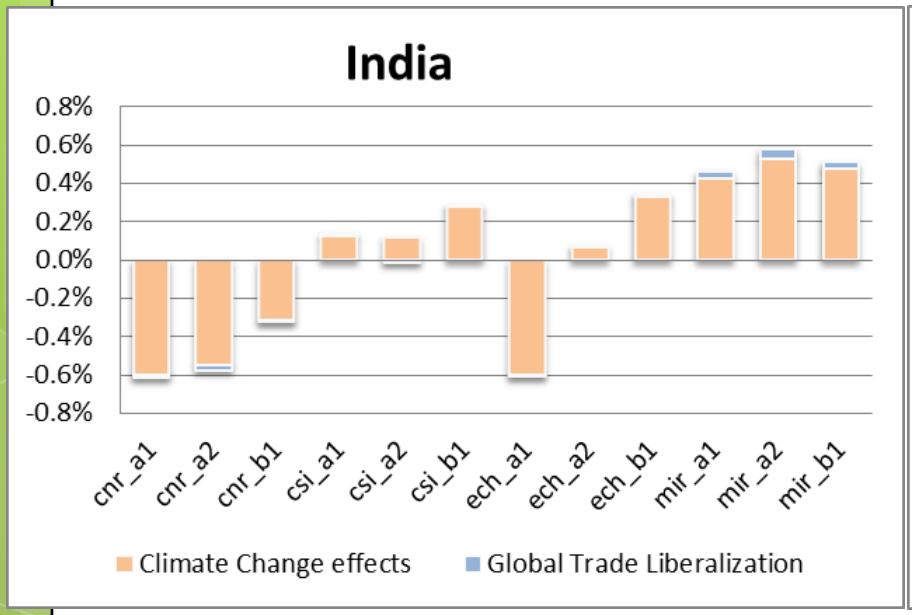
By 2020, role of Biofuels in agricultural production

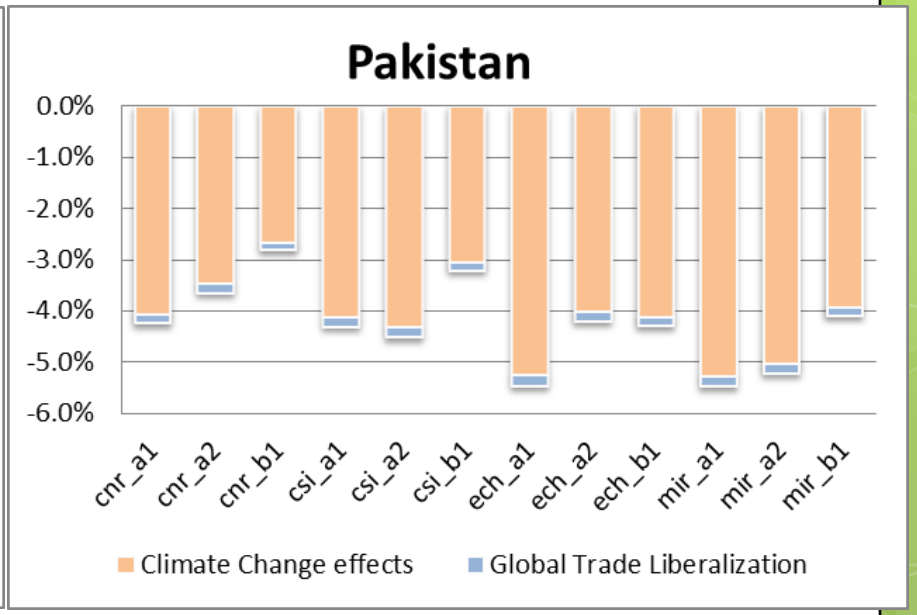


Agriculture and Climate Change: a long term challenge

- Changes in temperature and rainfall will affect yield directly (plant physiology) and indirectly (new/displacement of pests and diseases)
- How, When and Where? Serious difficulties to get strong conclusions. Overall, with current technologies, yields will go down in most of the cases (see IFPRI,Nelson and al, 2010 for an overview).
- New challenges will lead to positive and negative outcomes for different countries, producers. **Winners** and **Losers**.
- Overall, and except snowball effects, the world will survive… but the poorest may be required to bear a huge part of the adjustment costs.
- To adapt to such asymmetric shocks, people will
  a) Trade
  b) Move
  c) Need to develop **new technologies**.
- Policy makers and societies want to avoid (b), (a) is relatively costless to get but (**c**) needs **time** and **resources**.
- Therefore, R&D is a need for both **efficiency** (react to the productivity shock) and **equity** to mitigate the distributional effect of these shocks

Effects of alternative climate change on agricultural yields and consequences on national real income





And contrasted effects even larger for the poorest

Laborde, Lakatos, Nelson and Robertson (2010)