Queensland research expertise

Looking back – Looking forward
An independent agency in Australia’s Foreign Affairs portfolio.

Mandate: to amplify the impact of Australia’s outstanding capabilities in agricultural science by brokering and funding agricultural research-for-development partnerships in East Asia, Pacific, South Asia and East and Southern Africa for the benefit of partner countries and Australia.
2016-17 ACIAR Budget
340 Projects
The tropical regions are the most dynamic in the global economy and growing rapidly
Indonesia today ...

16th-largest economy in the world
45 million members of the consuming class
53% of the population in cities producing 74% of GDP
55 million skilled workers in the Indonesian economy
$0.5 trillion market opportunity in consumer services, agriculture and fisheries, resources, and education

... and in 2030

7th-largest economy in the world
135 million members of the consuming class
71% of the population in cities producing 86% of GDP
113 million skilled workers needed
$1.8 trillion market opportunity in consumer services, agriculture and fisheries, resources, and education

Source: McKinsey Global Institute, 2012
Qld sustains high quality knowledge-based services for the tropics with great relevance for other countries in our region.
Current ACIAR-Qld collaborations...

65 projects
Value: $94 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
Examples of benefits to Queensland

Since 1982 ACIAR has supported >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

Common problems – diverse solutions benefitting partner countries and Queensland
Paula Ibell (Dept of Ag and Fisheries) with trellised mango trial at Walkamin
Examples of benefits to Queensland

ACIAR-funded research has revealed the importance of a complex of viruses in reducing the productivity of SWEETPOTATO in PNG and Australia.

Virus diagnostics and virus treatments have achieved enormous gains in productivity.

Virtually all commercial sweetpotato in Australia is now grown from ‘virus free’ planting material.

New technologies, varieties and management systems for tropical agriculture in Queensland.
Mike Hughes, Sandra Dennien and Eric Coleman inspect a bed of virus-free planting material at Gatton.

NARI researchers (Thecla Guaf, Myla Deros and Winnie Maso) maintain ‘mother stocks’ of clean planting material at Aiyura, PNG.
Examples of benefits to Queensland

The virulent TR4 strain of fusarium wilt has devastated the Cavendish BANANA export industry of Asian countries (Malaysia, Indonesia and now Philippines). An initial outbreak near Darwin in 1997 largely wiped out the NT industry.

Collaborative research in Asia has helped to improve strategies for ‘containing’ the disease and develop new ecologically-based ways of reducing its impact (e.g. use of ground-covers).
Growing cover crops (such as pinto peanut) under banana helps suppress the fusarium fungus that causes Panama disease. In combination with disease-tolerant ‘somaclonal variants’ this allows Cavendish-type bananas to be commercially produced, albeit with slightly lower productivity. (Davao, Philippines).

Collaborative research in the Philippines, funded by ACIAR, gives Queensland researchers (like Tony Pattison) hands-on experience of managing Fusarium wilt (Panama disease).
Examples of benefits to Queensland

Participation in ACIAR research overseas heightened ‘readiness’ of Australian researchers and farmers when a new outbreak was confirmed near Tully in March 2015

Keeping an eye on biosecurity for Queensland and tropical Australia
Simon Quigley from the University of Queensland and agricultural extension officer Joseph Sul review the Commcare surveys and successfully manage to wirelessly print a list of Jean-Freddy's cattle that were weighed and tagged.
Queensland research expertise and ACIAR

Looking back – Looking forward
Pressing global challenges.

• To develop more sustainable food systems
  – using less land, water, nutrients & energy per unit output
  – while conserving biodiversity and human livelihoods
• To decouple economic growth from carbon emissions
• To adapt to an increasingly difficult climate
• To increase water productivity
  – Decoupling the 1 litre per calorie relationship
• To increase energy productivity
  – more food energy out per unit of energy input
  – while shifting from fossil fuels to renewable energy
• To do all of this simultaneously
Top purpose of cooperation now and in 10 years time

ACIAR is responding...

A new Strategic Plan 2017-2027 will include:

1. Bilateral research collaboration remains the bedrock

2. Research portfolio is mostly sectoral, but grand challenges are cross-sectoral. ACIAR is developing new cross sectoral themes to which all the research will contribute

3. Capacity building – a wider range of approaches; increased investment, alumni network; grads

4. Evaluating impacts – develop new best practice approaches
ACIAR is responding...

5. Showcasing outcomes – expanding our efforts in communications

6. Longer-term projects – up to ten years? ACIAR seeks to co-invest more strongly in Australian research capacity
Working for a better world

more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural partnerships