

Queensland research expertise



Looking back – Looking forward



ACIAR

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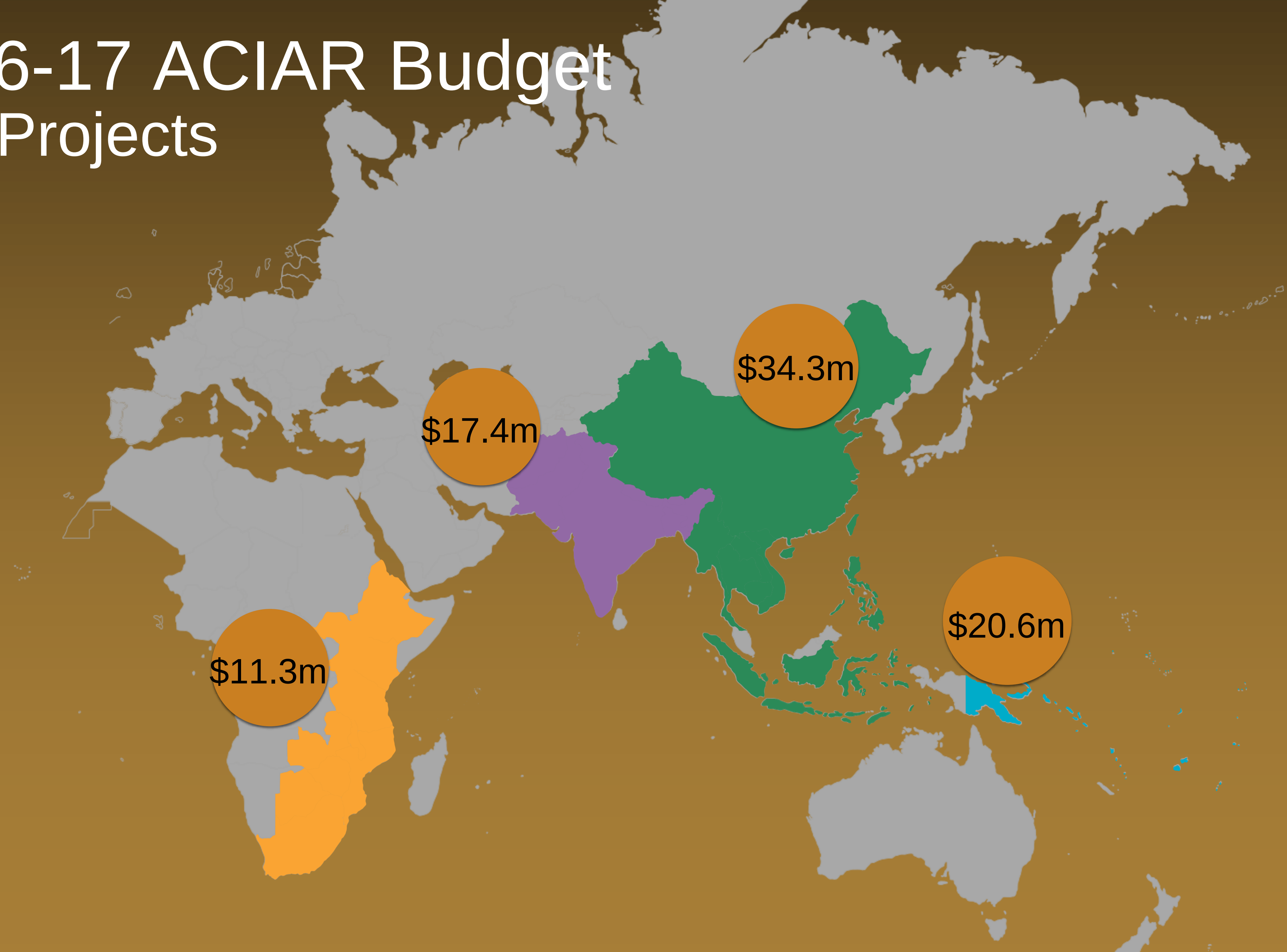
ACIAR's niche remains...

