Australian Government

Australian Centre for International Agricultural Research

ACIAR

ANNUAL REPORT 2017–18

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Cover photo: Dr Anna Notarte and members of the AMSEFCO banana farmers plant banana seedlings on a trial plot of an ACIAR-supported project in the Philippines that is helping banana farmers adopt an integrated farm management systems. PHOTO: © 2017 Conor Ashleigh/ACIAR

Letter of transmittal

Australian Government
Australian Centre for
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03 October 2018

The Hon Marise Payne MP
Minister for Foreign Affairs
PO Box 6022
House of Representatives
Parliament House
Canberra ACT 2600

Dear Minister

ACIAR Annual Report 2017–18

It is my pleasure as the Chief Executive Officer to present to you the Annual Report of the Australian Centre for International Agricultural Research for the year ended 30 June 2018.

The report has been prepared in accordance with section 39 of our enabling legislation—*Australian Centre for International Agricultural Research Act 1982*, as amended.

Consistent with section 42 of the Public Governance, Performance and Accountability Act 2013 (PGPA Act), I have taken steps to ensure the annual financial statements have been prepared in accordance with relevant accounting standards and other requirements prescribed by the PGPA Rule 2014. The report includes ACIAR's audited financial statements, certified by the Australian National Audit Office, as required by section 43 of the PGPA Act.

Annual performance is reported in compliance with section 39 of the PGPA Act.

In presenting the annual report, I acknowledge the important contribution to international agricultural research made by ACIAR staff and commissioned research organisations, to help achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia.

Yours sincerely,

Professor Andrew Campbell
Chief Executive Officer

ACIAR
Research that works for developing countries and Australia
aciar.gov.au

Contents

PART 1
Overview of ACIAR

2017–18
AT A GLANCE

260
research for development projects

12
specialist leadership fellowships for senior scientists

35
countries where ACIAR-supported projects operate

5:1
economic return of each dollar invested in bilateral research projects since 1982

16
corporate and scientific publications

36,629 new followers on Facebook
993 new followers on Twitter

6000
people received 3 issues of *Partners* magazine

94
John Allwright Fellows undertaking postgraduate study in Australia

473,000
visitors to ACIAR website

About ACIAR

The Australian Centre for International Agricultural Research (ACIAR) is the Australian Government's specialist agricultural research for development agency, within the Australian aid program.

Since 1982, ACIAR has brokered and funded research partnerships in the Indo-Pacific region. ACIAR's function is prescribed in the Australian Centre for *International Agricultural Research Act 1982* and is administered by the Minister for Foreign Affairs.

Our purpose is to achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through supporting international agricultural research and training partnerships.

We work with public and private research institutions to improve the productivity and sustainability of agricultural systems and the resilience of food systems in partner countries. We identify opportunities and partnerships to undertake international agricultural research and capacity building but do not undertake research directly. The outcomes of ACIAR's efforts contribute significantly to Australia's aid program and the achievement of its goals.

The collaborative international programs and partnerships underpinning ACIAR-supported research also serve to improve the productivity and sustainability of agricultural systems in Australia. Improved technologies and practices identified and developed through ACIAR research programs often address the shared challenges of all farmers in the Indo-Pacific region, Australia included.

ACIAR's projects are designed to produce specific research outputs that translate to development outcomes such as improved food security, better nutrition, improved health and increased prosperity. Economic returns to ACIAR bilateral project investments since 1982 have been conservatively valued at 5:1 but estimates of returns on some projects are as high as 60:1. Individual projects also deliver social, environmental and capacity benefits that are not included in these economic measures.

Success in our partnerships supports Australia's national interests in many ways. Enhanced prosperity and reduced poverty in partner developing countries contributes directly to regional peace and security. Economic prosperity in partner developing countries leads to stronger economies in the region, offering new trade, investment and business opportunities for Australia. These partnerships also have brought regional and international respect for ACIAR and for Australia, and represent an integral part of the Government's economic diplomacy strategy in the Indo-Pacific region.

Australia's contribution to the international agricultural research network, most notably the CGIAR, is managed by ACIAR. Dedicated to addressing poverty, hunger and nutrition, and environmental degradation, the CGIAR is a global research leader and a key partner for ACIAR and Australia. Benefits from the CGIAR's research programs also flow to Australia.

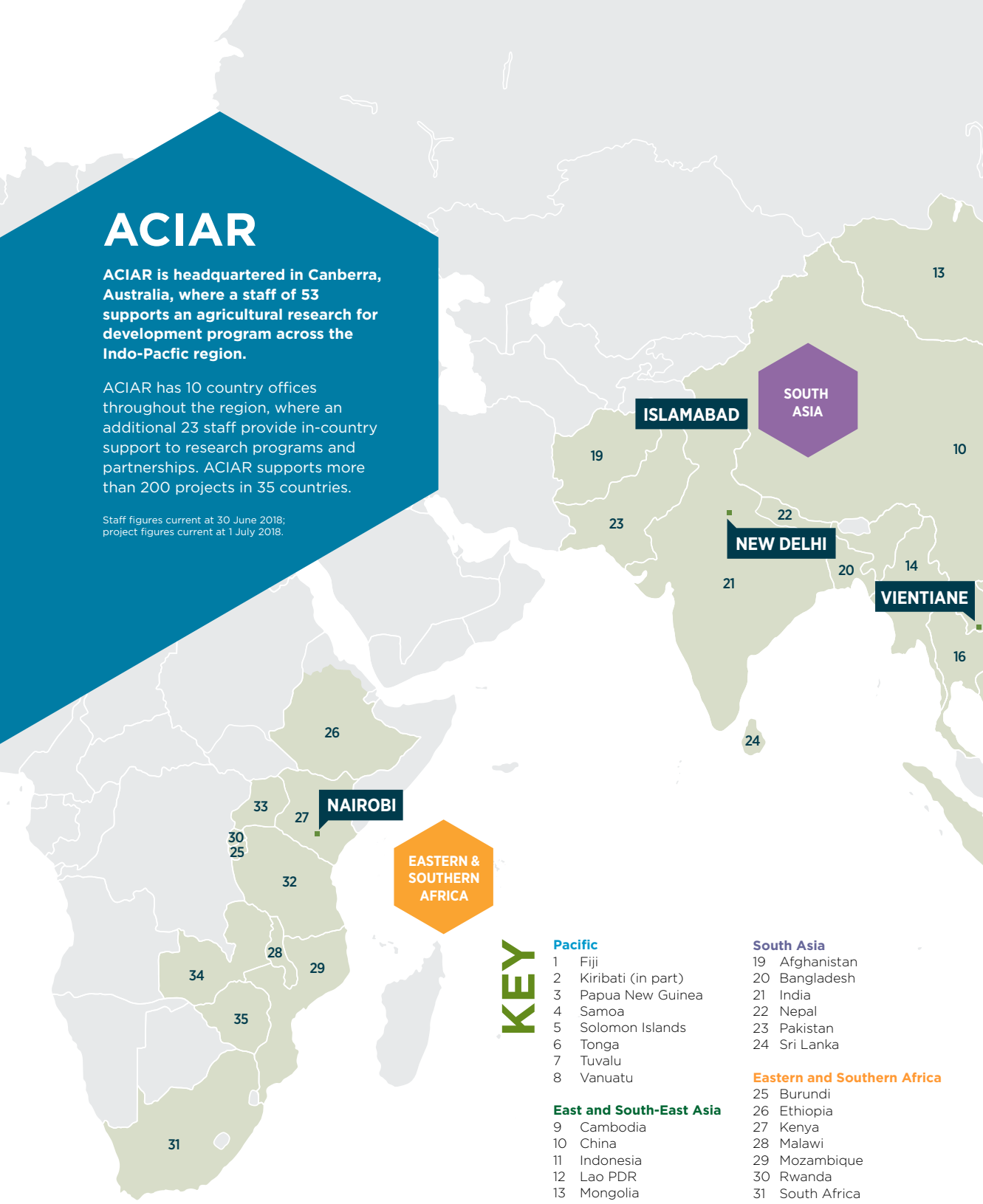
ACIAR's 10-year Strategy 2018–2027 guides our future direction consistent with our enabling legislation, Australia's aid policy and the 2030 Agenda for Sustainable Development.

ACIAR

ACIAR is headquartered in Canberra, Australia, where a staff of 53 supports an agricultural research for development program across the Indo-Pacfic region.

ACIAR has 10 country offices throughout the region, where an additional 23 staff provide in-country support to research programs and partnerships. ACIAR supports more than 200 projects in 35 countries.

Staff figures current at 30 June 2018; project figures current at 1 July 2018.



KEY

Pacific
1 Fiji
2 Kiribati (in part)
3 Papua New Guinea
4 Samoa
5 Solomon Islands
6 Tonga
7 Tuvalu
8 Vanuatu

East and South-East Asia
9 Cambodia
10 China
11 Indonesia
12 Lao PDR
13 Mongolia
14 Myanmar
15 Philippines
16 Thailand
17 Timor-Leste
18 Vietnam

South Asia
19 Afghanistan
20 Bangladesh
21 India
22 Nepal
23 Pakistan
24 Sri Lanka

Eastern and Southern Africa
25 Burundi
26 Ethiopia
27 Kenya
28 Malawi
29 Mozambique
30 Rwanda
31 South Africa
32 Tanzania
33 Uganda
34 Zambia
35 Zimbabwe

ACIAR country office

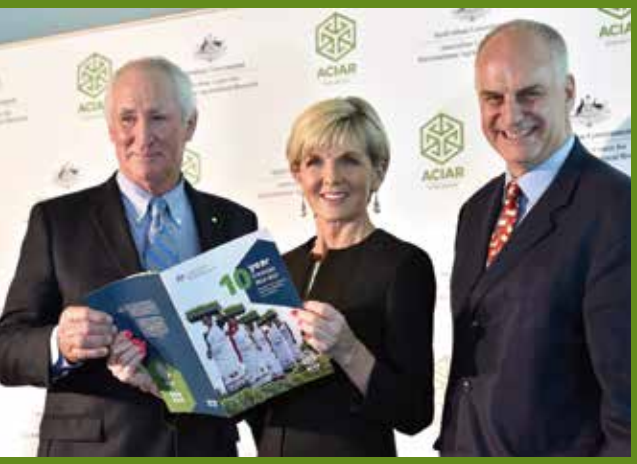
Vision

ACIAR looks to a world where poverty has been reduced and the livelihoods of many improved through more productive and sustainable agriculture emerging from collaborative international research.

Mission

To achieve more productive and sustainable agricultural systems, for the benefit of developing countries and Australia, through international agricultural research partnerships.

Development and launch of the 10-year Strategy 2018–2027



During 2017–18, ACIAR supported a research program of 260 projects that were conducted by 600 partner organisations in 36 countries. This program was managed by a network of 12 research programs managers, and supporting staff in Canberra and 10 offices throughout the Indo-Pacific region. Our staff is a small but dedicated team of 76 people.

To deliver the successes described in this annual report and to plan for future effectiveness in an environment of intersecting challenges, an integrated, forward-looking strategy is essential.

ACIAR's 10-year Strategy 2018–2027, launched in February 2018 at Parliament House in Canberra by the Hon. Julie Bishop MP, Minister for Foreign Affairs, provides a clear direction for our organisation into the future. At the same time, the strategy remains closely aligned with our enabling legislation, key objectives of the Australian Government's aid policy and the 2030 Agenda for Sustainable Development.

