



# What do we mean by sustainable intensification? A global perspective.

Aston Jan 22<sup>nd</sup> 2014

**Charles Godfray**

Director, Oxford Martin Programme on the Future of Food, Oxford University

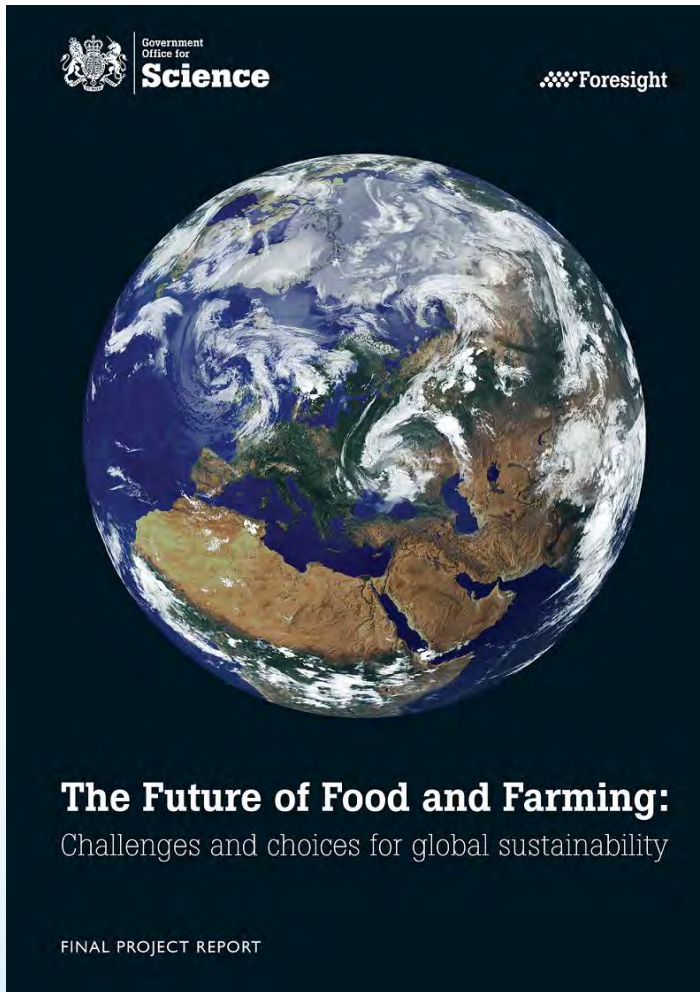


# The challenges

- Growing population and growing wealth: radical increase in demand
- Increased competition for resources
- Climate change and environmental degradation
- The new realities of hunger



