



Feeding 9 billion while reducing the environmental footprint

Can agriculture and forestry work together?



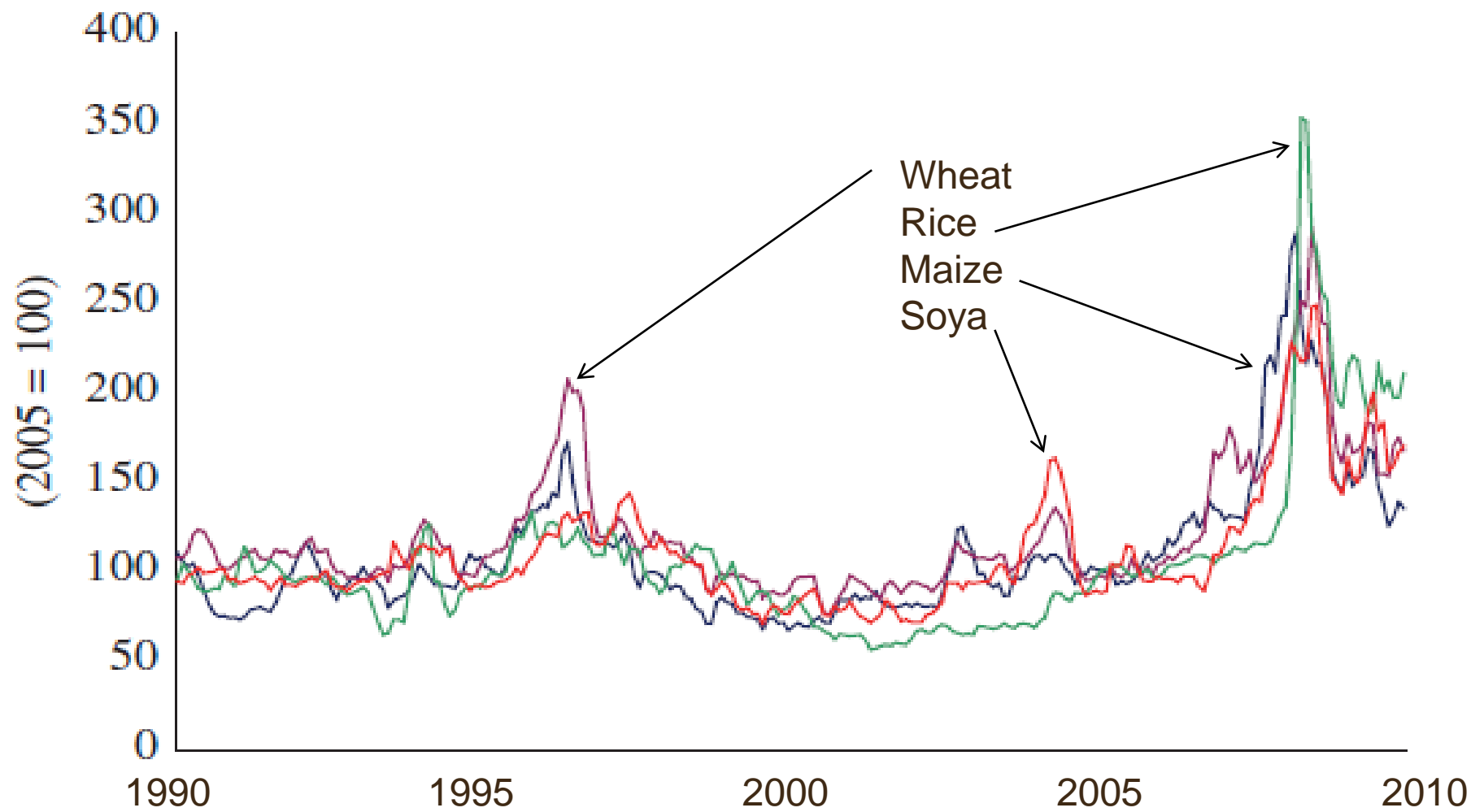
Bruce Campbell, Program Director CCAFS

Outline

- The three challenges
- Current status of forestry and agriculture in the UNFCCC?
- 4 key action points
- Conclusions