The development of the strategy also accommodated the priorities outlined in the Foreign Policy White Paper released during November 2017.

The strategy is built on six high-level objectives that provide the foundations of ACIAR's key functions of brokering and investing in research partnerships in developing countries, to build the knowledge and capacity to support crucial development objectives: while at the same time working towards equity and inclusiveness, to maximise the benefits of research outputs.

Effective use of funds for research for development requires a clear pathway to impact. During 2017–18 ACIAR consolidated its research portfolio to 10 programs. From July 2018, the programs will encompass:

- key agriculture sectors—crops, fisheries, forestry, horticulture and livestock
- science and disciplines supporting these sectors—agribusiness, social sciences, soil and land management, water and climate
- assessment of achievements to guide future investment—impact evaluation.

Our 10-year strategy strengthens ACIAR's already-strong business model. ACIAR is an investor, broker, facilitator and manager of strategic partnerships in agricultural research for development, and an evaluator and communicator of research findings—ACIAR is not an aid 'donor'.

Our business model involves partnerships with countries in the Indo-Pacific region to collaboratively identify, deliver and monitor research programs. Relationships with partners may be bilateral country partnerships, multilateral research collaborations or co-investment with research and development partners.

PHOTO: The ACIAR 10-year Strategy 2018–2027 was launched at Parliament House in Canberra by the Hon. Julie Bishop MP, Minister for Foreign Affairs. Pictured at the launch are, from left, Mr Don Heatley, Chair of the Commission for International Agricultural Research, the Hon. Julie Bishop MP, and Professor Andrew Campbell, CEO of ACIAR.

ACIAR'S RESEARCH STRUCTURE

RESEARCH PARTNERSHIPS

- BILATERAL COUNTRY PARTNERSHIPS
- MULTILATERAL RESEARCH COLLABORATIONS
- CO-INVESTMENT WITH DEVELOPMENT PARTNERS

RESEARCH PROGRAMS

- CROPS
- FISHERIES
- FORESTRY
- HORTICULTURE
- LIVESTOCK
- AGRIBUSINESS
- SOCIAL SCIENCES
- SOIL AND LAND MANAGMENT
- WATER AND CLIMATE
- IMPACT EVALUATION

STRATEGIC OBJECTIVES

1. FOOD SECURITY AND POVERTY REDUCTION
2. NATURAL RESOURCES AND CLIMATE CHANGE
3. HUMAN HEALTH AND NUTRITION
4. GENDER EQUITY AND WOMEN'S EMPOWERMENT
5. INCLUSIVE VALUE CHAINS
6. CAPACITY BUILDING

ENABLING LEGISLATION

Australian Centre for International Agricultural Research Act 1982

AUSTRALIAN AID POLICY

Australian Aid

2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT GOALS

Chief Executive Officer's review

As a specialist agricultural research-for-development agency, ACIAR faces many challenges that are reshaping the global agriculture and development landscape—how to grow more food, improve human nutrition and reduce poverty using less land, water and energy.

Addressing these challenges effectively requires new ways of working together. ACIAR invests in research partnerships for sustainable agriculture and food systems that help countries realise multiple 2030 Agenda for Sustainable Development Goals: ending extreme poverty, hunger and malnutrition; promoting sustainable management of natural resources; and mitigating, adapting to and building resilience to climate change.

During 2017–18, ACIAR made a significant contribution to these complex and intersecting challenges—building and strengthening our robust business model as a trusted broker and investor in research partnerships between Australia and developing countries in the Indo-Pacific region.

Launch of our 10-year Strategy

A new 10-year Strategy, launched at Parliament House in February 2018 by the Hon. Julie Bishop MP, Minister for Foreign Affairs, provides a clear direction for our organisation into the future. It is closely aligned with Australia's aid policy and the priorities outlined in the 2017 Foreign Policy White Paper.

Building on ACIAR's 36-year track record of brokering influential partnerships in agricultural research, the new strategy includes a sharpening of focus in our research portfolio and some program consolidation, as well as a substantial overhaul of our approach to outreach, capacity building and evaluation. Implementation of the strategy is buttressed by ongoing modernisation of our project management, information management and finance systems.

Importantly, the strategy reinforces ACIAR's crucial role in building a scientific platform for tackling some of the biggest issues facing our region. It sets out how ACIAR will continue to build the knowledge base that supports crucial development objectives of:

- improving food security and reducing poverty
- managing natural resources more sustainably, and mitigating and adapting to climate change
- improving human health and nutrition.

In pursuing these objectives, we will also:

- empower women and girls
- foster more inclusive agrifood and forestry market chains
- build scientific and policy capability within our region.

Reef restoration research in the Philippines has had spectacular results, with successful restocking of reefs with laboratory-raised coral larvae. The research team is pictured at Tanduyong Island. PHOTO: Peter Harrison

ACIAR highlights 2017–18

In its capacity of broker and investor of research partnerships in developing countries, ACIAR was successful in achieving its key objectives. Our investments take the form of multi-year projects and programs, so our achievements vary from the initiation of projects to meet an identified need through to clear technical, economic or social outputs from a mature project. Selected highlights from 2017–18 are presented in this review, framed within ACIAR's six strategic objectives.

Food security and poverty

Over the past eight years, ACIAR has invested significantly in the Sustainable Intensification of Maize–Legume Cropping Systems for Food Security (SIMLESA) program in eastern and southern Africa, managed by the International Maize and Wheat Improvement Center (CIMMYT). This ambitious collaboration across eight countries is improving livelihoods of tens of thousands of farmers battling the stress and impact of poor seasons. Independent evaluation of the project found that more than 235,000 small farming households had adopted conservation agriculture techniques introduced by the project.

Improved agriculture practices such as better weed control, increasing the range of maize and legume varieties available to farmers, rehabilitating soils, improving value chains and scaling out proven technologies are all improving production and having a positive impact on food security, crop diversity and resilience.

Natural resources and climate change

In the Philippines, ACIAR's reef restoration work with Southern Cross University is addressing the degradation and loss of coral reefs in northern Luzon.

The method involves raising millions of coral larvae and then assisting their settlement into damaged reef areas using underwater enclosures or tents made of fine mesh. Mid-way through its term, the project has had spectacular results with coral larvae reared in the laboratory and subsequently stocked onto reefs surviving in large numbers.

The successful restoration trials has excited reef management agencies around the world, including Australia. The Great Barrier Reef Marine Park Authority undertook similar trials at Heron Island in 2017.

Human health and nutrition

Nuts have long had huge potential to enhance nutrition of rural communities. In Papua New Guinea (PNG), the Transformative Agriculture and Enterprise Development Program (TADEP) project, co-funded with the Australian Department of Foreign Affairs and Trade (DFAT) and in partnership with the University of the Sunshine Coast, has found new marketing opportunities in Port Moresby for *Canarium* (locally known as 'galip') nuts.

In a first for PNG, this year the Galip Nut Company, a partnership between NARI and the ACIAR project, began buying, processing and selling galip nuts in a commercial market in East New Britain Province. The company is also supplying dried and packaged nuts in Port Moresby, and demand is strong.

The project found that galip nuts have excellent nutritional value, being richer in iron, magnesium, manganese, phosphorus, zinc and mono-unsaturated fatty acids than peanuts—a popular food source in PNG. Furthermore, trials of solar drying the nuts have established that small-scale processors, particularly women and youth, can add value and increase participation in the galip industry.

Gender equity and empowerment

Recognising that more than half of the world's farmers are women and that women are disproportionately affected by poverty, ACIAR launched its ACIAR Gender Equity Policy and Strategy 2017–2022 in December 2017.

Women farmers in Pakistan learning about cattle production. ACIAR's new Gender Equity Policy and Strategy 2017–2022 takes a long-term, principles-based approach to gender equity that applies to projects and programs, as well as staff management.
PHOTO: © 2017 Conor Ashleigh/ACIAR

The policy takes a long-term, principles-based approach to gender equity that applies to the commissioning and management of research, our capacity building programs and internal people management. ACIAR is working with its partner organisations to ensure that research is undertaken in a manner that advances gender equity and empowers women. The policy is described in more detail on page 15.

More inclusive value chains

ACIAR works with a range of partners and engages with the private sector to equip smallholder farmers with the appropriate economic tools to build business partnerships. In turn, this provides farmers and their families with new commercial opportunities.

During 2017–18, a suite of five small research activities applied a strategic agribusiness approach to mango research and development in the Asia–Pacific region. In addition to undertaking targeted pilot research and scoping studies, the activities are creating networks to engage and collaborate with multiple Australian and key Asia–Pacific research, government and industry partners. The activities have a broad regional base, connecting mango growers and markets across Indonesia, Pakistan, the Philippines and Vietnam.

Building scientific and policy capability

In Timor-Leste, ACIAR and the University of Queensland embarked on the second phase of a 10-year livestock strategy developed with the Timor-Leste Ministry of Agriculture and Fisheries, in which Australian and Indonesian scientists are helping with livestock research and training. The project aims to increase the income of smallholder crop–livestock farmers and market chain operators, and improve protein availability for the Timorese population, through more efficient, commercially-oriented cattle production and improved access to markets.

In a new approach to capacity building, our Fisheries Research Program partnered with the University of Tasmania and the PNG National Fisheries Authority to deliver a tailored Graduate Certificate in Research Skills to PNG fisheries researchers. Previously, the only option open to undertake this level of study was to leave the country and study internationally. In three years, 39 students have completed the course, with the most recent cohort receiving their certificates in February 2018.

We made significant progress developing our capacity building program, with a greater focus on leadership and career development. Highlights include: ACIAR's support of 94 fellows studying across 12 institutions through the John Allwright Fellowship and a further seven commencing study during the year; scholarships for citizens of seven South Pacific countries (Fiji, Kiribati, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) to complete postgraduate studies at the University of the South Pacific; and the launch of a new partnership with the University of the Sunshine Coast to expand the program of the John Dillon Fellowship.

Dr Thakur P. Tiwari (CIMMYT) and Dr Md. Shakhawat (Bangladesh Wheat Research Centre) inspecting wheat trials in Bangladesh. PHOTO: Neal Dalgliesh

Our global work

ACIAR's contributions to multilateral partnerships and co-investment with development partners allows us to leverage additional resources and pursue agreed priorities at a scale that would not be possible for ACIAR to achieve on our own. Through active working relationships, ACIAR continues to ensure that Australia more than 'pulls its weight' among the international agricultural research sector and donor communities.

ACIAR's Global Program currently supports 35 multilateral projects across the Indo-Pacific region, the most significant being CGIAR and its 15 associated International Agricultural Research Centres, which include CIMMYT. During 2017, an international effort coordinated by the CIMMYT wheat research program (WHEAT) resulted in the identification and release of a high-yielding wheat variety with resistance to wheat blast for Bangladesh. With support from the governments of Bolivia and Bangladesh, ACIAR, the Indian Council of Agricultural Research, USAID and WHEAT, scientists are screening breeding lines of wheat from South Asia, South America and CIMMYT to identify new sources of wheat blast resistance, which will be available to plant breeders worldwide.

A highlight of 2017–18 was the successful delivery of the Africa–Australia Plant Biosecurity Partnership—a capacity building program in eastern and southern Africa, in partnership with the Crawford Fund and Centre for Agriculture and Biosciences International (CABI). Improving biosecurity is key to the future of agriculture and the program has now been extended to the Pacific with the countries involved now receiving training in the areas of surveillance, diagnostics, pest risk analysis, import border controls, export inspection and trade negotiation.