# UK Foresight Report



## Future of Food & Farming

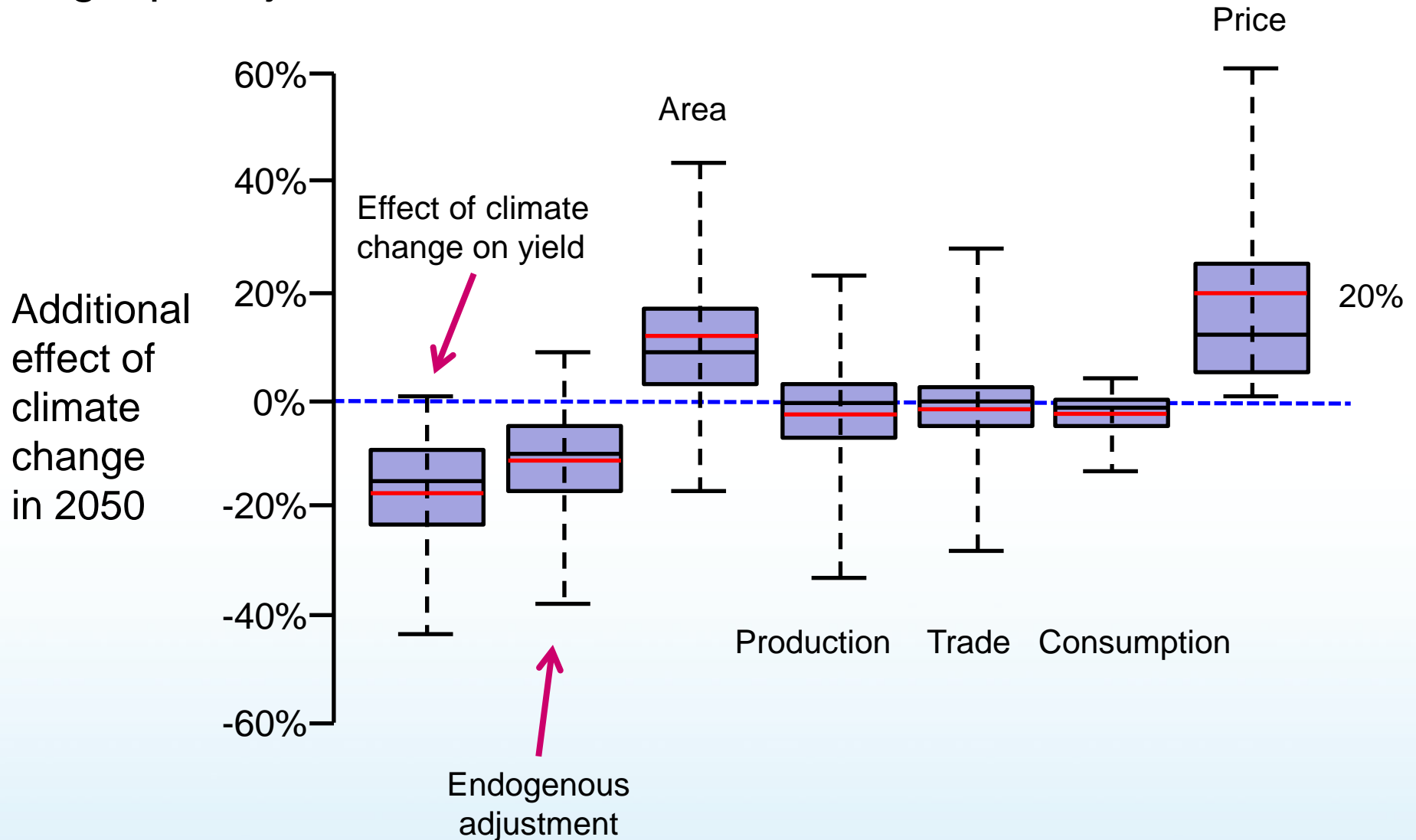
- Food security
- Sustainability
- The needs of the poorest