Challenge 1: Food security

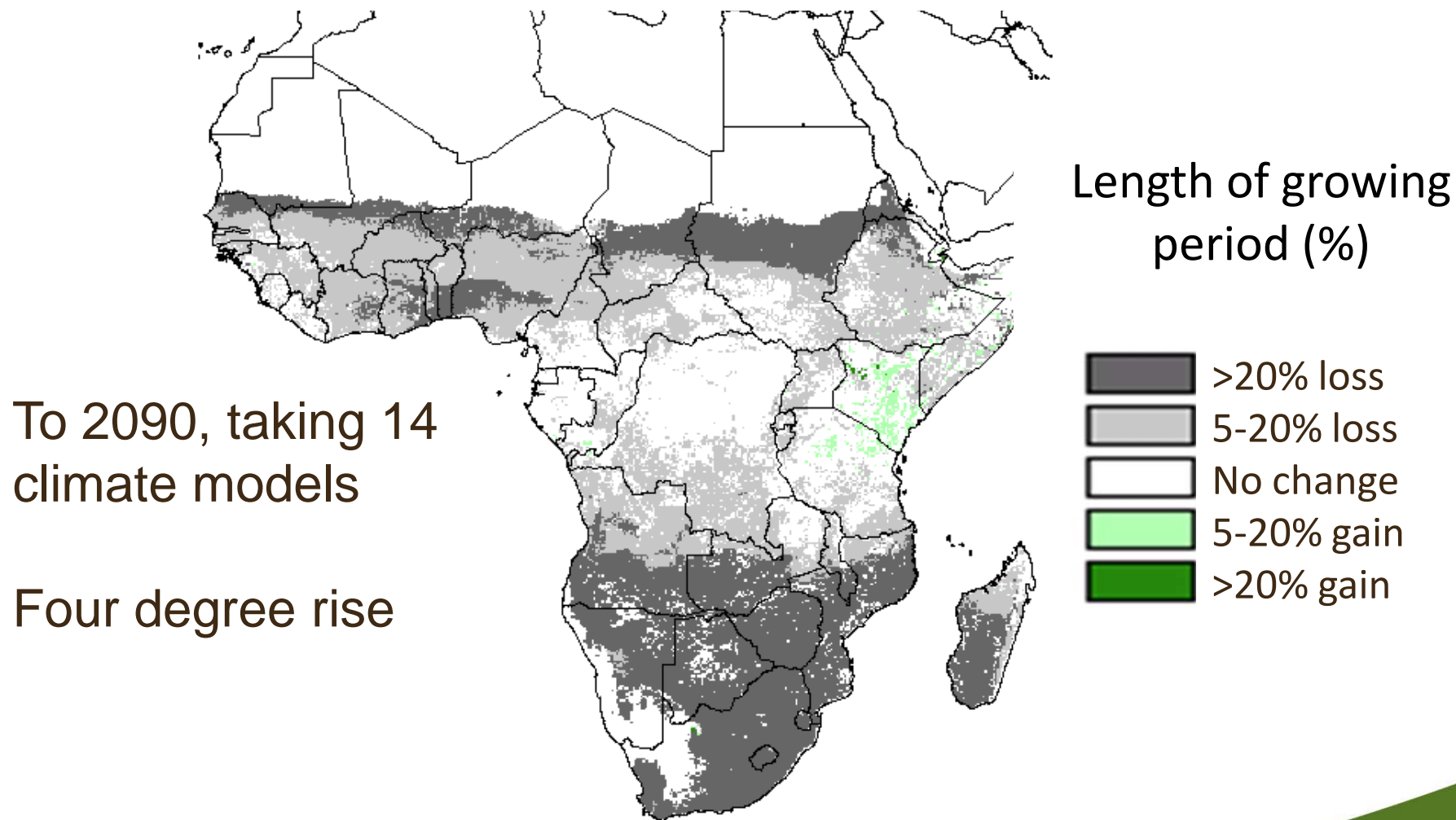


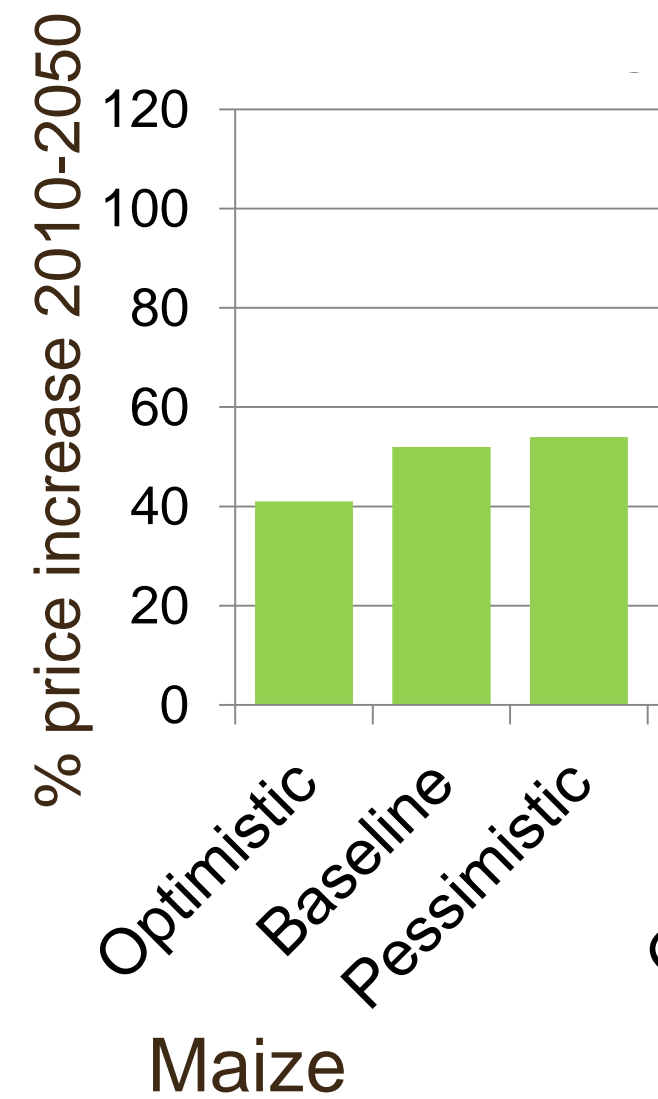


