Australian National University

Identifying climate change adaptation options for agriculture and food security

Mark Howden and many colleagues

ANU Climate Change Institute

Vice Chair, IPCC Working Group II

Who identifies adaptions ?

- Climate change will likely impact everyone, at every scale, sometimes a little, sometimes a lot
  - farmer, fisher, forester
  - village, region, nation
  - value chains (pre-farm, farm and post-farm)
  - policymakers and institutions

- Means that identification of effective climate adaptations is **everyone's** business
- Increasingly so over time

What adaptations to select from ?

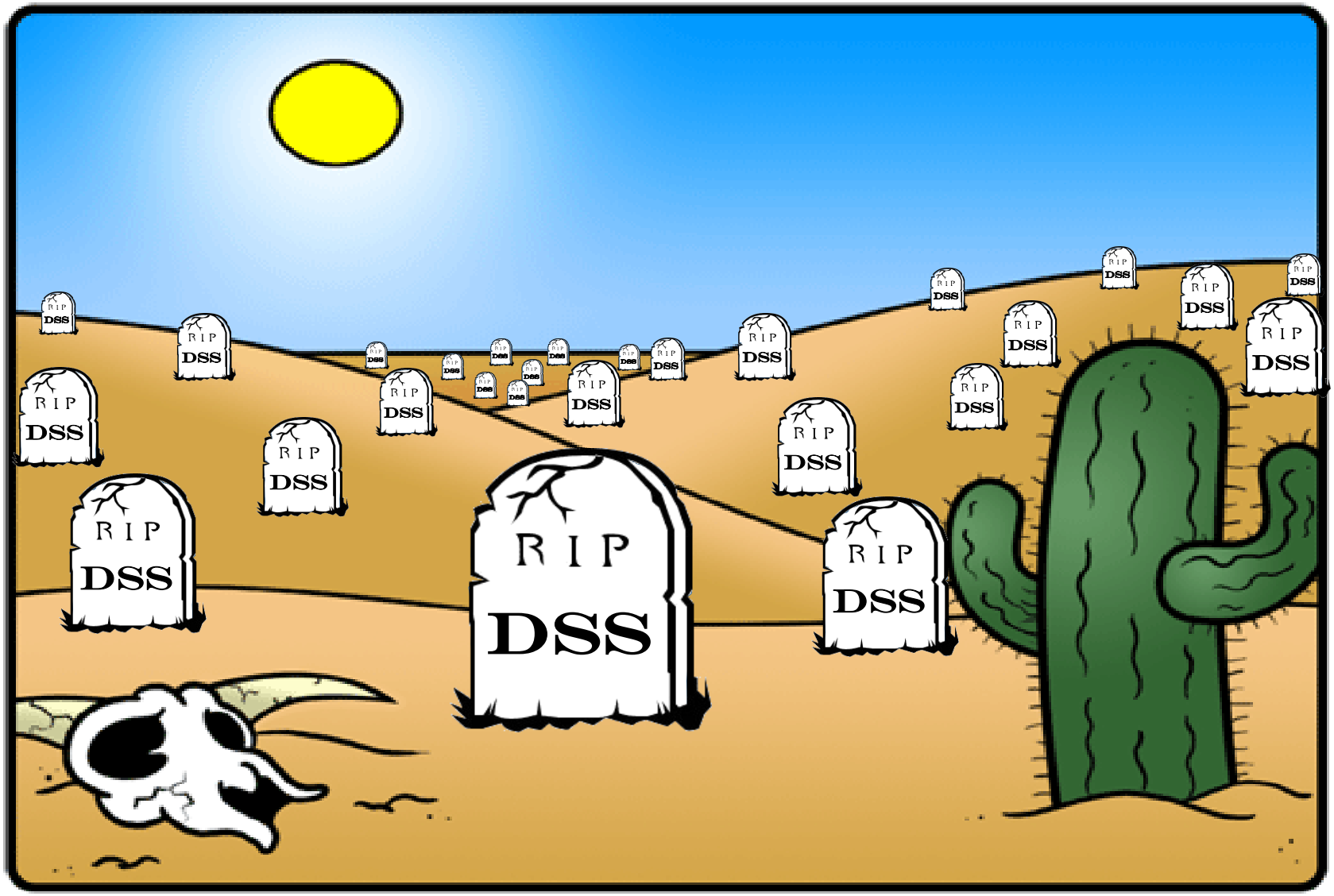
- Huge diversity
  - on farm and off farm
  - technical and managerial
  - tactical and strategic
  - incremental to transformational
  - institutional
  - gender-based
  - traditional and scientific
  - etc
- Highly contextual - values
- Change in knowledge

How to select between these ?

