

# Climate Change, Agriculture and Food Security

## What do we take home ?

### Personal reflections

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# Why are we here ? (1)

- ▶ Global temperature increases of 3-5°C by 2100 likely without major mitigation.
- ▶ Limiting temperature rise to less than 1.5°C requires net emissions to cease by 2050 and net removal of greenhouse gases post 2050.
- ▶ Some significant climate change already factored in and underway under a 1.5°C scenario.
- ▶ The risks of catastrophic climate change rise quickly in the 3-5°C scenarios.

# Why are we here ? (2)

- ▶ Agriculture and land conversion to agriculture respectively responsible for 20-30% of global emissions.
- ▶ Technical options are emerging (despite political and economic hurdles) for a low emissions energy sector but at-scale options for the AFOLU sector uncertain.
- ▶ AFOLU sector one of the few existing (potentially cost-effective) options for removing CO<sub>2</sub> from atmosphere

# Why are we here ? (3)

- ▶ Agriculture also going to be strongly affected by climate change with impacts already evident.
- ▶ Food demand globally likely to increase by 60-70% by 2050.
- ▶ SSA has an acute challenge with a doubling of population in 25 years and limited progress to date in sustainable intensification of agriculture.
- ▶ Existing land, water and biodiversity resources under pressure.

# Some high-level reflections

- ▶ Agriculture and land use management must be part of the global mitigation pathway but we still lack sufficient proven and adaptable options.
- ▶ In LDCs food security and economic development have to be foundation goals of any mitigation action and the “jury is out” on feasible “at scale” mitigation options.
- ▶ Technical options for significant agricultural productivity growth exist but generally constrained by institutional /policy factors (especially in Africa).
- ▶ Significant climate change adaptation likely to be needed by end of 21<sup>st</sup> Century but we start now by dealing better with climate risks and attempt to avoid locking in maladaptations.



*The challenge is large.  
We will need to pursue all  
feasible options on both supply  
and demand sides of  
carbon/energy and food.*

# Some more specific thoughts on R&D matters

- ▶ Uncertainty in the climate trajectories
- ▶ Ambiguity in what we mean by “adaptation” and how we measure it
- ▶ Agricultural productivity is not the same as food/nutritional security of food systems
- ▶ Language matters
  - ▶ Balancing clarity of intent with great brands!

# Some “quotes” that resonate ....

- ▶ *“Transformation in 21<sup>st</sup> Century - not a choice but a reality” ... Sonja Vermeulen*
- ▶ *“Success in agricultural mitigation essential - not an option” ... Clare Stirling*
- ▶ *“A new paradigm is needed - more akin to a Ginkgo tree than Noah’s Ark” ... Walter Baethgen*
- ▶ *“It’s not fit for purpose if it is not seeing women and men” ... Dorcas Robinson*
- ▶ *“CSA is not a religion for us - we are not married for life” ... Andy Jarvis*
- ▶ *“BECCS- three times size of current fossil fuel industry and require one third of current arable land”... Sonja Vermeulen*
- ▶ *“so little adoption in SSA even after all this time” ... Adrian Fitzgerald (Irish Aid)*
- ▶ *“We need seriously ambitious targets” ... Bruce Campbell*

# The challenge is real, serious, urgent and deserving of the very best collective effort ....

- ▶ CCAFS role

- ▶ CGIAR role

- ▶ Partnerships

- ▶ With other CGIAR centers

- ▶ With national governments

- ▶ With development partners, change agents

- ▶ Business

CCAFS is the CGIAR's lens on these complex challenges of agriculture, climate change and food security

CCAFS is "your" CRP - it will only be as effective as you make it.

Thankyou

