

Prime Minister's Science, Engineering and Innovation Council



PMSEIC

Australia and Food Security in a Changing World



Australia - Food production and trade

Australia produces:

- enough food for 60 million people
- less than 3% of global wheat, but 4th largest wheat exporter
- 7th largest beef producer, but 2nd largest exporter

Is food security a problem for Australia?

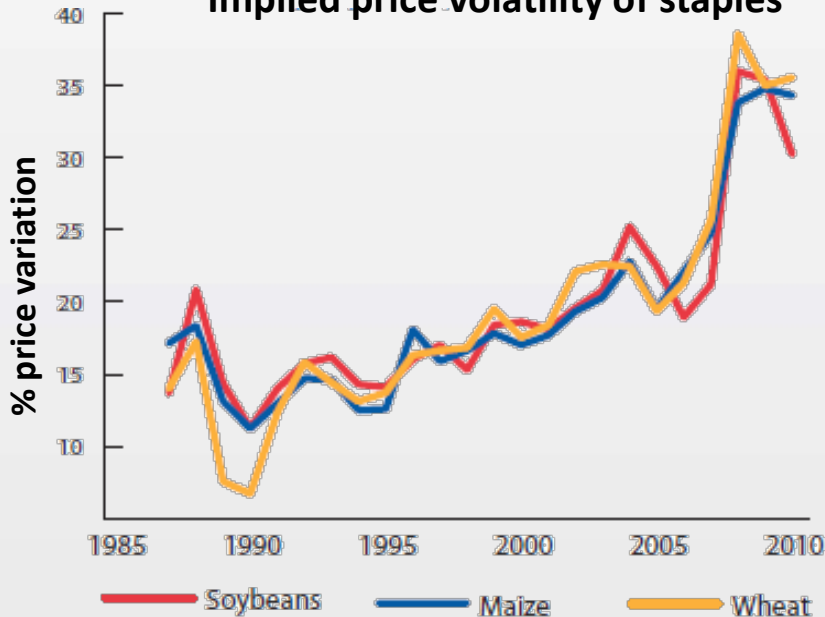




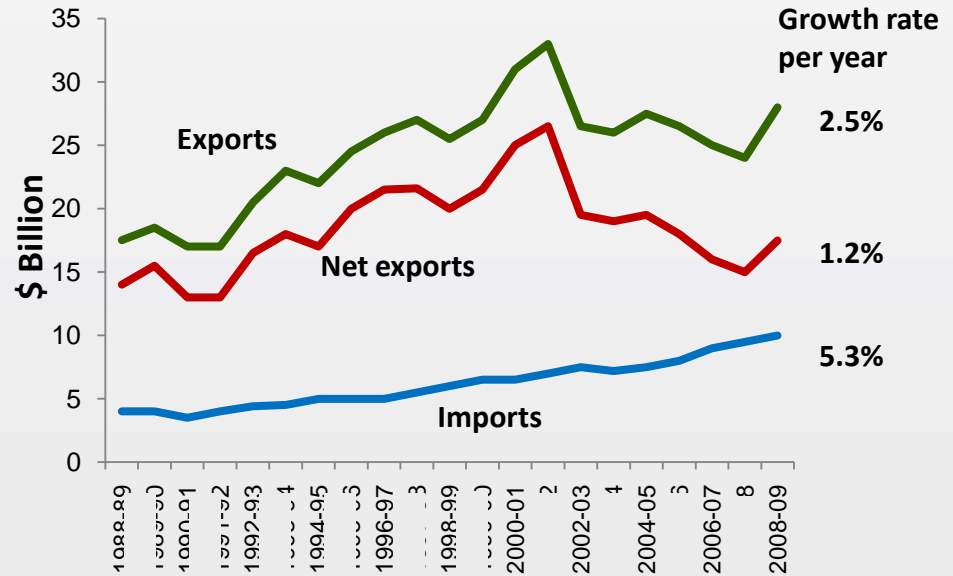
Food availability?