Challenge 2: Adaptation

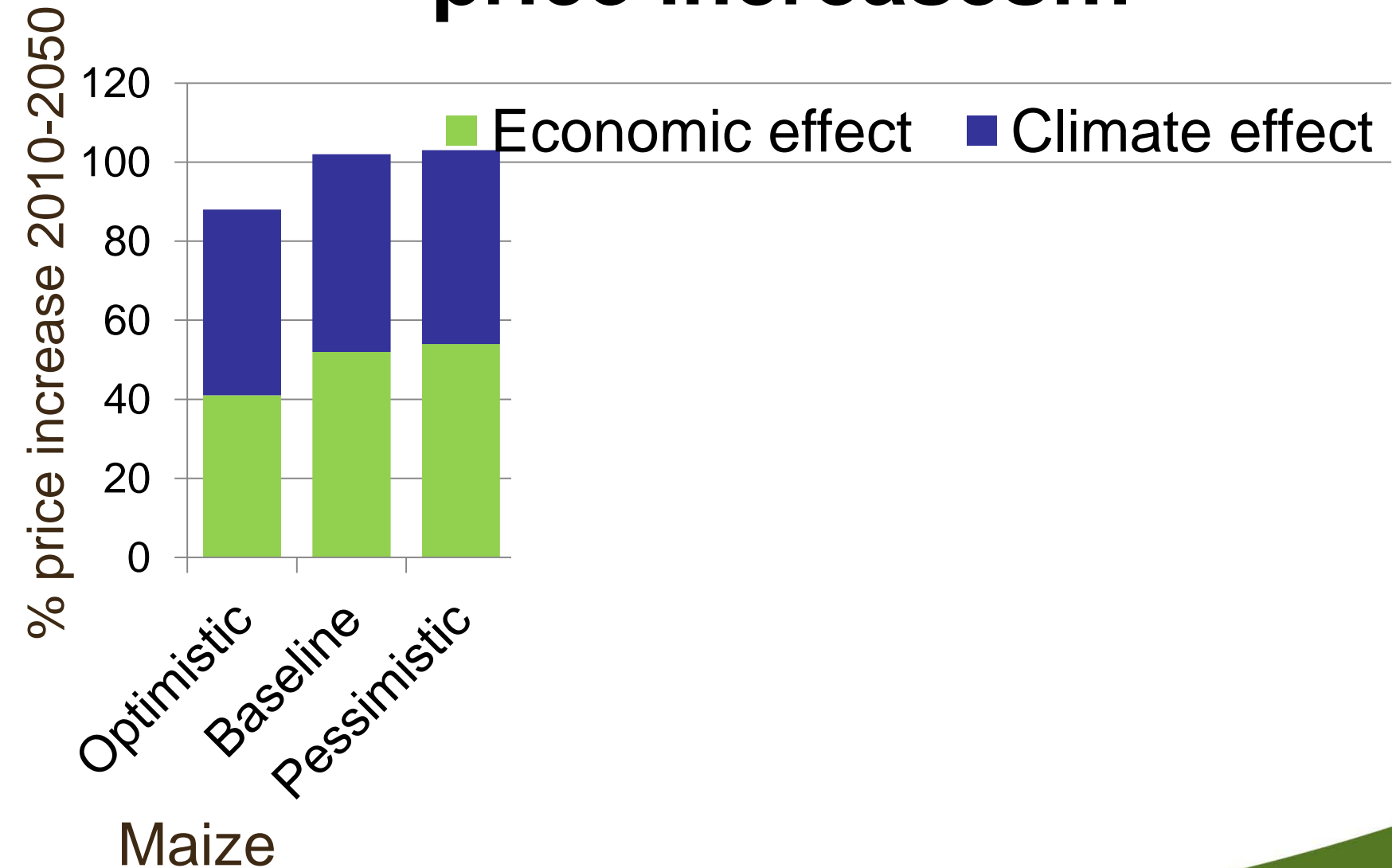


Length of growing season is likely to decline..