Measuring impact

During 2017–18, the Impact Assessment Program conducted studies to determine the difference ACIAR's investment makes to research capabilities and economic wellbeing in partner countries and Australia. These studies were conducted on giant clam research in the Indo-Pacific region; aquaculture-based livelihoods in the Pacific islands region and tropical Australia; and aquaculture rehabilitation projects in Aceh, Indonesia.

Strengthening our outreach

Over the past year, ACIAR bolstered its outreach functions to better support and promote the value of our work. This included developing capacity in our country offices to better communicate knowledge and information gained through research funded by ACIAR in the countries in which we operate, in local languages as appropriate.

To encourage more people to access and understand our work with partners, we redeveloped our website to include more dynamic and engaging content for our audiences. We also produced 16 publications based on research outcomes and corporate activity and developed two media partnerships with the ABC and SBS to communicate to Australian audiences the value and impact of international agricultural research.

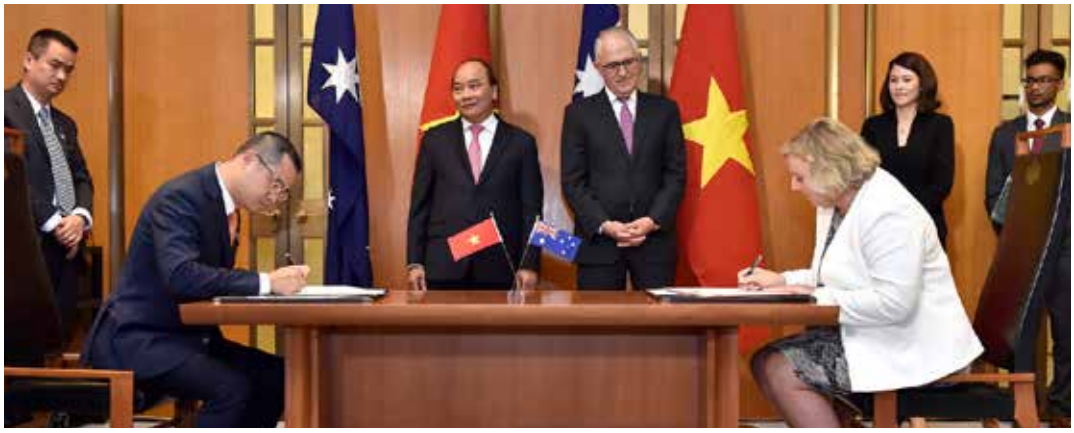
In August 2017, The Crawford Fund held its very successful annual parliamentary conference supported by ACIAR, highlighting the digital revolution of agriculture.

In April 2018, we hosted a major showcase event in Hanoi highlighting 25 years of ACIAR projects in Vietnam, attended by the Hon. David Littleproud MP, Minister for Agriculture and Water Resources.

Future collaborations

ACIAR is recognised for its model of working closely with our partner countries to jointly identify priorities, implement research and development projects on the ground and build much-needed capabilities in science and policy. Partnerships with countries in our region are at the heart of ACIAR's successful business model. For example, ACIAR is playing a key role in building on Australia's strong bilateral relationship with Vietnam through the Strategic Partnership between Australia and Vietnam, which was signed by the prime ministers of Australia and Vietnam during March 2018. This marked the 45th anniversary of diplomatic relations between our two countries.

Over the coming year we intend to develop new, long-term 'compacts' with Cambodia, Myanmar, Pakistan, Papua New Guinea and countries in eastern and southern Africa.



Signing ceremony with HE Mr Nguyen Xuan Phuc, Prime Minister of the Socialist Republic of Vietnam, and the Hon. Malcolm Turnbull MP, Prime Minister of Australia, at Parliament House, Canberra, 15 March 2018. Representing ACIAR at the ceremony is Ms Eleanor Dean, General Manager, Outreach and Capacity Building (seated right). PHOTO: Penny Bradfield AUSPIC/DPS

In line with our 10-year Strategy, ACIAR will also explore and develop co-investment partnerships, particularly around issues where our research is ready to be implemented at scale. We envisage this area of our portfolio expanding into the future, complementing our traditional bilateral partnerships, and our long-term commitment to multilateral international research partnerships, such as CGIAR.

Being a trusted science partner across our region, helping neighbouring countries to tackle some of their most pressing problems using Australian know-how, is a very tangible, practical demonstration of our commitment to regional security, prosperity and sustainability. In doing so, we continue to learn and develop new capabilities that help our own industries and in the long term we create better market opportunities for Australian farmers.

In closing, I would like to thank and acknowledge the great work of my ACIAR colleagues, in Australia and our 10 country offices. It is a privilege to work with such talented and committed professionals who represent Australia with distinction.

Thanks also to Don Heatley and colleagues on the Commission for International Agricultural Research and to Kym Anderson and members of the Policy Advisory Council, for their wise counsel and strategic guidance.

Finally, thank you to our many collaborators among Australian and international research institutions, to our many hundreds of partners in more than 30 partner countries, and to the thousands of smallholder farmers working with ACIAR-funded projects to develop and demonstrate practical solutions to some of the most pressing challenges facing humanity.

Professor Andrew Campbell
Chief Executive Officer

ACIAR CEO, Andrew Campbell, being interviewed at the showcase event celebrating 25 years of ACIAR projects in Vietnam, April 2018.

Development of ACIAR's Gender Equity Policy and Strategy 2017–2022

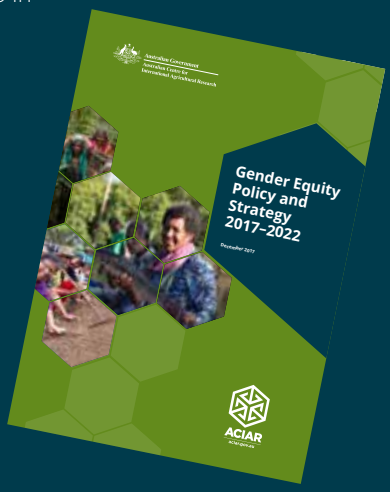
Researcher Tamsi Gervacio (left) of University of Southeastern Philippines, testing soil samples for panama disease with two postgraduate students. Tamsi will complete her PhD studies in Australia as a John Allwright Fellow. PHOTO: © 2017 Conor Ashleigh/ACIAR

In parallel with and complementing the development of our 10-year Strategy, and recognising the inequity faced by women and girls globally and the priority of gender within Australian aid policy, ACIAR developed a new gender equity policy and strategy during 2017–18.

The development of the strategy was led by Dr Jayne Curnow, ACIAR Research Program Manager, Social Sciences and Chair of the ACIAR Gender Committee. The strategy was informed by consultancies undertaken by Dr Annemarie Nobelius and Professor Sharon Bell, and a workshop of gender research practitioners. From the outset, the policy and strategy was framed around both internal (ACIAR as an organisation) and external (ACIAR's funded research programs) objectives. It takes a long-term, principles-based approach to gender equity that applies to the commissioning and management of research, as well as our capacity building programs and internal people management.

As clear demonstration of our commitment to gender equity, gender balance at all levels within ACIAR improved substantially during 2017–18, as outlined in *Management of Human Resources*, in Part 4 of this report. The proportion of women in senior roles increased from 11% in 2016 to 38% in 2018.

ACIAR's Gender Equity Policy and Strategy 2017–2022 was endorsed by the Commission for International Research in December 2017 and approved by the ACIAR Executive in February 2018.



Financial overview

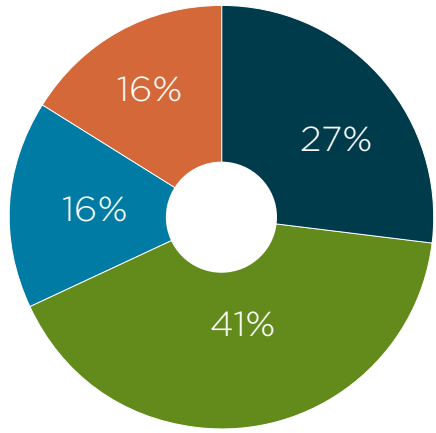
ACIAR's operations are split between departmental and administered activities.

Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by ACIAR in its own right (costs of running the business).

Administered activities involve the management or overseeing by ACIAR, on behalf of the Australian Government, of items controlled or incurred by the government (program delivery).

The proportion of research expenditure in each of ACIAR's regions of operation is shown in the pie chart. ACIAR's administered expenditure over the past three years is shown in the table on the next page.

Proportion of research expenditure by region in 2017–18



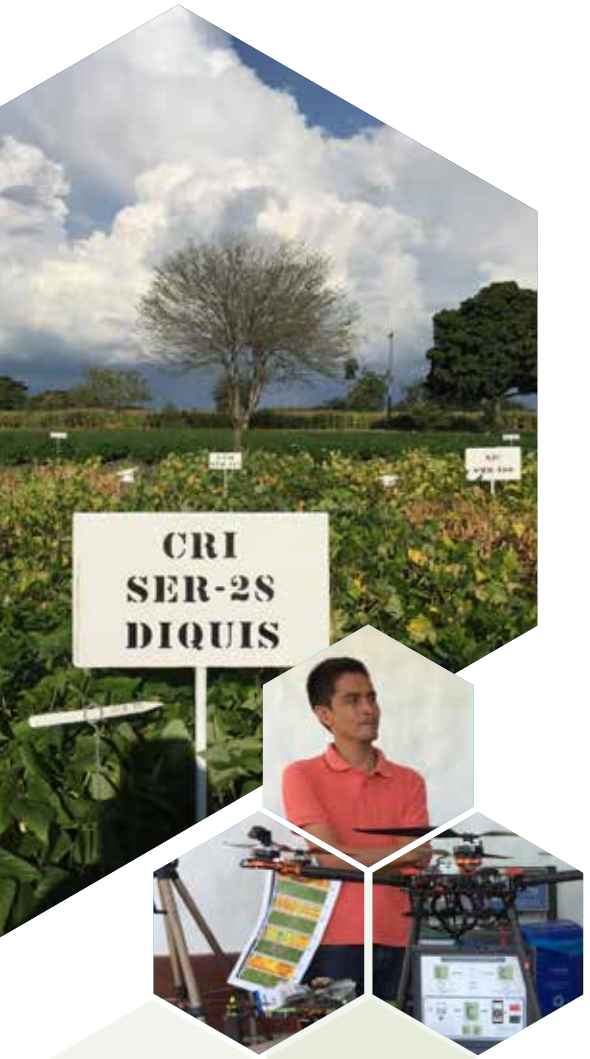
ACIAR Research Program Manager, Richard Markham, viewing progress on controlling disease in banana plantations in the Philippines.