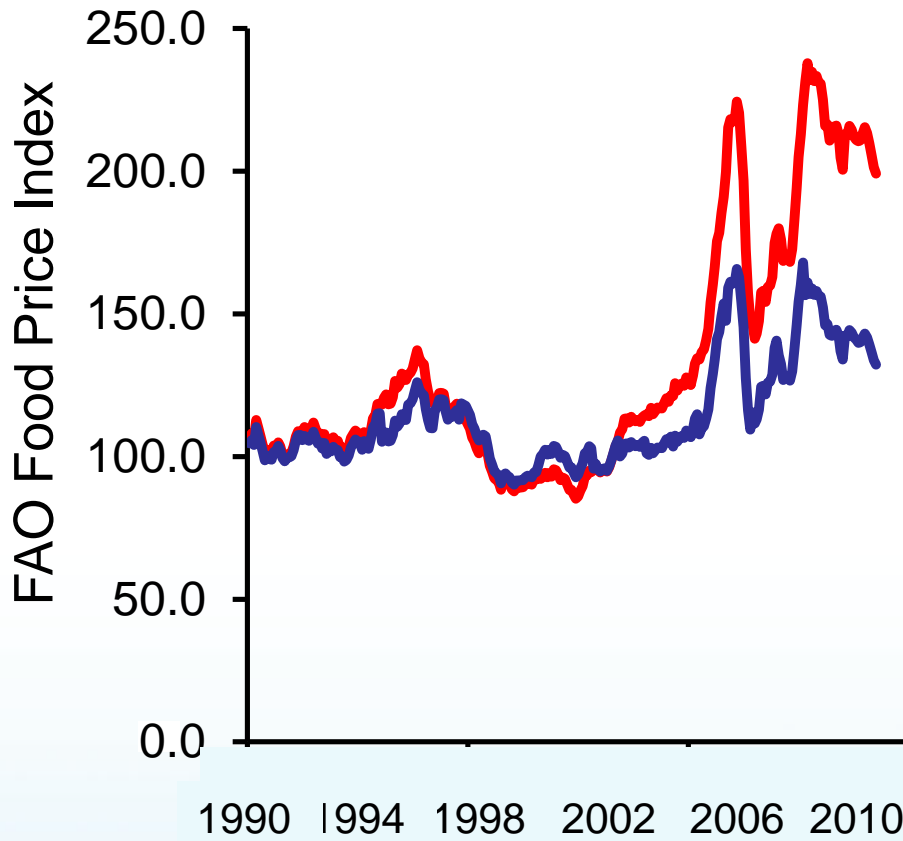
Report available at

<http://www.bis.gov.uk/foresight>

See also, Godfray *et al.* 2010, *Science*  
327, 812-8

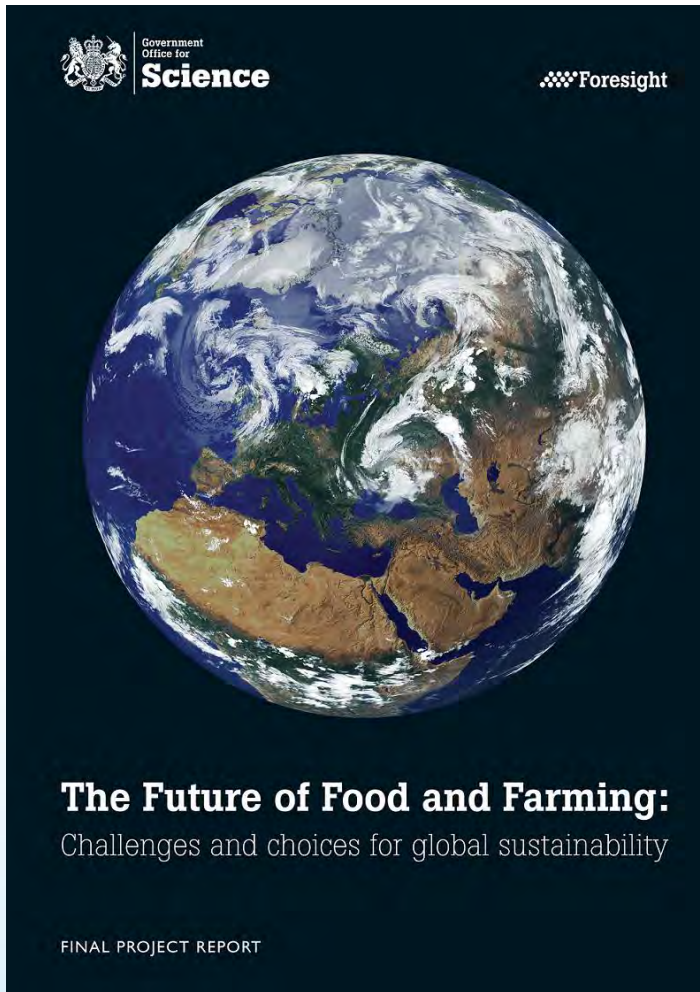
# AgMip Project Results Dec 2013





*UN Food and Agriculture Organisation 2013*

# UK Foresight Report

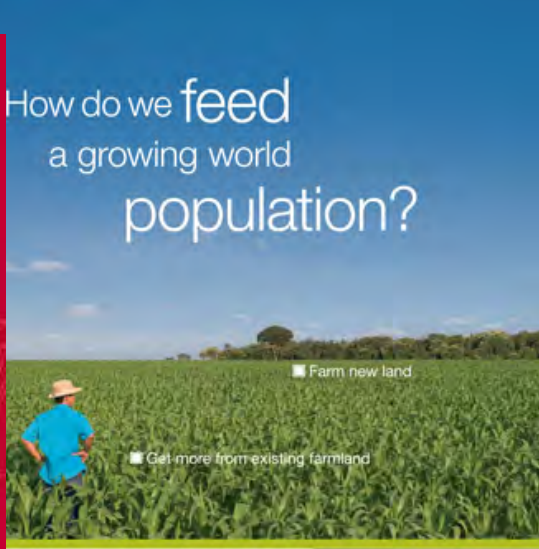
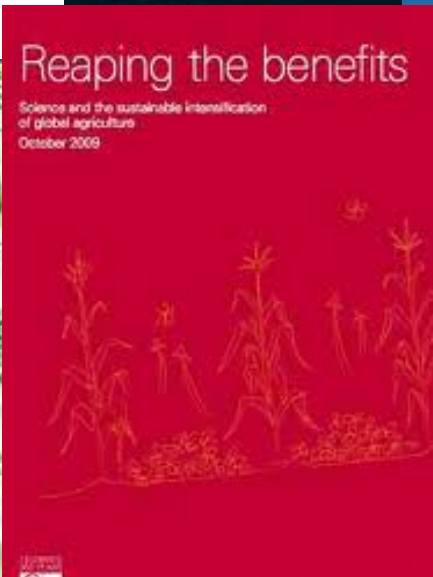
