Progress in food security and the importance of Queensland expertise

Daniel Walker & Peter Horne
Drakensberg Bushman Rock Art

The Corn Harvest, Bruegel the Elder

New Holland CR10.90

Food demand (kcal/year x 10^{15})

- 1500
- 1550
- 1600
- 1650
- 1700
- 1750
- 1800
- 1850
- 1900
- 1950
- 2000
- 2050

- 0
- 2
- 4
- 6
- 8
- 10
- 12
- 14
- 16

Food demand (kcal/year x 10^{15})
Food & Nutrition Security

- 2.7 billion people live on <$2 per day, depend significantly on agriculture for livelihoods and spend most of their income on food
- 25% of children are malnourished
- 815 million people acutely or chronically undernourished in 2016, up from 777 million in 2015
- A further 2 billion people suffer from micronutrient deficiency, ‘hidden hunger’: effects can be damaging for life
- Food & water insecurity key drivers of human migration and root cause of conflict
- 2 billion people are overweight or obese
- 525 million farmers in the world; 90% smallholders; feed ½ global population
- 50% increase in urban populations by 2050: but due to population growth, overall rural populations will not drop much; rural people are poorer
- **Most farmers are women**
  – most traders and business players are men
ACIAR 10-YEAR STRATEGY AT A GLANCE

1. **Six High-Level Objectives**: food security and poverty reduction; natural resources and climate change; human nutrition and health; empowerment of women and girls; inclusive agrifood market chains; and building science capacity.

2. Three distinctive **Research Partnership Models**: bilateral country partnerships; multilateral research collaborations and co-investment with development partners; each with their own procurement pathways, governance frameworks, quality assurance and risk management.

3. More sophisticated portfolio-level **Monitoring and Evaluation**

4. **Refreshed Capacity Building** program

5. Radical overhaul of PR & comms into a new **Outreach** program
Queensland Commissioned Organisations (or with Qld base)
ACIAR supports research collaboration with 36 countries through 10 research Programs and 10 country offices.
Eleven of these country programs are substantial: PNG, Timor Leste, Indonesia, Philippines, Vietnam, Cambodia, Lao, Myanmar, Bangladesh, India, Pakistan.

Our large Pacific and E&S Africa programs are characterised by strong regional collaboration.

We are increasingly responding to rapidly changing regional and country priorities / relationships.
To manage our Country Programs we...

Establish and annually review country/regional strategies and partnerships to guide what we invest in where and why

Seek to align priorities of the partner countries and regions with Australia’s strengths in research

Fund research projects to underpin these strategies, seeking to develop and sustain longer term partnerships

…and over the next 5 years will restructure our country programs to be, in many cases, more-focused and to include a moderate portfolio of (i) longer-term projects (ii) proof of concept projects at scale and (iii) science discovery projects
Current ACIAR-Qld collaborations...

- **65 projects**
- **Value: $112 million**
- Involving 9 research agencies in the state

Highly diverse...

- Sweet-potato production and marketing (PNG)
- Management of Fusarium wilt in bananas (the Philippines)
- Seaweed production and processing (Pacific Island countries, Indonesia)
- Canarium nut industry development (PNG)
- Management and production of smallholder cattle in Indonesia and Vanuatu
Example of benefits to Queensland...

Since 1982 ACIAR has supported \textgreater 40\ Mango research projects in 11 countries ($10 million over the past ten years).

A diverse range of production and post harvest issues have been addressed overseas and in Australia.

Current research in Qld: trialling trellised mango for maximum productivity and cyclone resilience
Paula Ibell (Dept of Ag and Fisheries) with trellised mango trial at Walkamin
Common aspirations...

“To achieve more productive and sustainable agricultural systems, **for the benefit of Developing Countries and Australia**, through international agricultural research partnerships”

ACIAR wants to invest with you in the **next generation of researchers**

You will see more **longer-term commitments** from ACIAR

We have a common interest in **communicating the compelling stories** of your work more widely and effectively
IN CLOSING - WE NEED A THIRD AGRICULTURAL REVOLUTION TO FEED THE WORLD EQUITABLY AND SUSTAINABLY

High level goals for agriculture by 2030: e.g.
- doubling water, energy and nutrient productivity
- becoming a net carbon sink
- becoming a net energy producer

Reposition agriculture as integral to the food, health, energy and water systems

Re-engage urban populations with ag and food systems

Rebrand agriculture as sexy, ‘new economy’

ACHIEVING THIS WILL DEPEND ON A NEW GENERATION OF RESEARCHERS DEDICATED TO INTERNATIONAL RESEARCH COLLABORATION