Administered expenditure

	2017–18 AOP budget (A$)	2017–18 actual (A$)	2016–17 actual (A$)	2015–16 actual (A$)
Pacific	24,500,000	19,830,000	21,514,066	16,848,971
Papua New Guinea	14,230,000	10,500,000	13,074,941	8,737,642
Pacific island countries	10,270,000	9,330,000	8,439,125	8,111,329
East & South-East Asia	34,320,000	30,250,000	31,010,857	30,456,731
Cambodia	3,130,000	2,730,000	2,858,176	2,296,832
China	760,000	700,000	685,844	834,194
Indonesia	10,420,000	7,780,000	6,371,288	5,777,556
Lao PDR	4,680,000	4,670,000	5,257,492	5,091,675
Mongolia	0	200,000	199,073	195,420
Myanmar	4,680,000	4,200,000	4,155,367	3,621,284
Philippines	3,990,000	3,660,000	4,860,647	4,880,502
Thailand	40,000	0	173,111	260,652
Timor-Leste	1,190,000	1,190,000	1,523,684	3,595,970
Vietnam	5,430,000	5,120,000	4,926,175	3,902,646
South Asia	15,070,000	11,710,000	13,545,229	9,744,992
Afghanistan	1,230,000	480,000	3,125,196	3,229,596
Bangladesh	2,980,000	2,590,000	2,117,308	1,176,557
Bhutan	0	0	61,718	205,861
India	3,240,000	3,150,000	3,197,360	2,918,395
Nepal	1,370,000	1,310,000	1,465,173	1,155,980
Pakistan	6,250,000	4,180,000	3,558,474	1,058,603
Sri Lanka	0	0	20,000	0
Eastern & Southern Africa	10,720,000	11,810,000	12,175,417	11,326,865
Middle East & North Africa	0	0	0	-65,000
Total research projects	84,610,000	73,600,000	78,245,569	68,312,559
Research projects	84,610,000	73,600,000	78,245,569	68,312,559
Multilateral program	17,590,000	20,710,000	19,649,306	19,812,467
Capacity building	8,180,000	8,300,000	7,545,969	8,081,649
Outreach	1,500,000	1,320,000	1,065,370	631,879
Impact assessment	530,000	780,000	400,371	392,006
Program support	5,140,000	7,781,000	4,378,037	2,818,955
TOTAL	117,550,000	112,491,000	111,284,622	100,049,515

PART 2
The year in review

GLOBAL PROGRAM



Multilateral funding partnerships with 20 international agricultural research centres

Co-investment partnerships with DFAT, international development centres, international donors and private sector

ACIAR's Global Program builds and manages our multilateral partnerships with international organisations, institutes and associations working in agricultural research. It implements one of ACIAR's mandated roles of funding and supporting the International Agricultural Research Centres. These special partnerships have grown over time, with a budget of A$20.7 million during 2017–18.

The Global Program also manages co-funded alliances across multiple countries in the two ACIAR regions of Eastern and Southern Africa and the Pacific, as well as programs jointly funded with the Australian Government Department of Foreign Affairs and Trade (DFAT).

ACIAR's strategy is to be both a valued donor and a strong research partner in international agricultural research. Through active relationships with the International Agricultural Research Centres, and the provision of reliable funding, strategic research and governance expertise, ACIAR ensures that Australia is held in high esteem by the international agricultural research sector and donor communities.

Highlights

- A collaborative program is in place to revive global coconut science, and rescue declining coconut production, which is threatening the livelihoods of millions of smallholders.
- A regional network of change agents is developing the skills and capacity of plant biosecurity managers and decision-makers in 10 countries in Eastern and Southern Africa.
- ACIAR support towards the CGIAR's Climate Change, Agriculture and Food Security program is helping villages across Asia and Africa to be more climate smart, by introducing climate-smart agriculture and addressing various climate and agriculture challenges.
- Best-practice lessons learned from an ACIAR co-investment in Africa were captured in a new book on demand-led plant breeding, believed to be the first of its kind.
- ACIAR and Canada's International Development Research Centre (IDRC) successfully developed a A$20-million second phase of the *Cultivate Africa's Future* program, and rolled over four promising phase 1 research projects.
- ACIAR funding is helping to build capacity on plant biosecurity and improve trade in the Pacific region.

CGIAR Governance System Council meeting in Berlin, with World Bank chair (left) and key donors from Canada, Australia, Netherlands, GFAR and Bill and Melinda Gates Foundation, including General Manager Global Program, ACIAR, Mellissa Wood (third from left), June 2018.

Multilateral partnerships

CGIAR

The largest component of support provided by the Global Program goes to CGIAR, a system comprising 15 research centres that work together and in close collaboration with more than 3000 partner organisations. These include national and regional research institutes, global policy bodies, civil society organisations, academic institutions and the private sector.

The 15 research centres of the CGIAR system

1. Africa Rice Center — AfricaRice
2. Bioversity International — Bioversity
3. Center for International Forestry Research — CIFOR
4. International Center for Agricultural Research in the Dry Areas — ICARDA
5. International Center for Tropical Agriculture — CIAT
6. International Crops Research Institute for the Semi-Arid Tropics — ICRISAT
7. International Food Policy Research Institute — IFPRI
8. International Institute of Tropical Agriculture — IITA
9. International Livestock Research Institute — ILRI
10. International Maize and Wheat Improvement Center — CIMMYT
11. International Potato Center — CIP
12. International Rice Research Institute — IRRI
13. International Water Management Institute — IWMI
14. World Agroforestry Centre — ICRAF
15. WorldFish

CGIAR is the largest network of agricultural research organisations in the world, with 11,000 staff working in more than 70 countries that provide a strong return on the annual US$900 million investment.

Over its lifetime, the return on investment for every US$1 provided to CGIAR is evaluated at US$17. Benefits of CGIAR wheat research, for example, range from US$2.2 billion to US$3.1 billion per year—up to a 100-fold return on investment.

CGIAR research is guided by its Strategy and Results Framework, which is dedicated to reducing rural poverty, increasing food and nutrition security for human health, and improving natural resource systems and ecosystem services.

It achieves this by harnessing knowledge, tools and policies to address the complex challenge of ensuring that the world consumes the right amount and types of food without an unsustainable cost to natural resources, the environment and human health.

ACIAR has provided funding and been a regular funder and research partner to the CGIAR system since 1982. Australian agricultural industries have been a beneficiary of this research, with research outputs helping to keep Australian farmers competitive in world markets, by increasing yields and/or reducing costs.

For example, CGIAR germplasm has been incorporated into, and greatly improved, the Australian sorghum breeding system. Similarly, chickpea improvement in Australia has been heavily dependent on germplasm from the CGIAR in India and Syria. Exchange of livestock germplasm has resulted in improvements in the productivity of Australia's livestock sector. In the areas of biosecurity and biodiversity, the CGIAR has also made contributions to Australia.

The CGIAR research system comprises a research portfolio for 2017–2022, which is structured around two linked clusters of challenge-led research.

The first cluster is innovation and comprises eight Agri-Food Systems CGIAR Research Programs (also referred to as CRPs) that work to advance productivity, sustainability, nutrition and resilience outcomes at scale. They are the:

- CGIAR Research Program on Fish
- CGIAR Research Program on Forests, Trees and Agroforestry
- CGIAR Research Program on Grain Legumes and Dryland Cereals
- CGIAR Research Program on Wheat
- CGIAR Research Program on Livestock
- CGIAR Research Program on Maize
- CGIAR Research Program on Rice
- CGIAR Research Program on Roots, Tubers and Bananas.

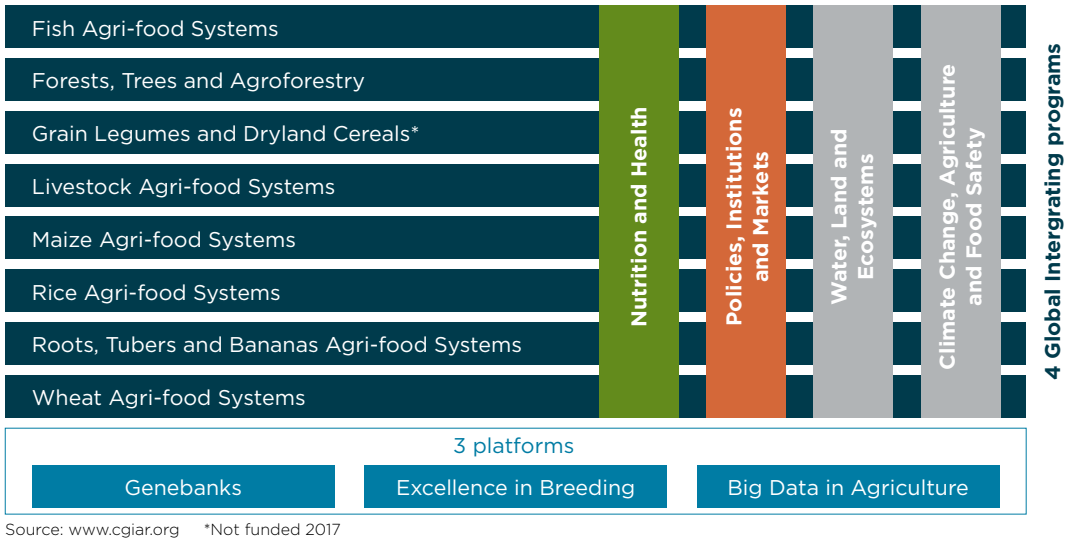
Complementing these are four cross-cutting global integrating programs framed to work closely with the agri-food systems programs within relevant agro-ecological systems. They are the:

- CGIAR Research Program on Agriculture for Nutrition and Health
- CGIAR Research Program on Climate Change, Agriculture and Food Safety
- CGIAR Research Program on Policies, Institutions and Markets
- CGIAR Research Program on Water, Land and Ecosystems.

Three research support platforms underpin the whole research system. They are the:

- CGIAR Platform for Big Data in Agriculture
- CGIAR Excellence in Breeding Platform
- CGIAR Genebank Platform.

Portfolio—second generation CGIAR research programs



Source: www.cgiar.org *Not funded 2017

ACIAR provides both unrestricted system-level funding and restricted project funding to the CGIAR, and supports each of these agri-food systems programs, global integrating programs and platforms.

In 2017–18, ACIAR contributed A$18.3 million in unrestricted funding to the CGIAR research system, comprising A$5.5 million for system-level allocation and A$12.8 million to each CGIAR Research Programs (see table on the next page).

Various factors influence Australian funding to CGIAR, including:

- alignment with the Australian aid program's geographic and thematic priorities and budgets
- Australian agricultural priorities
- opportunities to leverage previous work
- scientific quality
- performance levels
- value for money.

The unrestricted funding allocations are reviewed annually, and have been consistent over the past two years.

As a significant donor to the CGIAR, Australia has high-level representation on the CGIAR governance bodies, including the System Council and its Strategic Impact, Monitoring and Evaluation Standing Committee. Australia is also one of two System Council active observers on the System Management Board.

The results and impacts from such a large research system have transformed the lives of hundreds of millions of people. Some highlights from 2017–18 are included in the table. In 2017–18, ACIAR also provided restricted project funding to a range of projects with CGIAR centres. These contributions are outlined in more detail in the country chapters.

The CGIAR presence in countries such as Afghanistan and Myanmar has overcome the hurdles of inaccessibility, and provided ACIAR with a way to commission research that will reach poor communities in those countries. Large multicountry projects are also administered by CGIAR centres across countries in eastern and southern Africa and across the Eastern Gangetic Plains of South Asia.

Achievement

In partnership with national systems and farmer organisations, the CGIAR's Climate Change, Agriculture and Food Security program is implementing climate-smart village programs in South Asia, South-East Asia, eastern and western Africa and Latin America.

The programs integrate climate-smart agriculture interventions into village development plans to address climate and agriculture challenges. The interventions range from water-smart practices, weather-smart activities, carbon and nutrient-smart activities, smart seeds and breeds, and institutional and market-smart activities.

Following adoption of these interventions, farmers in India have saved 30% of their normal water use during seasons of high temperature and rainfall scarcity.