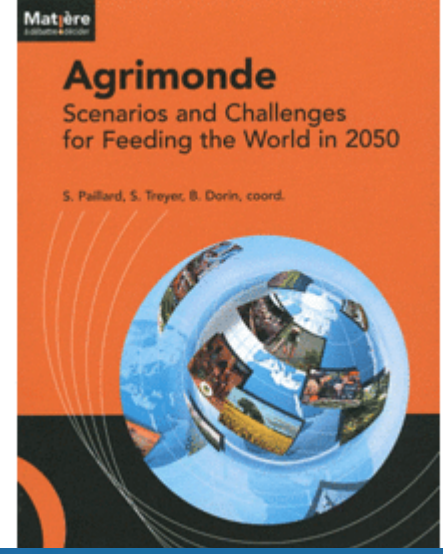
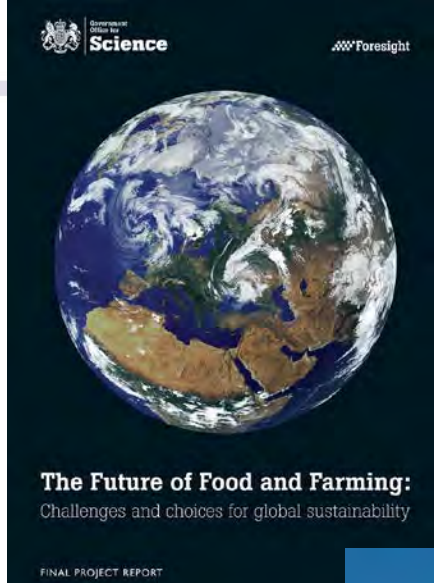


Challenges sufficiently pressing action needed on

- Increasing production
- Moderating demand
- Reducing waste
- Improving governance

# Production side response

- **Sustainable Intensification (SI)**
  - Higher yields, less env. impact
- Incorporated into policy (government, private sector, NGOs)
- Reaction