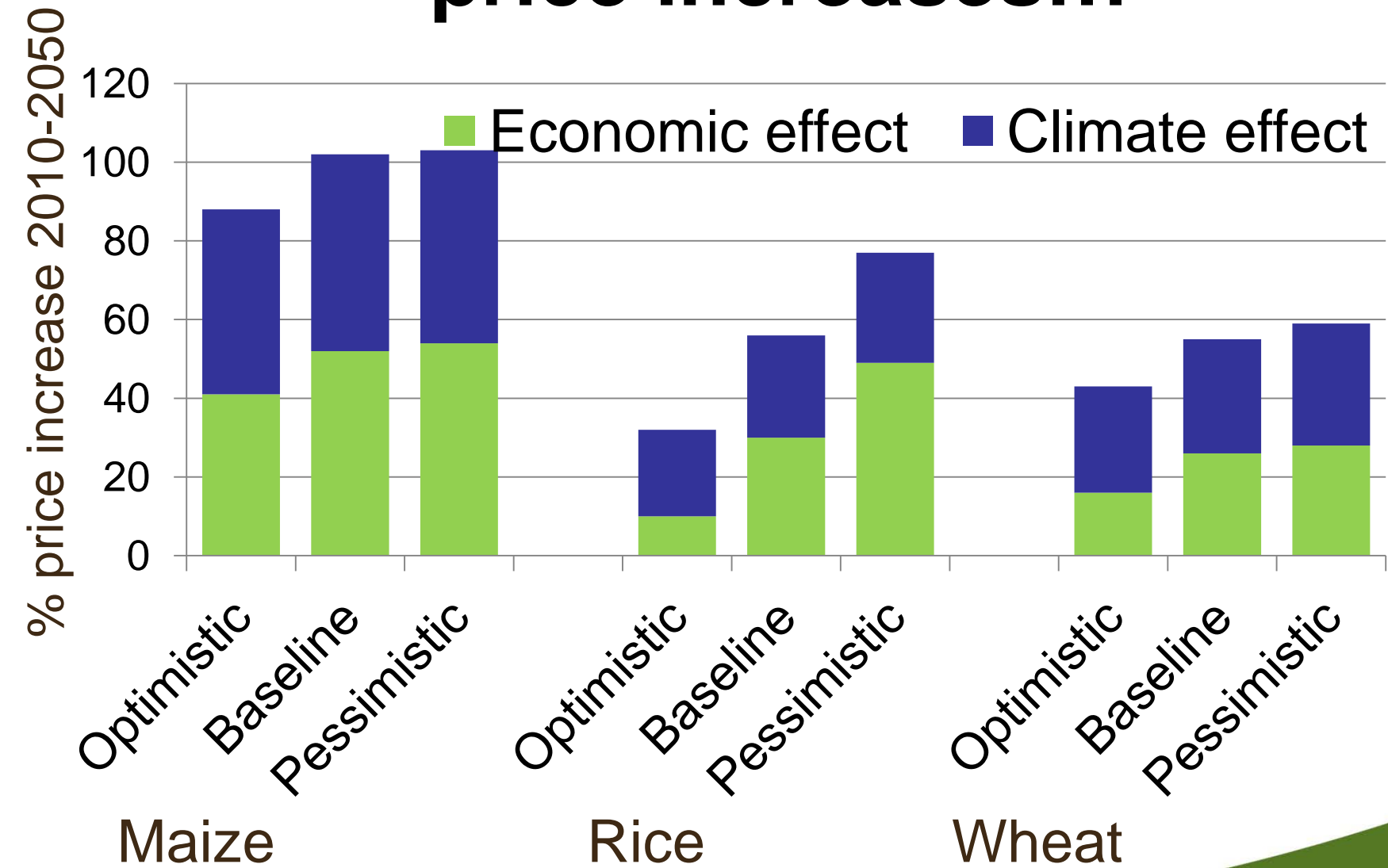




Climate change will add greatly to price increases...