Further technologies have seen farmers apply fertiliser efficiently to save costs and reduce greenhouse gas emissions from their fields, while agroforestry practices have enriched soils and retained moisture.

A Climate-Smart Agricultural Prioritisation toolkit was developed to prioritise climate-smart interventions, and has been applied in the most vulnerable states of India.

ACIAR funding to CGIAR Research Programs 2017–18

CGIAR Research Program (CRP)	A$ million	Impacts
CRP Fish	1.3	Improved tilapia strains take off in 16 countries making significant contributions to food supply and livelihoods.
CRP Forests, Trees and Agroforestry	1.3	Access to germplasm has improved cacao varieties for industry across Africa, Asia and Latin America and established diversity conservation and use strategies, guidelines to reduce risks to cacao production and programs for marketing.
CRP Grain Legumes and Dryland Cereals	1.0	With a focus on variety and hybrid development to intensify cropping systems, elite chickpea lines disseminated to national breeding systems in Asia and Africa have strengthened breeding pathways.
CRP Wheat	0.9	Identification and release of a high-yielding disease-resistant wheat variety.
CRP Livestock	1.3	Index-based livestock insurance protects thousands of Kenyan pastoralist households of their assets thereby improving their food security.
CRP Maize	0.4	Aerial phenotyping technologies provide high-throughput data and spatial resolution for effective application in maize breeding.
CRP Rice	0.4	Adoption of improved rice varieties provided food security to 7.2 million in Sub-Saharan African countries and reduced poverty of 8 million people. Development of C4 rice to provide more efficient photosynthesis that would increase yield up to 50% more than current rice varieties, double water-use efficiency, and increase nitrogen-use efficiency by 30%.
CRP Roots, Tubers and Bananas	1.5	Adoption of new cassava varieties in Nigeria led to 82% yield increase thereby reducing poverty of 3.1 million households.
CRP Agriculture for Improved Nutrition and Health	1.3	Biofortified foods available from new high-yielding and more nutritious varieties in crops such as maize, cassava, beans, pearl millet, rice and orange sweet potato—which are targeted to reach 50 million consumers by 2018.
CRP Climate Change, Agricultural and Food Security	1.5	Newly developed agricultural machinery provides cost-effective solution to reduce crop-residue clearing, reduce air pollution, and scale out climate-smart agriculture in India.
CRP Policies, Institutions and Markets	0.4	Agricultural incentives consortium improves global data and provides stakeholders access to key indicators on agricultural policies.
CRP Water, Land and Ecosystems	1.5	Following research findings and advice, the effective utilisation of septic waste is supported under Sri Lanka's new sanitation policy.

Other international agricultural research centres

ACIAR also provides unrestricted funding to five non-CGIAR International Agricultural Research Centres. Governance participation ensure ACIAR is kept abreast of the health of these centres and their effective use of the funds. In 2017–18, ACIAR began representing Australia in the Global Research Alliance on Agricultural Greenhouse Gases.

Asia–Pacific Association of Agricultural Research Institutions (APAARI)

APAARI promotes and strengthens agriculture and agri-food research and innovation systems to foster agricultural development in the Asia–Pacific region.

With ACIAR support, APAARI recently established a knowledge management program, which coordinates and runs workshops on knowledge management. ACIAR participates in the APAARI executive meetings, general assembly and the Asia–Pacific Consortium on Agricultural Biotechnology and Bioresources Steering Committee.

In addition, the ACIAR-funded project to monitor agricultural research investments, capacity and impact in the Asia–Pacific region has established a coordination unit for the region to strengthen APAARI's regional mandate.

Regional agricultural policy priorities to inform the project's agenda have been identified, and long-term collaborative alliances have been established in the 10 project countries.

Achievement

Agricultural research stakeholders need reliable and up-to-date quantitative data. In South-East Asia and the Pacific, there are large knowledge gaps on the inputs, performance, and outcomes of agricultural research systems.

ACIAR is funding efforts to rectify these gaps in partnership with CGIAR's Agricultural Science and Technology Indicators—the leading program globally that compiles, analyses, and publishes data on agricultural research systems in developing countries.

The program is led by the CGIAR Centre IFPRI, in collaboration with APAARI, who will coordinate the ongoing collection and updating of datasets from the two regions (the most recent complete set of data for South-East Asia is from 2003).

The project, which began in 2017–18, is building stakeholder engagement and ownership, critical in ensuring that countries accept the long-term responsibility for updating datasets, preparing national syntheses and analyses, and disseminating the results.

This solid foundation will ensure the right agricultural science and technology capacity is available to meet future industry needs.

ACIAR project GP/2016/093

Australia Africa Universities Network (AAUN)

The AAUN focuses on research, education and economic development through research partnerships between African and Australian universities. In 2017–18, ACIAR and AAUN entered into a partnership arrangement to support strategic research partnerships towards sustainable solutions to the challenges jointly faced by Australia and Africa. This is exemplified by the bringing together of Australian and African experts with diverse background to develop research partnerships for sustainable development.

Centre for Agriculture and Biosciences International (CABI)

CABI is an inter-governmental, not-for-profit organisation, established by a United Nations treaty, of which Australia is a member country. It has a network of offices throughout Europe, the United States, Africa, South America and Asia.

CABI addresses issues of global concern, such as food security, through science, information and communication. Australia's investments in CABI have contributed to improved agricultural outcomes for developing countries, and delivered benefits back to Australian agriculture. In 2017–18, ACIAR supported the continued growth of CABI's OECD and Bond award winning program—Plantwise—as well as other CABI initiatives.

This year's impact assessment of Plantwise in Kenya showed that the program improved the national plant health system with progressive institutional coordination. The knowledge bank established helped identify emerging plant health problems—including the fall army worm—and develop best-practice management strategies.

The program promotes safer practices to improve crop productivity and household incomes, and aims to increase food security and transform rural livelihoods. ACIAR will also fund and partner with CABI through specific ACIAR research projects.

Pacific Community (SPC)

The SPC is the principal scientific and technical organisations in the Pacific region, working to support development since 1947. It is an international development organisation, owned and governed by its 26 country and territory neighbours.

SPC works in seven key areas that support development in the Pacific region, including climate change, disasters, non-communicable diseases, gender equality, youth employment, food and water security and biosecurity for trade.

In 2017–18, ACIAR entered into a formal strategic partnership arrangement with SPC to deliver both strategic and technical services in agriculture (Land Resources Division) and fisheries (Fisheries, Aquaculture and Marine Ecosystems Division) in the Pacific island countries and territories.

ACIAR's support to SPC helped countries in the region by building capacity, influencing policy and legislation, contributing to scientific data analysis and providing technical advice. These engagements contributed to sustainable agricultural practices and better disaster preparedness.

World Vegetable Center (WorldVeg)

The World Vegetable Centre is an international not-for-profit research and development institute, committed to alleviating poverty and malnutrition in the developing world through higher production and consumption of vegetables.

It disseminates improved varieties of vegetable crops, and promotes better production methods to:

- help farmers in developing and developed countries alike
- increase vegetable harvests
- raise incomes
- create jobs
- provide healthier, more nutritious diets.

In addition to receiving unrestricted funding from ACIAR, WorldVeg leads several projects with ACIAR. An example is legume research (mung bean), which led to the mechanisation of production, benefiting women farmers, and resulted in new varieties for the mung bean industry across tropical Queensland and northern Australia.

WorldVeg also holds breeds of tomato with genetic resistance to tomato yellow leaf curl virus, which poses an ongoing threat to the Australian tomato industry.

ACIAR also engaged and maintained relationships with other organisations and associations during the year, including the:

- African Union
- Association of Southeast Asian Nations (ASEAN)
- Food and Agriculture Organization of the United Nations (FAO)
- Forum for Agricultural Research in Africa (FARA)
- Global Forum on Agricultural Research (GFAR)
- Group of 20 (G20) Meeting of the Agricultural Chief Scientists (MACS)
- The World Bank.

Co-investment partnerships

ACIAR's 10-year Strategy highlights bilateral, multilateral and co-investment research partnership models. It also outlines its plan to reallocate resources to create more capacity for co-investment with research funders and development partners such as DFAT, Canada's International Development Research Centre, Syngenta Foundation for Sustainable Agriculture and the private sector.

Co-investment partnerships signify strong trust, and enable each partner to leverage complementary research strengths, build a critical mass of resources and invest in more ambitious research than either could achieve through working alone. Currently, ACIAR co-investment alliances are leveraging an additional 95% on top of ACIAR funds.

Department of Foreign Affairs and Trade

ACIAR remains committed to maintaining the important relationship with our key development partner, DFAT. As a development donor, DFAT programs provide a critical pathway to scale out ACIAR research outputs and innovations.

To this end, ACIAR co-invests in and manages 16 DFAT co-funded agricultural research programs, with a current value of A$122 million. These partnerships include both large and small projects. For example, ACIAR has a significant co-funded project portfolio with DFAT that addresses sustainable agricultural intensification in South Asia. This is part of the Australian Government's Sustainable Development Investment Portfolio (SDIP) coordinated by DFAT.

The first phase aimed to improve integrated management of water, energy and food in a subregion of South Asia, defined by three major river basins covering north-east Pakistan, northern India, Bangladesh, Nepal and Bhutan.

The second phase of the initiative, SDIP2, will build on results from the first phase. It will focus on sustainable food systems as a way of integrating different sectors at various scales, and ensuring gender-inclusive planning processes and outcomes. This phase aims to promote resilient and inclusive farming systems supported by robust institutional arrangements, policies and strategic regional planning.

Achievement

Grown in more than 90 tropical countries, on more than 12 million hectares, coconut is important to millions of smallholder farmers.

But the future of coconut production and livelihoods is threatened by senile plantings, which are facing further decline from key pests and diseases, climate change and poor genetic resources conservation and management.

ACIAR and DFAT are collaborating on a program of global coconut reinvigoration, which focuses on reviving the Global Coconut Genetic Resources Network (COGENT), and finalising a global coconut strategy to address these major challenges.

New hosting arrangements are being established for COGENT, including moving from the CGIAR centre Bioversity International to the Asia–Pacific Coconut Community (new global name forthcoming), and transferring the international legal commitments under the International Treaty of Plant Genetic Resources for Food and Agriculture.

ACIAR project GP/2017/023

Cultivate Africa's Future (CultiAF)

Cultivate Africa's Future's successful co-investment partnership with the Canadian International Development Research Centre (IDRC) continued in 2017–18 with a second phase investment of CA$20 million and a five-year competitive call for projects initiated. This phase sought innovative research in the order of CA$1–CA$3 million with a focus on:

- improved productivity and incomes for farmers and communities
- decreased postharvest losses
- improved gender equity
- nutrition and human health
- climate resilient agriculture and sustainable water management.

The first phase of CultiAF completed its eight innovative research projects across eastern and southern Africa. It was done by African scientists and the private sector in areas critical to transforming African agriculture, including postharvest management, resilient farming system, gender equality and business opportunities.

A rollover round in 2017–18 for CultiAF1 projects saw four projects selected to continue for a second funding round:

- Scale-up supply of precooked beans for food and nutrition security by leveraging on public–private partnerships in Kenya and Uganda
- Business models for scaling improved fish processing technologies in Malawi
- INSFEED2: Insect feed for poultry, fish and pig production in Sub-Saharan Africa
- The Effectiveness of the Metro Agri-Food Living Lab for Gender Inclusive Youth Entrepreneurship Development in Kenya.