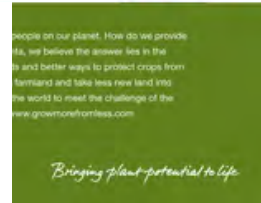


## A Wolf in Sheep's Clothing?

An analysis of the 'sustainable intensification' of agriculture

October 2012

## Sustainable intensification - an oxymoron



# 1. Action needed on all fronts

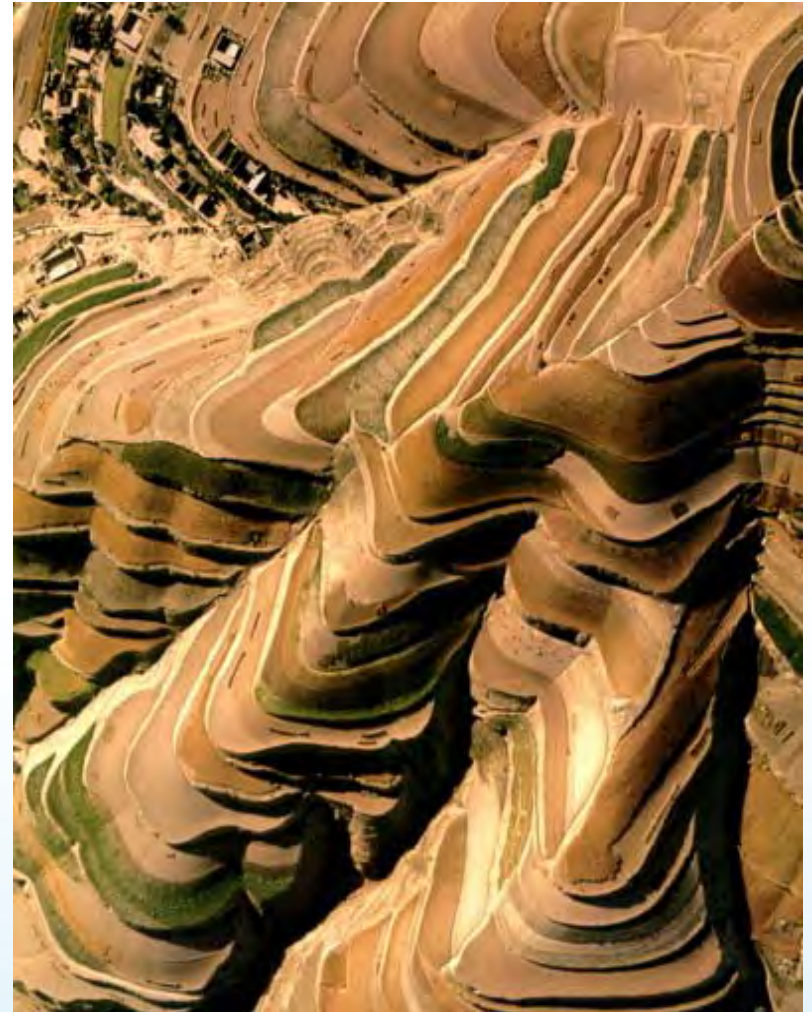
- Moderate demand, reduce waste, improve governance ...
- ... but also produce more food
- SI is neither a “productionist silver bullet” nor special pleading by the agricultural sector
- Facilitate sustainable response to price signals





## 2. Very limited new land

- Major environmental costs to land conversion – GHG emissions & biodiversity
  - Restoration of agricultural lands a priority
- Pressure from other land uses
  - Urbanisation
  - Climate change
  - Biofuels daftness



### 3. It's not Sustainable Intensification

- Don't mistake SI as business-as-usual with marginal improvements in environmental impact
- Genuinely radical if taken seriously
- Elements of organic agriculture must become mainstream
- Overall yield growth but
  - Some local reductions
  - Some land sparing