- Droughts and floods
- Increasing price volatility
- Growing reliance on imports

Implied price volatility of staples



Australian food imports and exports



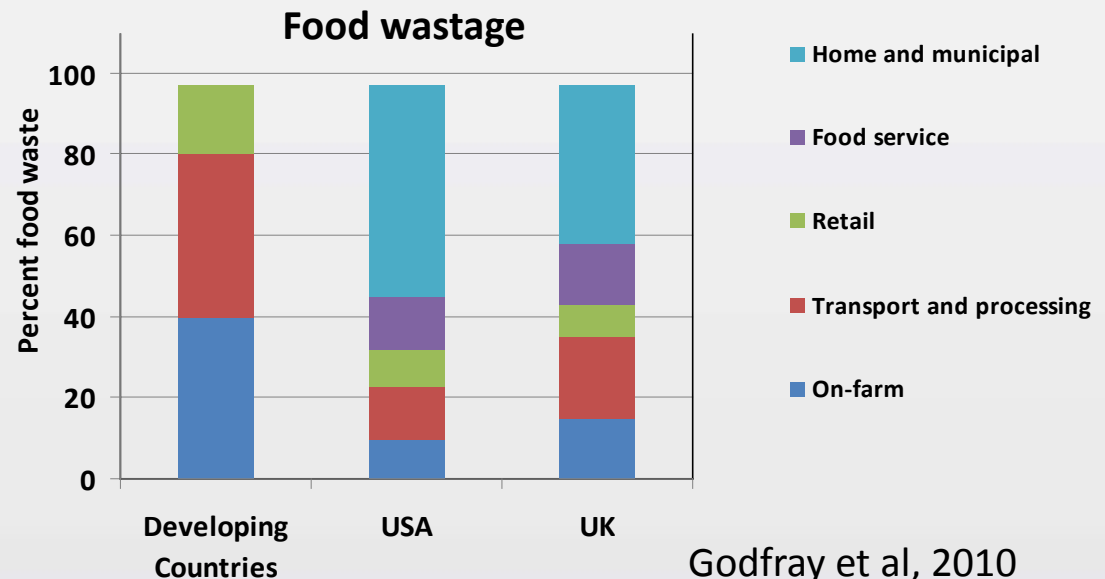


Food in society

- Interest and knowledge of food production and processing
- Nutrition and population health profile
- Loss and waste



Choosing and valuing nutritious food?



Australia enjoys high quality, safe and cheap food

BUT

- Food supplies are becoming increasingly unstable
- Consumers often make poor food choices and lack respect for food
- Food insecurity in the region threatens Australia's security



Australia - Food production and trade

- Key role in training and capacity building
- Australia is not a breadbasket
- Food sector is important for domestic economy

| Food Industry | Value (Billions) |
|---------------|------------------|
| Production | \$37 |
| Exports | \$23 |
| Imports | \$9 |
| Processing | \$79 |
| Retail | \$113 |
| Total | \$238 |



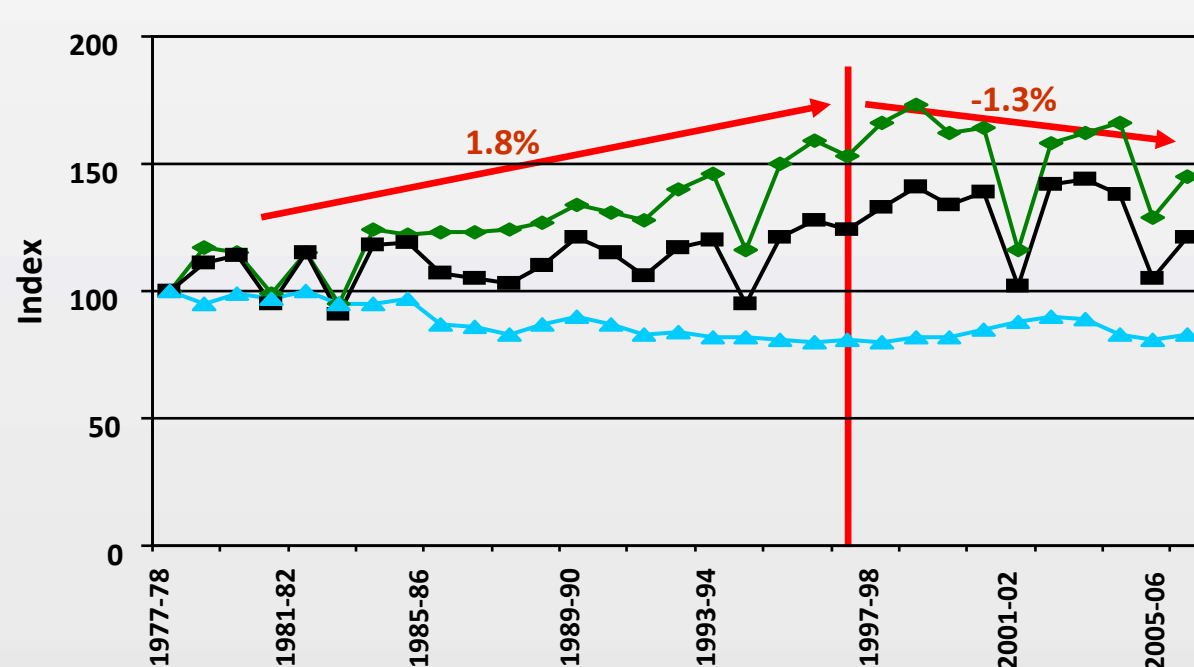
Challenges – Food value chain




- Fragmented approach to food
- Barriers to technology development and adoption
- Population health profile
- Community and industry engagement
- Reduced GHG footprint of food sector