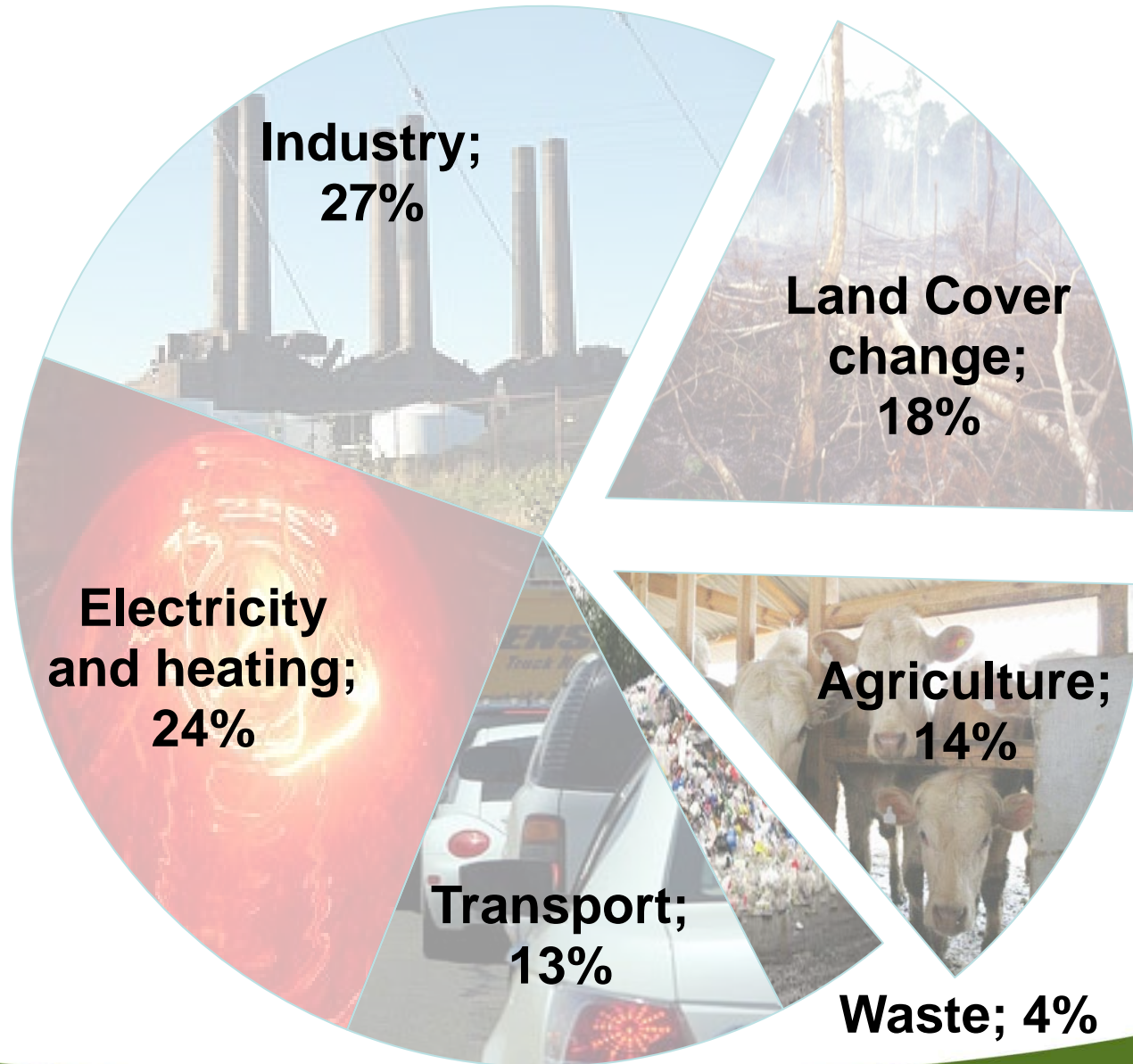
Climate change will add greatly to price increases...