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



Queensland research expertise and ACIAR



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Looking back – Looking forward



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

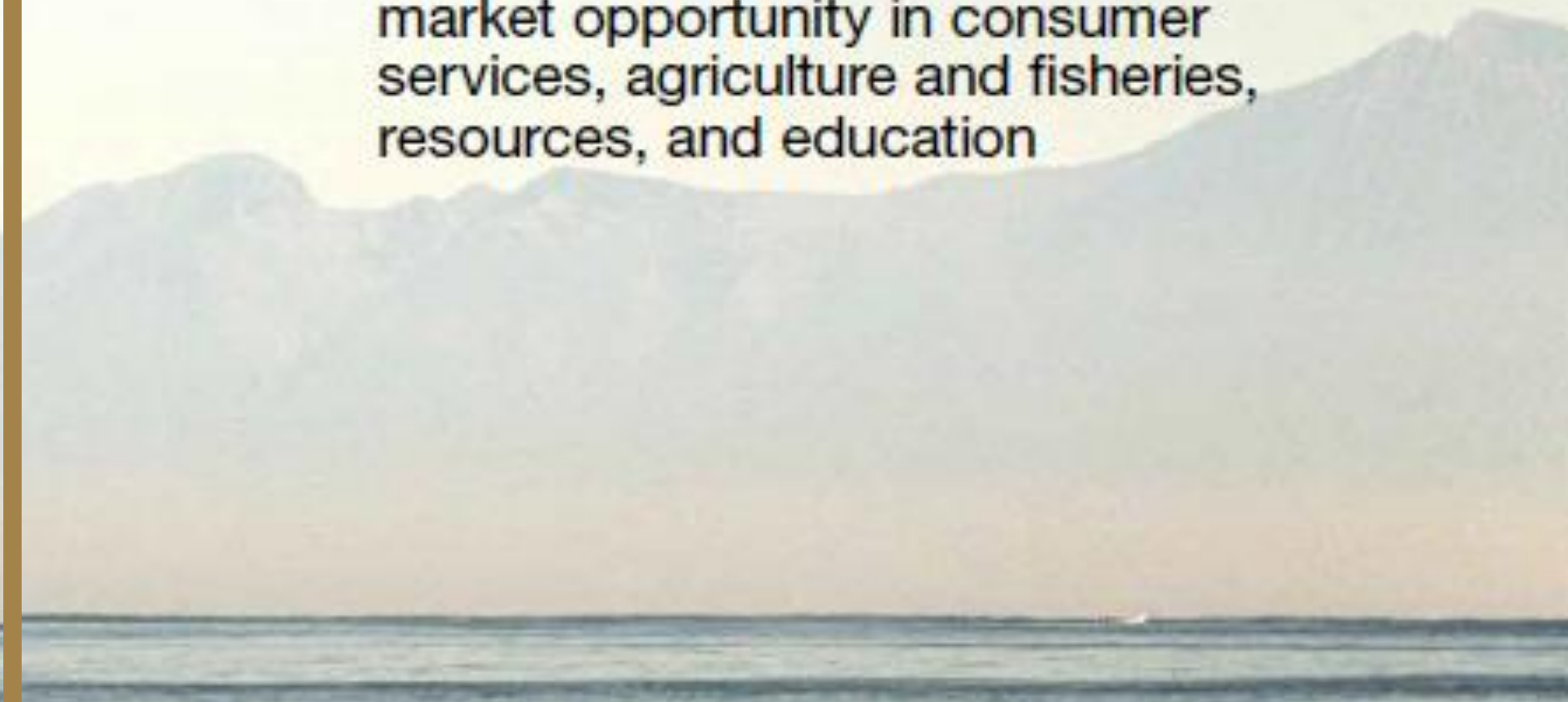
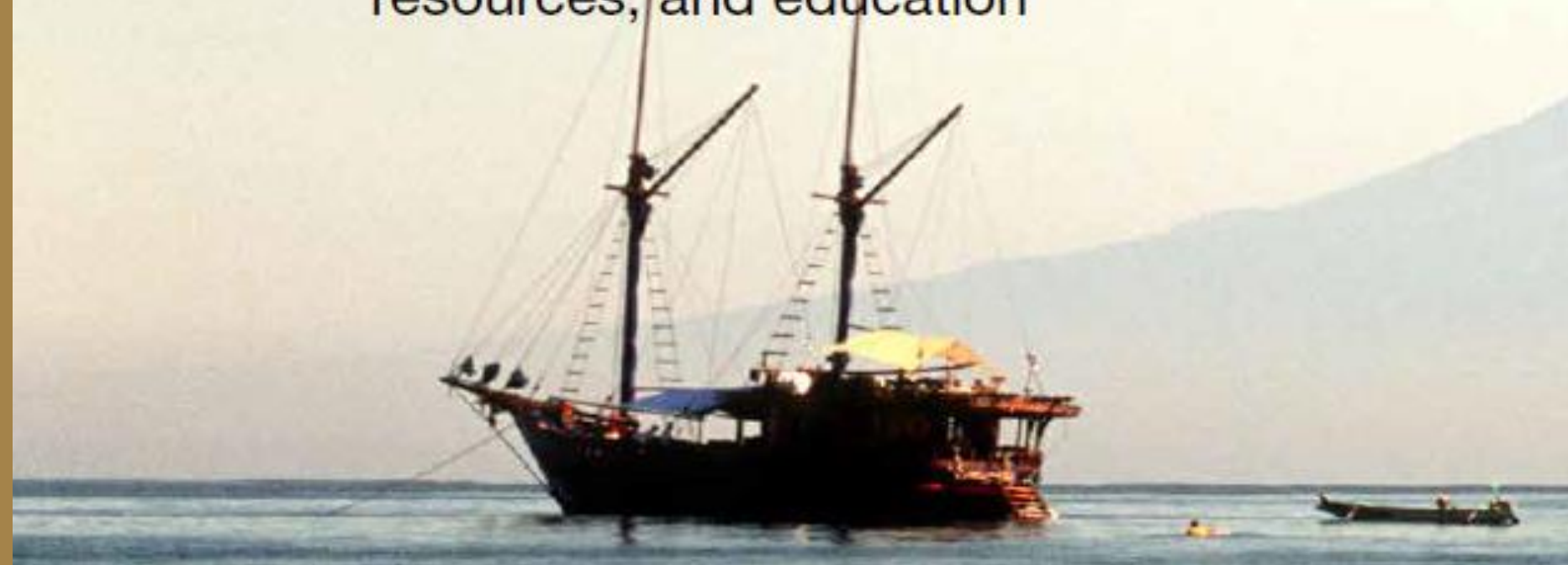
7th-largest economy in the world