CultiAF2 Scientific Advisory Committee following completion of review and selection of phase 2 proposals. The team comprises IDRC, ACIAR and African agricultural experts.

Achievements of CultiAF phase 1 include:

- introducing fish and poultry feed as a more effective protein replacement for soymeal—the technical feasibility of the feed was demonstrated and standards were established and approved for animal feed in Kenya and Uganda
- disseminating precooked bean products to industrial-driven markets—these will contribute to convenient dietary diversity for consumers
- introducing environmentally friendly, effective and economically viable fish-processing technologies, including smoking kilns, by the fisheries project in Zambia and Malawi—these were successfully tested in several communities
- engaging youth in agribusiness in Kenya—while the project aimed for a 76% launch with a 50% gender parity, it recorded a 90% launch with a 67% female participation rate.

In addition, the new CA$5 million five-year 'future focused' program began development to provide insight into the design of *The Future of Food* program.

While CultiAF2 is being managed by International Development Research Centre on behalf of the partnership, ACIAR will manage the future-focused program, a first for ACIAR.

Alliance for Agricultural Research and Development for Food Security

The Alliance for Agricultural Research and Development for Food Security is a joint initiative between ACIAR, the Crawford Fund and the Syngenta Foundation for Sustainable Agriculture.

The alliance explores innovative collaborations and approaches to research-for-development activities and project delivery using joint funding and the unique, diverse strengths and expertise of the parties to better promote and achieve food security.

The first of these co-investments, has been highly successful. The *Demand-led plant variety design for emerging markets in Africa* project has contributed to the transformation of African agriculture. It has enabled small-scale farmers to better participate in markets by increasing the availability of high-performing plant varieties that meet market demands.

To provide greater market access to smallholder farmers, best plant breeding practices from the private sector were disseminated to the national breeding programs in Africa.

Plant breeders are now better equipped to develop high-performing varieties that meet customer requirements and market demand. This boosts the use of those plant varieties, creates markets and helps improve livelihoods in Sub-Saharan Africa.

The project has engaged extensively with the plant breeding and university sectors in many countries, towards having a truly comprehensive and transformative effect on plant breeding, small-scale agriculture and food security in Africa.

Alliance achievements include:

- creating a community of practice for some 250 African plant breeders across 27 countries in Sub-Saharan Africa
- developing a new training module on demand-led plant variety design with African universities for use in postgraduate education and professional development programs
- documenting best-practice principles of demand-led breeding, which has influenced breeding programs, especially the *Crops to end hunger* initiative, the CGIAR breeding platform, CIMMYT programs, and gender-related plant breeding (GREAT, jointly led by Cornell University, USA and Makerere University, Uganda)
- advocating for the project, which has led to new partnerships and increasing adoption of high-performing varieties
- engaging extensively with the plant breeding and university sectors, which has had a comprehensive and transformative effect on plant breeding, small-scale agriculture and food security in Africa
- developing a second phase of the project.

Achievement

Lessons learned from an ACIAR initiative in Africa were captured in a new book on demand-led plant breeding, believed to be the first of its kind.

The book—*The Business of plant breeding: market-led approaches to plant variety design in Africa*—is the result of a co-investment between ACIAR, the Syngenta Foundation for Sustainable Agriculture and the Crawford Fund.

It captures private sector best-practice principles of demand-led plant breeding, with each chapter written by an African expert plant breeder. It also includes a digital curriculum for tertiary institutions to use.

ACIAR project FSC/2013/019

CASE STUDY

Combating Africa's plant pests and diseases

The Australia–Africa Plant Biosecurity Partnership is a biosecurity capacity development program funded by ACIAR and delivered by a consortium led by Australia's Plant Biosecurity Cooperative Research Centre. Its partners include the Crawford Fund and the Centre for Agricultural Biosciences International.

The partnership harnesses the world-class experience and expertise of Australian plant biosecurity institutions and agencies to build the skills and capacity of plant biosecurity managers and decision-makers in 10 countries in eastern and southern Africa (Burundi, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Uganda, Tanzania, Zambia and Zimbabwe). There are also private sector participants.

The Australia–Africa Plant Biosecurity Partnership comprises 45 Fellows and a leadership team of 15 Senior Fellows, drawn from the 10 African countries. The Senior Fellows were matched with Australian research and biosecurity agencies, based on their identified needs and action plans, where they undertook six-week placements in Australia.

The Fellows have emerged with greater confidence in their abilities to advocate for biosecurity issues in their own countries and across the region. All have progressed individual action plans using the skills learned during their time in Australia.

Strong partnerships have been formed with the Food and Agriculture Organization of the United Nations, the African Union, and regional economic organisations, such as the Common Market for Eastern and Southern Africa. These organisations have guaranteed to support the Fellows as champions of plant biosecurity in Africa, and to host a long-term network coordinator.

Another feature of the program is the skills that the Fellows have gained in negotiating market access for plant-based commodities to improve export opportunities for primary producers. Tanzania has already had a win, gaining access to new mango markets as a result of the pest management techniques learned in Australia.

Following this success, ACIAR is developing a similar program in the Pacific region, in partnership with other Australian and New Zealand agencies active in biosecurity capacity development in the region.

ACIAR project C2013/079

Biosecurity officers participating in the Pacific Plant Biosecurity Capacity Building Workshop, Fiji June 2018.

PACIFIC REGION

Fiji

Kiribati

Samoa

Solomon Islands

Tonga

Tuvalu

Vanuatu

Papua New Guinea

The countries of the Pacific region are among Australia's closest neighbours, and many of their small populations and economies have been hard hit by extreme weather events and global economic competition. Therefore, ACIAR's research partnerships in this region place special emphasis on strategies to increase the resilience of agriculture systems.

ACIAR's investments in the Pacific aim to:

- improve food and nutritional security
- develop integrated and sustainable agriculture
- develop fisheries and forestry resources
- improve capacity to anticipate and adapt to climate change
- improve market integration in agriculture, fisheries and forestry products.

These investments seek to lift broad-based economic growth, and enhance private-sector development. ACIAR also adopts innovative approaches that engage, empower and invest in women.

PHOTO: Southern Cross University

Pacific island countries

Regional overview

ACIAR recognises that the Pacific island countries have many common challenges, and that individual national research and development capacity is limited. As a result, there is a strong emphasis on working with consortia of countries in the Pacific region with similar interests and challenges. We also engage with regional organisations, such as The Pacific Community (also referred to as SPC), the University of the South Pacific and donor agencies, especially the International Fund for Agricultural Development.

ACIAR's research priorities across the region in the medium term include:

- integration and sustainable resource management and development for agriculture, fisheries and forestry
- increasing resilience and reducing the impact of climate change on agriculture, fisheries and forestry
- underpinning the competitiveness of agriculture, fisheries and forestry value chains.

ACIAR supports research to address these priorities through three subprograms:

- food and nutritional security
- fisheries resource management and development
- development of agriculture and forestry value chains.

Highlights

- **An action plan for change in soil and land management to help build more resilient agriculture in Pacific island countries was developed.**
- **The Vanuatu Islands Sandalwood Association formed to renew the sandalwood export industry.**
- **Marketing opportunities improved and agribusiness boosted with the implementation of PARDI 2.**

Research achievements

In Pacific island countries, the management of traditional gardening systems is intensifying and depleting the soil's nutrient reserves. Comprehensive nutrient budgeting is essential to improve farm productivity and agricultural resilience on both volcanic islands and sand atolls. To address this need the Pacific Soil Portal was conceived and development started in an ACIAR-supported small project in 2016–17, led by Dr Ben Macdonald from CSIRO Agriculture and Food, in collaboration with partner countries, SPC and Landcare Research (New Zealand). The portal is designed to provide advice on soil management to farmers and advisors, while meeting the needs of other scientific communities (for example, those involved in simulation modelling, spatial analysis or environmental monitoring) and agribusiness (ACIAR project SMCN/2016/014).

The success of the project was confirmed by soil and land management experts and operators and an action plan was developed, leading to the commencement of a second stage and larger project during 2017–18, *Soil management for resilient agriculture in Pacific islands* (ACIAR project SMCN/2016/111).

The project began an examination of the underlying causes of poor soil fertility, and identification of the solutions and ways to overcome the barriers to adopting agricultural practices that build farm resilience.

ACIAR has maintained a focus on sandalwood silviculture and breeding in Vanuatu over many years. Wild sandalwood harvesting and export declined due to the depletion of the natural resource but with the support of ACIAR, significant plantation stands of sandalwood are due to come into production in a few years' time, and this should rapidly lead to improvements in domestic processing and export volumes.

Recent ACIAR-supported research, led by Dr Tony Page from the University of the Sunshine Coast, seeks to increase access for smallholder farmers to improved sandalwood seedlings, thus increasing the economic value (ACIAR project FST/2016/154). An important development is the formation of Vanuatu Islands Sandalwood Association to help capitalise on the Vanuatu sandalwood's niche characteristics. The association comprises key representatives from the public and private sectors of the industry and its object is to tackle industry challenges and identify appropriate and suitable solutions to those issues.

ACIAR facilitated the development of the research program called Pacific Agribusiness Research for Development Initiative (PARDI) to promote sustainable livelihood outcomes for South Pacific households. The first phase of the project involved collaborative teams of researchers from non-government organisations, government agencies, universities and private enterprises focused on improving marketing opportunities and boosting agribusiness in Fiji, Kiribati, Solomon Islands, Samoa, Tonga and Vanuatu.

The second phase of the project, termed PARDI 2, which runs from 2017 to 2021, continues the collaborative approach of PARDI 1 with a focus on Fiji, Tonga and Vanuatu (ACIAR project AGB/2014/057). During 2017–18, the research team commenced study on why and how agribusiness developments have succeeded, documented how the developments benefit community livelihoods, and investigated how to expand and make their economic benefits more inclusive and sustainable. The project also aims to identify and overcome constraints and bottlenecks in value and supply chains for primary products.

Within five years of its conclusion, PARDI 2 is expected to have developed the capacity for growing at least 10 existing agribusinesses, and created at least 10 new agribusinesses, with at least half operated or managed by women. The project also seeks to demonstrate enhanced benefits that flow to rural communities from agribusiness developments.

Nazmin Nisha Azam and Anna Baravi Ranitu at the Ba Women Mother of Pearl workshop. Production of items from Mother of Pearl is an opportunity for enhancing livelihoods in the South Pacific, and a focus area of the PARDI program in Fiji. PHOTO: © 2017 Conor Ashleigh/ACIAR

Papua New Guinea

Country overview

Agriculture continues to be the safety net of Papua New Guinea society, employing about half of the labour force, and generating 15% of gross domestic product. Agricultural productivity is generally low, due to poor farming practices, infrastructure and market access, as well as inadequate access to essential knowledge and farm inputs.

ACIAR projects seek to improve livelihoods in Papua New Guinea through:

- enhanced productivity and income growth
- improved management of crops, livestock, fisheries and forestry
- increased access to domestic and external markets for smallholder farmers and private-sector businesses

ACIAR projects seek to improve health, nutrition and livelihoods of rural communities, with particular emphasis on improving the availability of economic opportunities for women, through:

- opportunities for diversified food production
- increased private sector-led development in agriculture and forestry.

ACIAR-supported projects address these priorities through the seven subprograms:

- social and cultural research
- vegetables and starchy staples
- cocoa, coffee, coconut and oil palm production and marketing
- forestry and agroforestry, and value-adding processing
- fisheries and aquaculture
- diversification and income generation
- research monitoring.