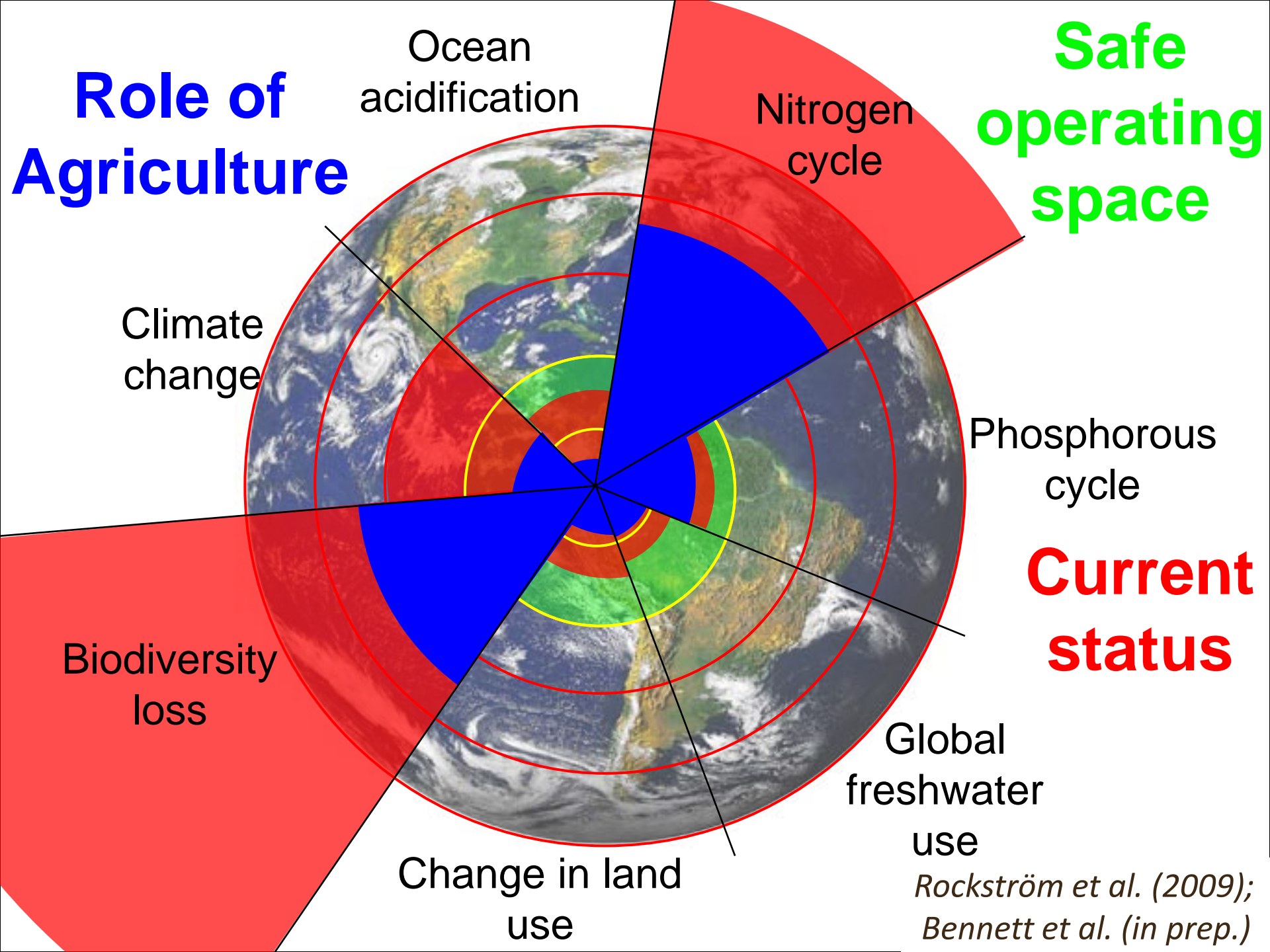
Challenge 3: Reducing the ecological footprint