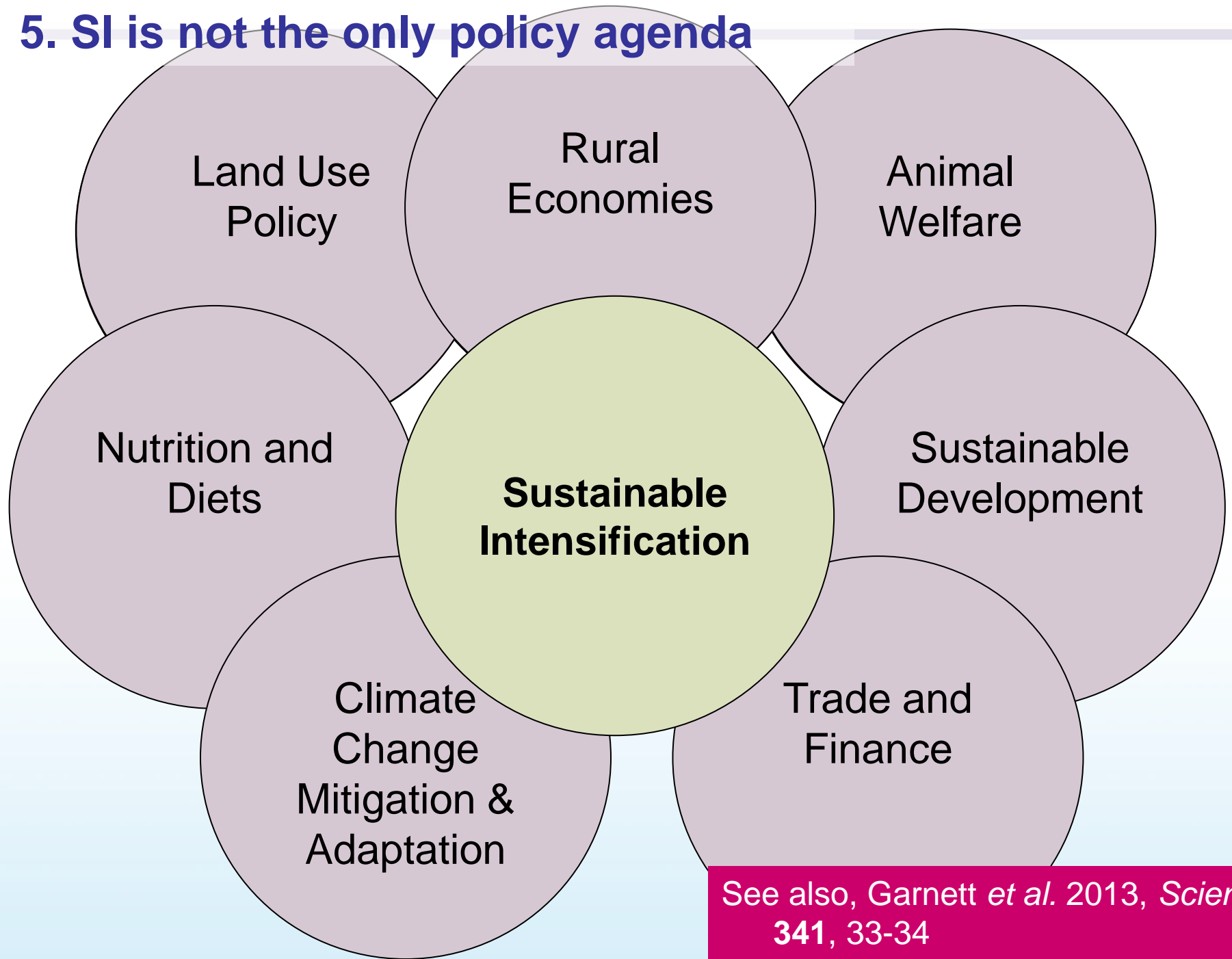


## 4. A Goal not a Trajectory

- Evidence based and context specific
- Pick the best from conventional, “high-tech”, agro-ecological, organic
- What does it mean in practice?



## 5. SI is not the only policy agenda



See also, Garnett *et al.* 2013, *Science*  
341, 33-34

# Conclusions

- Food system entering uncharted waters
- Action needed on all fronts
- Sustainable intensification (even if you call it something else) essential
- Solutions must add up
- Reverse drop of investment in agricultural science – low- as well as high-tech
- We fail on food we fail on everything