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





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 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 inside

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Looking back – **Looking forward**

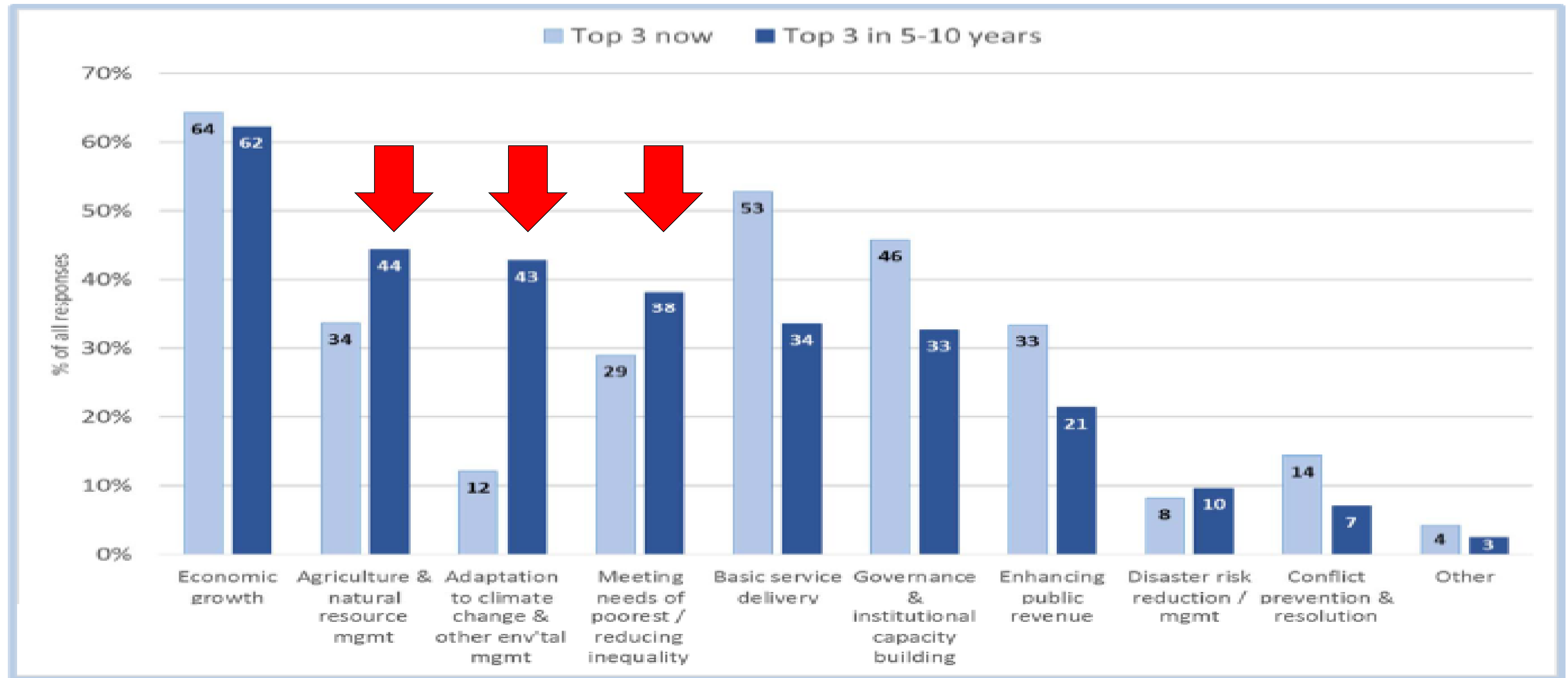


Pressing global challenges..