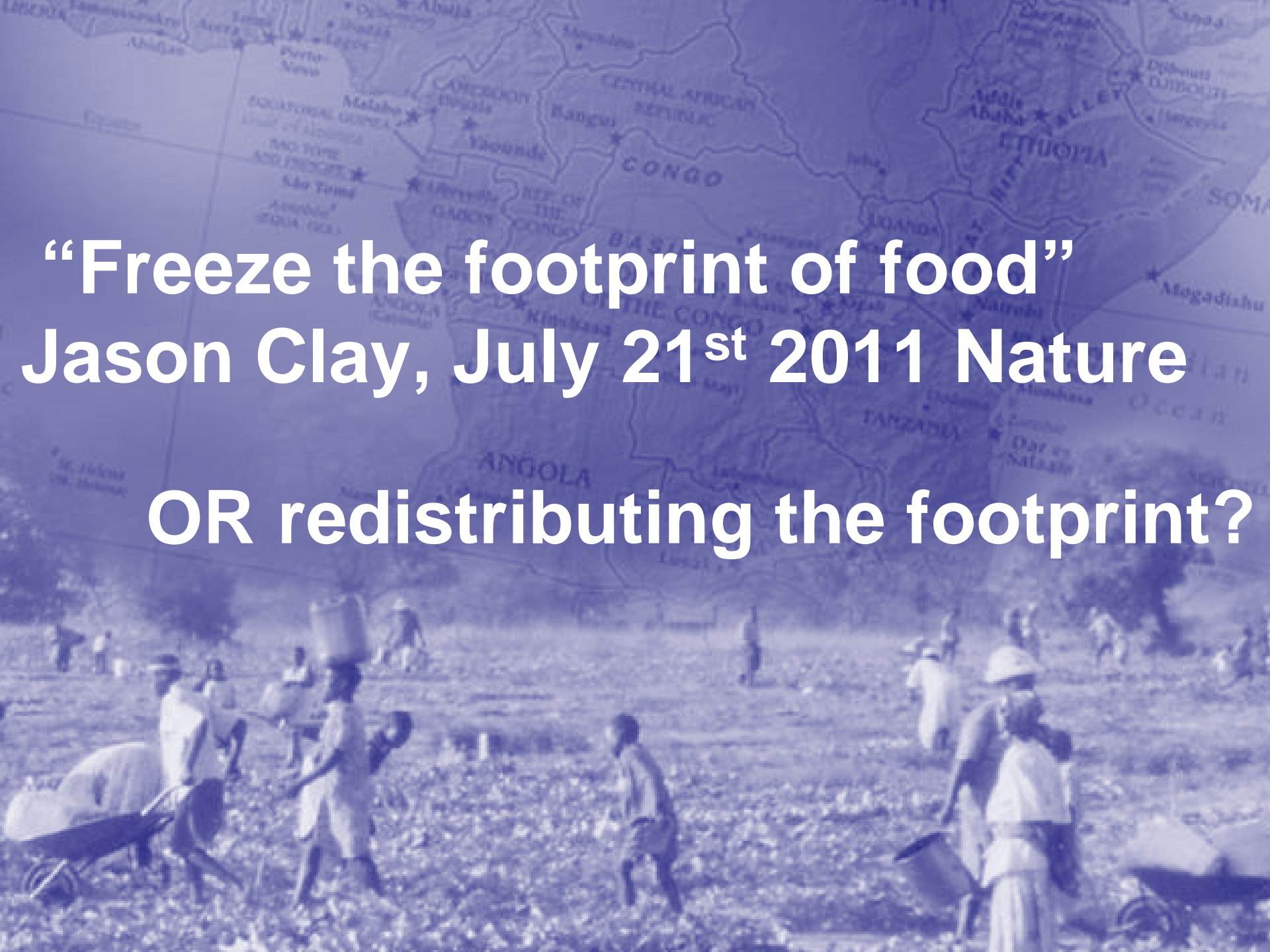


Greenhouse Gas Emissions



Role of Agriculture





“Freeze the footprint of food”
Jason Clay, July 21st 2011 Nature
OR redistributing the footprint?



Adaptation

Food
security

Mitigation



Climate change adaptation will sometimes drive increases in emissions

- No rice planting before 15th June
- Harvest rice in October; reincorporate residues
- Plant wheat in November
- But high temperatures in March dictate an earlier planting time for wheat

- 2 million hectares now being burnt
- CO2 and haze



Outline

- The Three Challenges
- **Current status of forestry and agriculture in the UNFCCC?**
- Key action points
- Conclusions

Forestry

- Well advanced in the negotiations (REDD+)
- Plenty of Early Action
- But very poor consideration of “agriculture as a driver of deforestation”

Article 2 UNFCCC:



“.....stabilization of greenhouse gas concentrations

..... to ensure that food production is not threatened

What is needed?