Challenges - Production

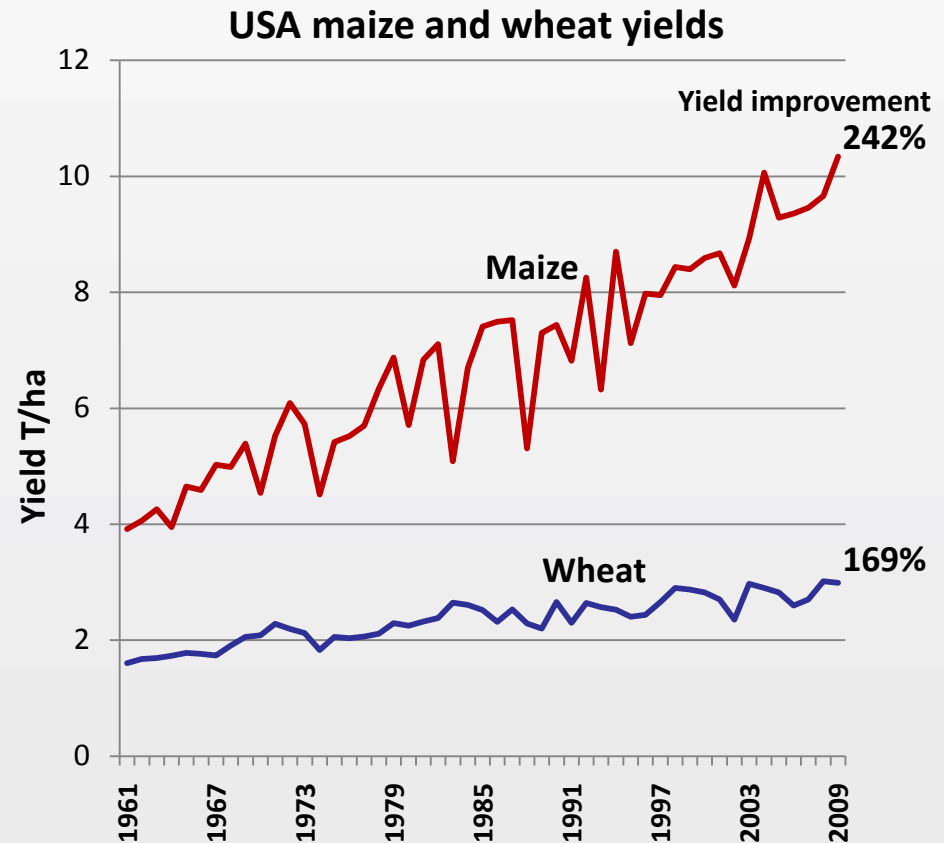
- Climate variability and climate change
- Resource access and cost
- Declining agricultural productivity



| Long term growth rate | | |
|---|---------------------------|--------|
|  | Total factor productivity | 1.4 % |
|  | Total Outputs | 0.8 % |
|  | Total inputs | -0.6 % |

Can science and technology help?

- Improve use of resources
 - Land
 - Fertilisers
 - Pests and diseases
 - Water
 - Energy
- New breeding and selection strategies





Recommendation 1 - Australian Food Security Agency?



Policy

- DAFF
- DCCEE
- DFAT
- DIISR
- DSEWPC
- DOHA
- DIT
- DEEWR
- DRARDLG
- State/Territory Governments



Regulation

- AQIS
- FSANZ
- APVMA
- NHMRC
- TGA
- AFMA
- OGTR



Research Investors

- RDCs
- ARC
- AusAID
- CRCs
- NHMRC
- ACIAR



Researchers

- CSIRO
- Universities
- State agencies
- CRCs
- Industry research groups



Industry and community

- NFF
- State farmer groups
- Importers
- Exporters
- Food processors / manufacturers
- Food retailers

Recommendation 1

Develop a national approach to food security

How?