Highlights

- **Commercial opportunities to establish a galip nut industry in Papua New Guinea were developed and implemented.**
- **The production of wood products, such as plywood, using locally grown timber progressed.**
- **Intercropping food gardens between coffee tree rows brought significant benefits to the health and productivity of crops and coffee trees, and potentially new opportunities for women.**

Research achievements

Nuts have huge potential to improve the livelihood of poor rural communities in developing countries and meet the ACIAR strategic objectives of reducing poverty and lifting human health and nutrition. In Papua New Guinea, the Transformative Agriculture and Enterprise Development Program (TADEP) project, co-funded with the Australian Department of Foreign Affairs and Trade (DFAT) and in partnership with the University of the Sunshine Coast, has found new marketing opportunities in Port Moresby for the nuts of the galip tree (*Canarium indicum*) (ACIAR project FST/2014/099). Grown in agroforestry in the Pacific and eastern Indonesia, galips produce nutritious edible nuts, which have been the focus of efforts by donor agencies to commercialise an industry in Papua New Guinea and the Pacific.

The project team, led by Professor Helen Wallace from the University of the Sunshine Coast, has developed relationships with key buyers, and discussed new product propositions.

A major milestone has been the establishment of the Galip Nut Company—a partnership between NARI and the ACIAR project, which is facilitating buying, processing and selling galip nuts in a commercial market in East New Britain Province. The Company has also begun supplying dried and packaged nuts in the two supermarkets and the Duty Free Shop in Port Moresby, and demand is strong. This achievement is a first for Papua New Guinea.

In a separate and associated activity, trials of solar drying have established that small scale processors can add value and increase participation in the galip industry. Women and youth in East New Britain have received training in this process.

Another ACIAR-supported forestry project, led by Dr Henri Bailleres from the Queensland Department of Agriculture, Fisheries and Forestry, is demonstrating a new approach to research in developing countries, where the project team and Papua New Guinea partners are working directly with the private sector to develop engineered wood products, such as plywood and other composites (ACIAR project FST/2014/065).

This will lead to improved capacity, skills and knowledge within this important industry.

The public–private partnership has undertaken a study of the current business environment for the wood processing industry in Papua New Guinea and is testing a range of innovative engineered wood products with Papua New Guinea and Australian industry partners.

The project aims to develop engineered wood products appropriate to the timber resources and potential markets; and understand how public–private partnerships can operate to promote the expansion of value-adding wood processing in Papua New Guinea.

The project supports the government's forestry policy to encourage domestic wood processing rather than the export of harvested logs.

Coffee is the primary source of household income for many highlands communities, where more than 80% of Papua New Guinea coffee is produced. However, smallholder production and incomes are well below potential levels, and this situation has not changed greatly since the mid-1980s. An ACIAR-supported project, led by Professor George Curry from Curtin University, has filled a gap in the knowledge and understanding of the socioeconomic factors and nutrient management practices that affect smallholder coffee production (ASEM/2008/036). This information has been used to draft extension training manuals.

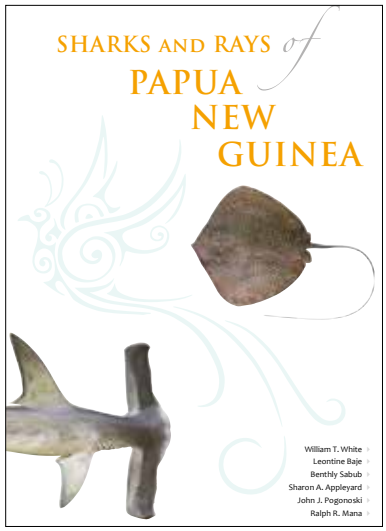
An important finding was that intercropping with food gardens brought significant benefits in terms of the crops grown and the welfare of the coffee trees. The practice could also provide women with more land for food production, lifting the returns in an area where land availability is increasingly scarce.

A partnership between ACIAR and NARI has culminated in the launch of the Galip Nut Company in Papua New Guinea. Pictured at the launch with dignitaries is Mr Tony Bartlett, Research Program Manager, Forestry, ACIAR (third from left).

CASE STUDY

Ensuring the future of shark and ray populations

Sharks and rays are an important food source for coastal communities in Papua New Guinea, and the country's fifth most important export fishery. But very little was known about the species and numbers present in Papua New Guinea waters—and this information is vital for sustainable management of the resources.



An ACIAR-supported project, led by Dr William White from CSIRO Marine and Atmospheric Research, described the socioeconomic and biological characteristics of shark and ray fisheries in Papua New Guinea.

Analyses of the catch and effort data generated the first accurate estimates of total shark and ray landings for Papua New Guinea. The data highlighted the importance of shark and ray catches in coastal fisheries to communities and livelihoods in some provinces.

A more comprehensive understanding of the biodiversity of sharks and rays was obtained, particularly for deepwater species. The project team presented a series of management options to the National Fisheries Authority, which, if adopted, would have long-term benefits to the country. They included alerts to the harvesting of species protected under conservation treaties.

The ultimate goal of the project is to guarantee a sustainable impact on fisheries of sharks and rays. To maintain the fishery as a valuable source of both food and incomes. Ongoing research will be strengthened by the significant boost in capability through seven project participants attaining higher qualifications.

The knowledge generated by this project was captured in an ACIAR publication, *Sharks and rays of Papua New Guinea* (ACIAR Monograph No. 189) and published in late 2017. The book is an invaluable guide for fisheries managers, and a high-quality resource for universities delivering marine biology courses in the Australia–Pacific region and beyond. Enquire at aciar@aciar.gov.au for a copy of this publication.

ACIAR project FIS/2012/102

EAST AND SOUTH-EAST ASIA REGION

Cambodia

China

Indonesia

Lao People's Democratic Republic

Mongolia

Myanmar

Philippines

Thailand

Timor-Leste

Vietnam

While there is increasing prosperity in the region, ACIAR retains strong bilateral relationships with its partners in the East and South-East Asia region. Much of the population has moved out of extreme poverty over the past few decades, however 90 million people still live in extreme poverty, and another 300 million remain vulnerable, in rural and urban areas.

ACIAR's work in this region evolves in response to a range of factors, such as the increasing mobilisation of expertise between neighbouring countries; the opportunity to support trilateral partnerships where ACIAR joins a developed country in the region to support a third country; and increasing regional integration and connectivity by ASEAN that will likely increase demand for research support that addresses agricultural issues (such as biosecurity and food safety).

Cambodia

Country overview

Agricultural development through increased productivity, diversification and value-adding is a key priority for Government of Cambodia.

While there is the vision to modernise agriculture, severe drought in 2016 led the Cambodian Government to refocus and align their vision with the advice of the World Bank 'to move the focus from higher production and exports to stronger rice-based farming systems that are diversified, commercial, and resilient to climate change, and supported by a modernised value-chain and cost-effective logistics'.

ACIAR's research program supports agriculture in Cambodia through two main themes:

- rice-based farming systems
- sustainable intensification and diversification of agriculture, particularly in crop–rice and crop–livestock systems.

The program also encompasses climate variability, emphasising mitigation of adverse impacts and adaptation to climate change.

ACIAR's investment in Cambodia has a major focus on realising the potential to economically empower women and girls, which is particularly important in the context of increasing labour migration.

Highlights

- **New knowledge about the available resources and existing capacity related to soils and soil management in upland areas of Cambodia was gained.**
- **An inventory of the many issues facing cassava farmers, traders and processors to provide a foundation for advancing future research was created.**

Research achievements

The development of farming systems in the uplands of Cambodia is challenged by soil-related constraints, such as nutrient deficiencies, waterlogging and soil acidity. An ACIAR-funded project, led by Dr Wendy Vance from Murdoch University, took stock of the current knowledge, available resources and existing capacity to identify critical research gaps and opportunities (ACIAR project SMCN/2016/237). The project team identified a particular need for soil maps, simple and cost-effective tools to identify soil types, and training in soil analysis and interpretation. A large body of knowledge gathered by the team forms the basis of another project to assess land suitability and site-specific soil management for Cambodia's uplands.

In Cambodia and Lao PDR, the productivity, profitability and sustainability of the cassava industry could increase through better value-chain linkages between smallholder farmers and industry, achieving the dual objectives of industry development and economic growth, and livelihood security and poverty reduction. Understanding the incentives and constraints to adoption of improved production and marketing practices is critical to developing a sustainable smallholder sector.

An ACIAR-funded project, led by Dr Dominic Smith from the University of Queensland, completed a multi-scale assessment (ACIAR project ASEM/2014/053) that revealed there the many issues facing cassava farmers, traders and processors and many require institutional innovations. For example, demonstrations of agronomic improvements have failed to bring about adoption of sustainable cassava production practices. These results give the team a strong foundation for future directions.

CASE STUDY

Benefits of mechanisation recognised

Rice remains the staple food for much of the population in Cambodia and Laos. Planting and harvesting require a large labour resource, which is increasingly harder to find, as people move from rural areas. ACIAR-funded research, led by Professor Shu Fukai from the University of Queensland, seeks to introduce mechanised planting and harvesting to address the labour shortage, help increase incomes and enable the introduction of high-value crops after rice.

A project in Cambodia and Laos aimed to:

- assess crop mechanisation options to increase productivity
- evaluate postharvest innovations
- look at innovative cropping systems that could take advantage of mechanisation through both intensification and diversification.

The team consulted with farmer groups during planning to ensure their views were reflected in the work; and ensured that results were shared with the groups and out into the wider community.

The research studied how seed drills and rice transplanters perform for planting rice and alternate crops in the rotation, and how effectively a combine harvester and flatbed dryer worked for rice.

The findings established that, due to the high cost and lack of labour, using the machinery to establish and harvest the crop was an attractive alternative for farmers. The team identified that harvesting rice early—about 25 days after flowering—ensured the grain is of high quality, so that it can be sold at markets, particularly if it is artificially dried.

A farmer in central Laos, Mr Vasanh Siripanyo, found that mechanisation substantially reduced labour costs—he could plant one hectare in one day with just two people, while the hand transplanting alternative required 30–35 people to complete the same area.

By following the good agriculture practice method, he produced certified grain that attracted a better price and was easy to sell, due to high demand.

By saving on the cost of labour while selling higher-value rice, mechanised planting has considerably increased Mr Siripanyo's income.

ACIAR project CSE/2012/077

China

Country overview

China is a large and emerging economy with a substantial agricultural research network and capacity. While Australia has largely phased out bilateral aid to China, ACIAR has maintained a program to target strategic partnerships and improve the sustainability of agricultural production.

ACIAR seeks opportunities for partnerships with China and other countries in the region for research collaboration. These partnerships involve substantial co-investment from the Chinese partners, an order of magnitude greater than the ACIAR investment. The Chinese national agricultural research system has significant human and financial resources that, while bringing improvements in China, also yield benefits for Australia.

ACIAR-supported research in China focuses on improving the management of livestock, land and water resources in north-western China; and improving livestock nutrition in the Tibet Autonomous Region without reducing grain production or compromising soil condition and quality.