- Technical options are often useful but not sufficient
  - focus on strategic skills and decisions
- Need a whole-of-system approach
- Pathway to adoption and impact
- Principles for this have been known for a long time but the practice remains difficult
- Often there has been resort to data and information systems to support change management
- These rarely work

Australian National University

The decision-support landscape



Towards knowledge-sharing

- Data and information systems often address single, simple, technical and short-term adaptations to existing systems
- Instead of the more complex, compound, highly contextual, strategic, tacit, socially and institutionally-mediated changes that often characterise real-world change processes
- Trust
- Move from focus on data/information to knowledge-sharing
- Policy-oriented platform to share successes, failures and needs with person-to-person elements
- Aspiration: Wisdom-sharing platform ?

Identifying and learning the best options

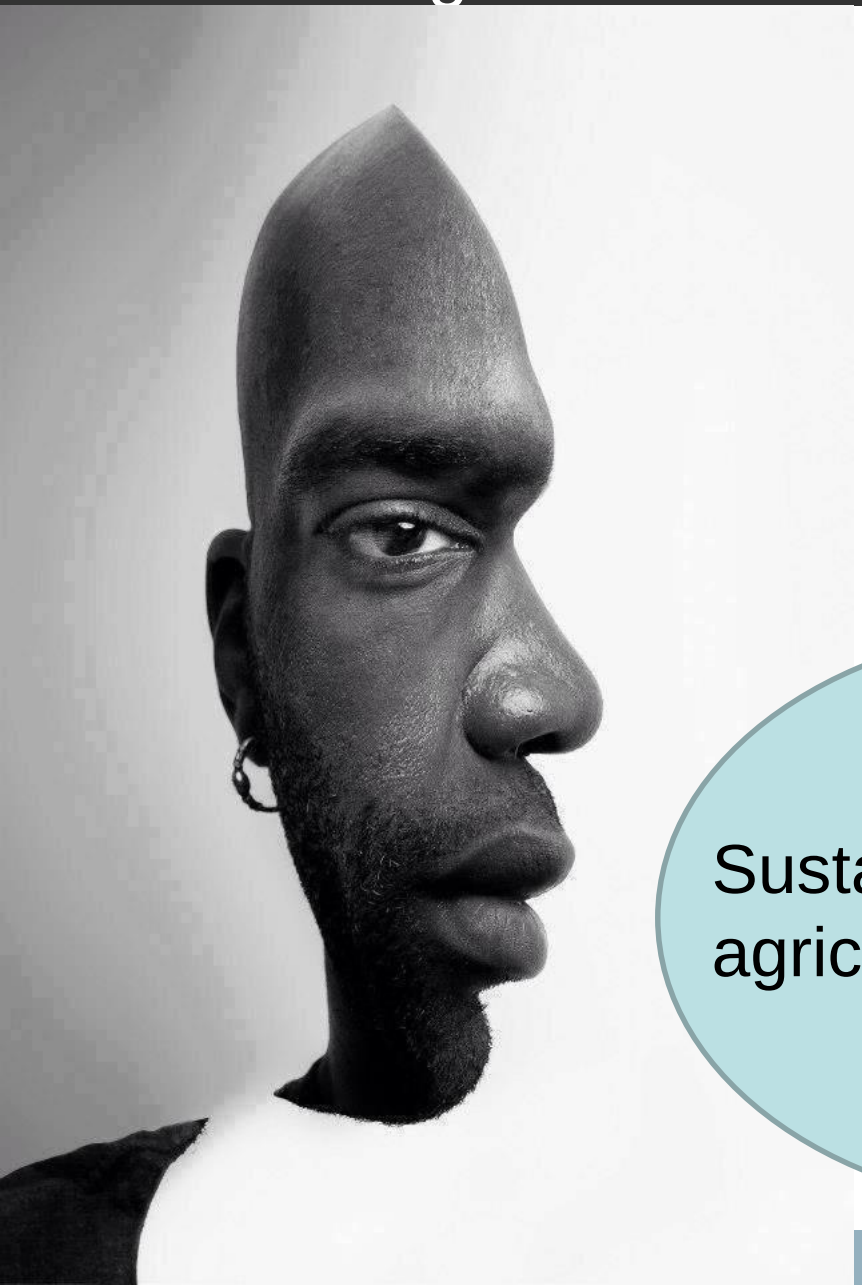
- Because adaptation is highly contextual and diverse, someone, somewhere is likely to have tried many of the existing adaptation options
- Sharing that diverse experience – what works, what does not and why ?
  - important as increased variability will often require flexibility and diversification
- Aim to accelerate learning, scaling up and scaling out
- Social learning – much more than just information
  - trusted, relevant, credible and legitimate
  - social networks impact on adaptation