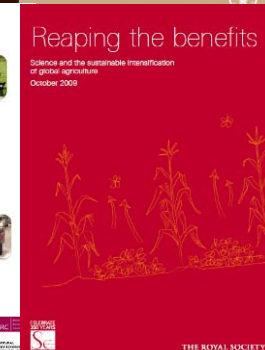
- Coordinate food policy and programs
- Integrate regulatory system
- Articulate Australia's role in global food security
- National data collection
- Coordinate land use planning



Recommendation 2

Increase targeted RD&E investment

- Improve low input farming systems
- Reduce GHG footprint of food sector
- Support national and international research programs
- Support linkages in R&D
- Foster public-private partnerships



Recommendation 3

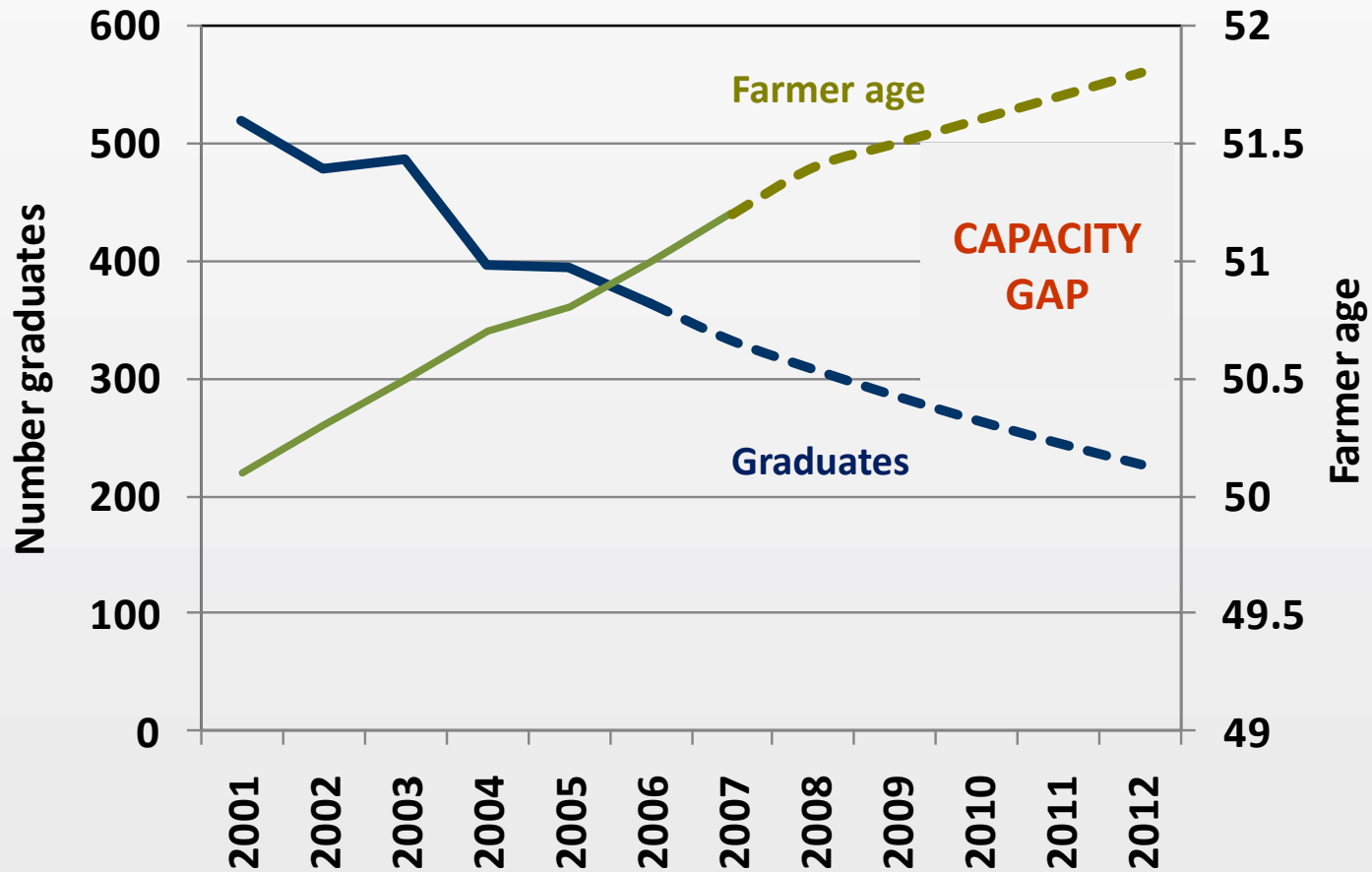
Recruit and nurture future generations

- National school curricula
- Source materials for schools
- Nationally coordinated tertiary programs
- Linkage programs between teachers, scientists and farmers





Next generation...





Recommendation 4

Engage community and industry

- Interest and knowledge about food to drive healthy choices and innovation
- Community programs on food production
- Nutrition guidelines
- Industry incentives for innovative and healthy food products