- Text on agriculture and food security in the common vision for Long-Term Cooperative Action (LCA)
- An **agriculture work program** under the Subsidiary Body for Scientific and Technological Advice (SBSTA)

<http://www.agricultureday.org/>

Agriculture & Rural
Development Day

Durban, South Africa 3 December 2011



Outline

- The Three Challenges
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- **Key action points**
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1. Integrated action across REDD+ and agriculture

- What is the role of commodity roundtables? (certification)
- How can incentives for smallholder agriculture be linked to compliance? (payments for environmental services vs. command and control)

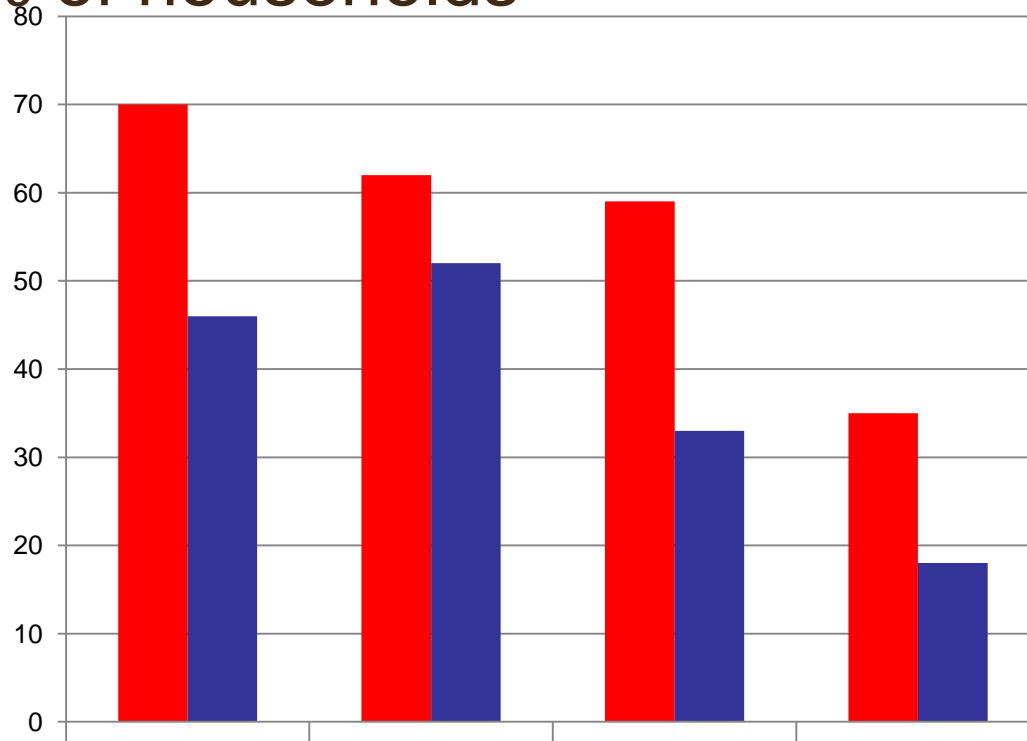
2. 'Climate-smart' agriculture that achieves the triple-win will strengthen the impacts of REDD+.



- What technologies and approaches are the best bets?
- What are the landscape and livelihood outcomes of different options?
- What is needed for climate risk management?

Cellphone ownership

% of households



Male-headed

Female-headed

3. Financing is currently
insufficient for agriculture to
tackle climate change and food
security challenges in support of
REDD+

Incentives for climate-smart solutions?



Wassmann et al. (2010) IRRI/CAFS

Transformative adaptation

- Relocation of grape production or wineries to cooler regions
- Shifts to other crops
- Diversification

- What are the costs/benefits of the technologies and practices?
- How can incentives be put in place?
- When is transformative adaptation needed? And at what cost?

4. The role of forest-based ecosystem services in sustainable agriculture requires more recognition in land-use planning

- What ES are needed?

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- **Conclusions**

A composite image showing two women in a forest setting. On the left, a woman wearing a wide-brimmed hat and a patterned shirt is smiling. On the right, an older woman wearing a red and white checkered headscarf is looking towards the camera. The background consists of lush green foliage and tree trunks.

Some really important policy-related questions are waiting to be answered

Some significant policy advances are within our grasp for forests/agriculture



**THE Commission ON Sustainable Agriculture
AND Climate Change**



Thank you

AgClim Letters

- **Strength through variety? Seed systems in future climates**
- **Earth is a small REDD+ planet**
- **Adaptation: all talk and no action?**
- **Emissions efficiency: are some animals more equal than others?**
- **Fertilizing grounds for change in Chinese agriculture**
- **Hamburgers and yamburgers? Four-degree futures for food in Africa**

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