Cash et al. 2003, Dowd et al. 2014

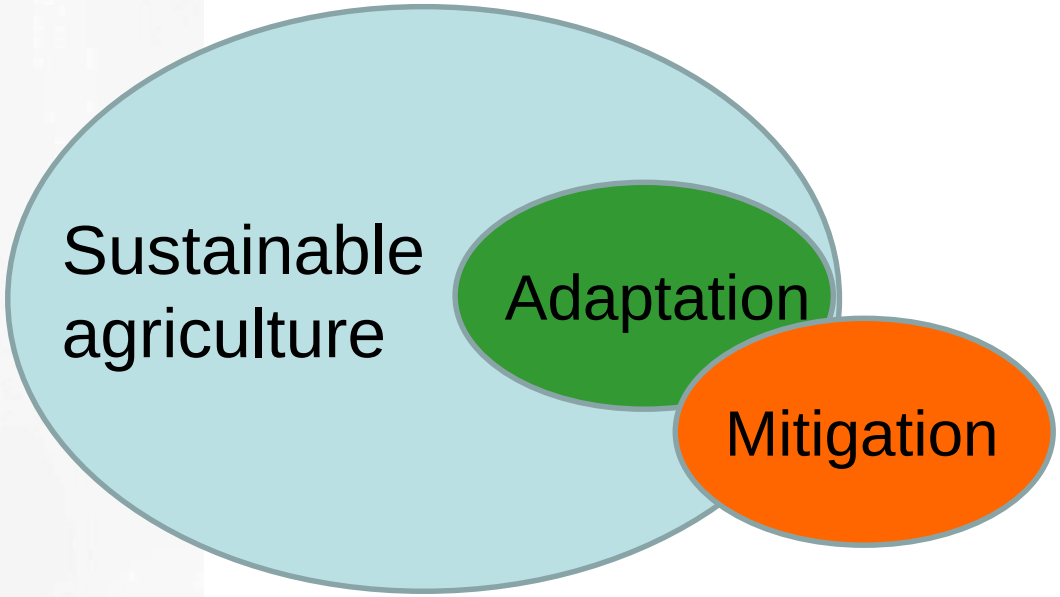
Co-producing and selecting options

- Practitioner knowledge sharing
- Pooling knowledge
  - ‘scientific’ and indigenous or traditional knowledge
  - gender-specific
  - cross-scale, cross-domain
- Expands the range of options and builds adaptive capacity
- Ownership, empowerment and implementation
- Rules-of-thumb and contextual transferability
- Systematic monitoring and evaluation

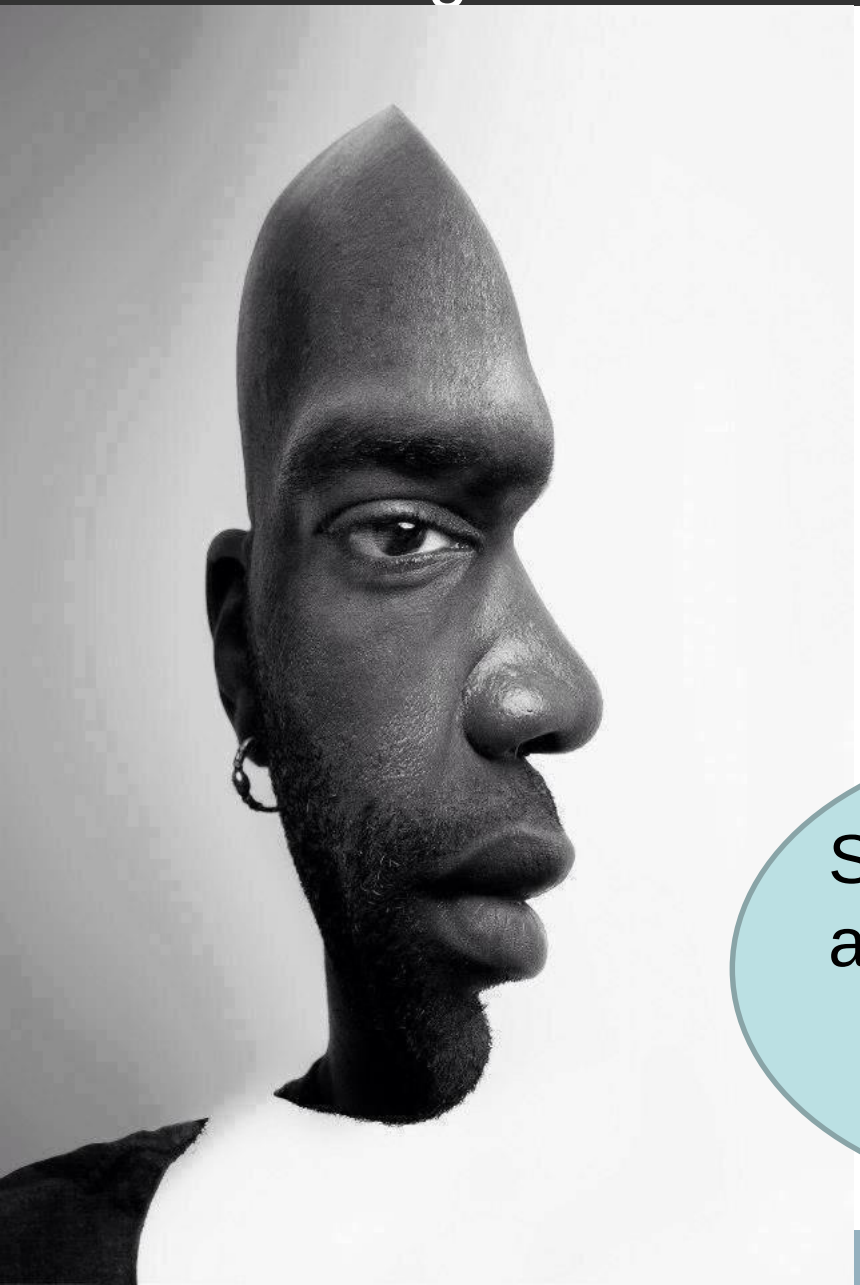
Adaptation, mitigation and sustainable agriculture