- 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

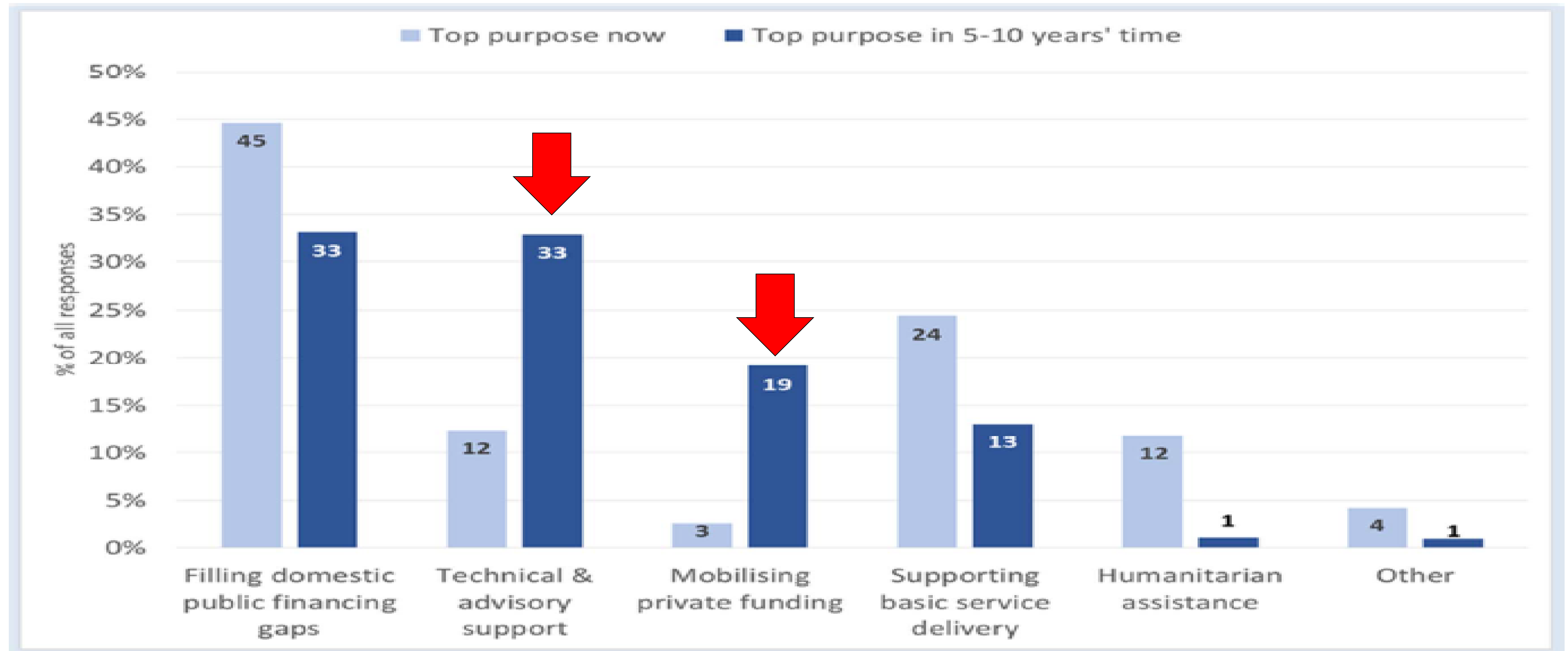


3 main development challenges now and in 5-10 years



From Davies, R. and J. Pickering (2015), "Making Development Cooperation Fit for the Future: A Survey of Partner Countries", *OECD Development Co-operation Working Papers*, No. 20, OECD Publishing.

Top purpose of cooperation now and in 10 years time



From Davies, R. and J. Pickering (2015), “Making Development Cooperation Fit for the Future: A Survey of Partner Countries”, *OECD Development Co-operation Working Papers*, No. 20, OECD Publishing.



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