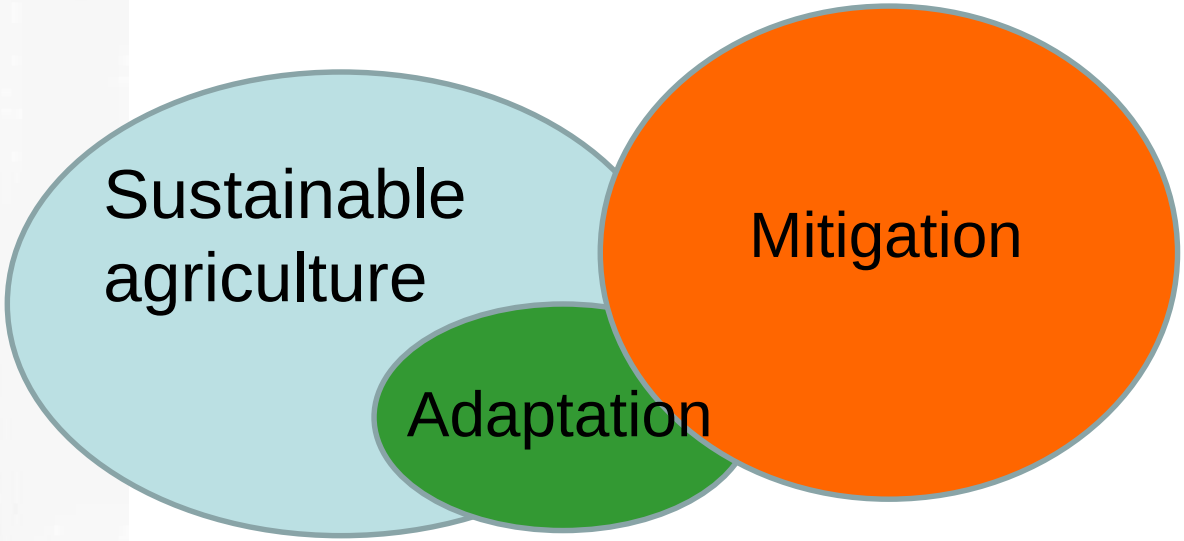
- Prioritisation of adaptation and mitigation
- Depends on how you look at it – values, variability
- Clear interactions, co-benefits



Adaptation, mitigation and sustainable agriculture



- Prioritisation of adaptation and mitigation
- Depends on how you look at it – values, variability
- Clear interactions, co-benefits



Australian National University

Summary

- Adaptation is important – now and in the future
  - needs to be integrated with mitigation, broader food security and co-benefits
- Selection of adaptations can happen at many points in food systems
- Technical adaptations of existing systems are important but not sufficient – strategic approach
- Effective, shared learning processes can pool knowledge and contextualize action locally
- We can identify practical criteria and approaches now

Australian National University

Thank you

Prof Mark Howden
ANU Climate Change Institute
mark.howden@anu.edu.au
+61 2 6125 7266

Vice Chair, IPCC Working Group II