Highlights

- **Herders in north-western China who improved management practices increased household income and improved the condition of their grasslands.**
- **Dairy and sheep meat production in central Tibet is likely to improve from opportunities to increase forage production using species selected from trials in Tibet and Australia.**

Research achievements

In north-western China, temperate grasslands have become degraded due to a considerable increase in the numbers of people and livestock over the past 50 years. ACIAR is working with partners on an interdisciplinary project to identify ways of strengthening incentives for managing grasslands more sustainably in both China and Mongolia. This project will generate significant benefits for strategic watersheds and for air quality in eastern China.

About 400 million hectares of natural grassland is grazed in north-western China. This region is home to herders who are among the poorest people in China and 90% of the grasslands area is considered degraded.

Associate Professor Colin Brown from the University of Queensland leads the project that aims to improve herder household incomes, alleviate poverty, rehabilitate degraded grasslands and reduce environmental damage (ACIAR project ADP/2012/107).

Researchers have analysed the bioeconomic sustainability of grassland livestock production systems at the household level and developed practical options to reduce grazing pressures and improve net financial returns from livestock. They concluded that there would be little change until markets for livestock improve sufficiently to encourage herders to change their practices.

However, in several villages trials were successful in demonstrating the benefits of halving flock numbers to focus on production, building feedlots to finish lambs for market, and participating in more efficient marketing systems. The innovative herders received much higher prices at market for their animals, with a net gain in household income. The herders also saw an improvement in the condition of their grasslands.

The Tibetan plateau is known as the 'water tower of Asia', generating runoff that supplies 13 of the great rivers of Asia, including the Mekong, Yangtze, Yellow, Ganges, Brahmaputra and Indus rivers, on which billions of people depend. Therefore, sustainable management of the Tibet plateau benefits a very large region of Asia.

In the Tibet Autonomous Region, the challenge is to improve livestock nutrition without reducing grain production in valleys or compromising the condition of pastoral areas.

ACIAR is working with partners in central Tibet to provide smallholder farmers with strategies to improve the health and production of their dairy livestock and flocks of goats and sheep, without reducing grain availability for human food or compromising the condition of pastoral areas, which lie 4600 metres above sea level.

An ACIAR-supported project, led by Dr Di Mayberry from CSIRO Ecosystems Science, seeks to improve the livelihoods of smallholder livestock farmers in the cropping and agropastoral areas by increasing dairy and sheep meat production and develop the farmers' understanding of market opportunities (ACIAR project LPS/2014/036).

During 2017–18, the project team continued to identify opportunities to increase forage production and conduct trials of promising forage species, in Tibet and Australia. The team also undertook experiments comparing livestock breeds. An information-gathering exercise surveying household and townships also was in the pilot phase.

ACIAR CEO Andrew Campbell attending a project review on the central Tibetan Plateau, where trials are evaluating grazing systems for yaks, goats and sheep.

Indonesia

Country overview

ACIAR has worked in partnership with Indonesia since 1982. The longstanding partnership has led to significant impacts and benefits flowing to farmers, government institutions and individuals, stemming from the development of numerous technologies and innovations.

Although Indonesia is now classed as a middle-income country, many people still live below the poverty line. ACIAR programs work in both less-developed regions and more-developed regions and provinces. The Indonesian component of ACIAR's research program is part of Australia's whole-of-government approach, with projects in partnership with the Australian Government departments of Foreign Affairs and Trade and Agriculture and Water Resources.

Encompassing the Indonesian Government's priority areas for improvement and development of agriculture and resource management, and for improving the welfare of farmers and fishers, ACIAR's medium-term research strategy in Indonesia focuses on:

- strengthening livestock production and biosecurity systems
- developing profitable and sustainable horticultural and field cropping systems
- supporting profitable smallholder aquaculture systems
- enhancing capture fisheries management
- enhancing forestry products and services
- improving policies underpinning agribusiness development
- developing profitable agribusiness systems for eastern Indonesia.

Highlights

- **The Master TreeGrower program taught communities how to produce trees that meet the requirements of wood processors, making community forestry more profitable.**
- **Better understanding of product cycles and changes in value chains will help determine how smallholder farmers can best participate in producing and marketing high-value fruit and vegetables.**
- **Building on past research, the IndoBeef program initiated new studies to significantly improve beef supply and lift livelihoods of smallholder producers.**

Research achievements

Changing diets and increasing spending of Indonesia's middle-class consumers are creating opportunities for smallholder farmers to produce more profitable crops and benefit from high-value markets. Although 40% of the country's labour force is involved in agriculture, only 11% of agricultural workers are engaged in horticulture. At the same time Indonesia depends heavily on imported fresh produce to sustain domestic demand, as the burgeoning middle-class population increasingly seeks fresh produce.

Recognising the gaps in Indonesia's horticultural infrastructure, ACIAR formed research ties with the Bogor Agricultural University and local communities to identify opportunities to develop horticultural value chains in Indonesia, to give smallholder farmers better access to more domestic and global markets.

Led by Professor Randy Stringer from the University of Adelaide, an ACIAR-funded project ran from 2013 to 2018 to improve market integration for high-value fruit and vegetable systems by identifying the reasons many growers are not seeking to market value-added produce into modern food retail markets (ACIAR project AGB/2009/060).

Lack of quality seeds available to local farmers was one fundamental reason for failure to take advantage of increasing high-value markets, as were the lack of farmer education and uptake of modern cultivation methods. As Indonesia's modern food retail chains evolve, expand and reorganise, smallholder farmers face greater choices and more daunting decisions about which fruit and vegetable crops to produce, how to produce them and which paths to market will return the best incomes.

The project created better understanding of product cycles and changes in high-value fruit and vegetable value chains, leading to the development of policy mechanisms that will respond to changing consumer requirements. The project also identified ways that smallholder farmers and rural communities can participate and benefit more fully.

An ACIAR-funded forestry project, led by Associate Professor Digby Race from the University of the Sunshine Coast, developed practical ways for Indonesian communities to increase returns, by teaching farmers to take a market-focused approach to tree growing (ACIAR project FST/2015/040). The project team successfully adapted the initiative—the Master TreeGrower program developed at the University of Melbourne by Rowan Reid—and implemented it at five locations across Indonesia.

The scheme involved four days of training and visits to wood processors, with the knowledge gained empowering men and women to make informed decisions about growing trees. The team has now seen evidence of growers taking action to achieve the quality of timber that the market is seeking, and that for every farmer trained four other farmers are also implementing the improved forestry practices.

Rowan Reid, second from left, with participants of the Master TreeGrower program, which teaches farmers practical farm forestry techniques.

CASE STUDY

Strengthening Indonesia's community-based beef sector

Two projects started in 2017–18, as part of the IndoBeef program, with the aim of strengthening Indonesia's community-based beef sector. PHOTO: © 2017 Conor Ashleigh/ACIAR

In eastern Indonesia, extensive research carried out by ACIAR partnerships showed how cattle numbers, beef production and returns to smallholder farmers could increase through improved husbandry and feeding practices. Models of farming using these improvements—integrated into the annual cropping of rice, corn and other crops, with the addition of forage tree legumes—are now being scaled up. Success in these trials has led to the establishment of the IndoBeef program with funding from the Australian Government Department of Foreign Affairs and Trade.

Two new projects commenced during 2017–18 as part of the IndoBeef program. The new projects, led by Professor Heather Burrow and Dr John Ackerman from the University of New England, aim to strengthen Indonesia's community-based beef sector and improve the livelihoods of smallholder cattle producers. The first, CropCow, is seeking to increase adoption of proven practices and the best approaches for scaling them out, for the benefit of smallholder farmers in rain-fed cropping systems (ACIAR project LPS/2015/047). The second, PalmCow, involves researchers developing strategies to successfully integrate cattle with palm oil plantation systems (ACIAR project LPS/2015/048).

Lao People's Democratic Republic

Country overview

As the Lao People's Democratic Republic works towards its goals in agriculture development, poverty reduction and inclusive economic growth, Australia's support through ACIAR's research program is increasingly important. As well as country-specific projects, several projects address problems of mutual concern for neighbouring countries and the region.

ACIAR's priorities in Laos include:

- efficient and sustainable forestry industries (including non-timber products) with suitable climate change resilience
- innovative livestock systems that enable sustainable intensification while improving animal health and biosecurity levels
- fisheries programs that focus on habitat and fish-passage protection
- improved institutional, training and communication frameworks that enable smallholder farmers to adopt and adapt to new technologies, and develop the capacity of researchers and educators
- more cost-effective and sustainable production systems by mechanising, diversifying, and intensifying rice-based farming systems, together with enhanced crop quality, quarantine standards and value-adding for domestic and export markets
- improved natural resource management that benefits livelihoods and food security, by delivering land-use options to smallholder farmers, with attention to both water and nutrient management, and climate change adaptation.

Highlights

- **Teak wood production by smallholder farmers showing great promise as new growing techniques are introduced and restrictive policies revised.**
- **A 'whole-of-village' approach adopted to improve the health and welfare of smallholder livestock.**
- **In-country capacity to evaluate market value chains was enhanced with intensive workshops.**
- **A drill seeder or transplanter and combine harvesters now are considered by rice farmers as attractive alternatives to traditional intensive labour practices.**

Research achievements

Teak grown by farmers in woodlots and agroforestry systems is potentially important in developing the domestic wood processing sector in Laos and improving the on-farm incomes of thousands of families who have invested in teak. Appropriate strategies can make teak plantation and agroforestry systems more productive, but socioeconomic, technical and policy issues presently limit the full realisation in potential of the teak resources.

ACIAR-funded research, led by Dr Mark Dieters from the University of Queensland, is providing advice to improve woodlots of teak by supplying superior quality plants and guidance on best stocking rates and thinning practices (ACIAR project FST/2012/042).

As teak is not suited to producing high-quality timber on all sites in northern Laos, the research also is providing guidance on using other timber species, such as eucalypts and hybrid acacias, with shorter rotation periods that might be more appropriate

for small sites, and better meet the needs of both farmers and the wood processing industry. The research is helping Laos revise policies and regulations to facilitate greater investment in and returns form smallholder wood production and advance the industry.

Large ruminants (cattle and buffalo) and small animals (pigs, poultry and, particularly, goats) are important to rural Lao households. But the constant threat of animal diseases, including foot-and-mouth disease, constrains the opportunities to expand the livestock industry and to increase sales to meet demand from burgeoning international and regional markets.

ACIAR-funded research, led by Dr Russell Bush from the University of Sydney, is seeking to develop 'whole-of-village' biosecurity approaches in Laos (ACIAR project AH/2012/067). The research identified transmission risks of foot-and-mouth disease in Naxaythong District near Vientiane, and indicated that basic biosecurity and improved husbandry measures will minimise its spread.

Increasing the productivity of vegetable growing in Laos and Cambodia relies on better management of soil and water resources. An ACIAR-funded project, led by Dr Alice Melland from the University of Southern Queensland, seeks to understand more about the value chains of vegetable production and marketing in the two countries (ACIAR project SMCN/2014/088). The project involves a large component of capacity building and is instructing representatives from both countries in data collection, pilot surveying, resource planning and participation in focus group discussions. Another aspect of the project is improving the management of the structurally unstable and nutrient-deficient soils in the region, and to introduce better irrigation practices to increase yield and profitability.

Successful adoption following a project studying and demonstrating the mechanisation of sowing, harvesting and grain drying for rice crops in Laos and Cambodia is featured in a case study on page 42 (ACIAR project CSE/2012/077).

Myanmar

Country overview

Myanmar has the potential to be a global food supplier, as it is one of the world's largest exporters of pulses, and could produce and export many other crops. To reach its potential however, it must intensify its agricultural growth and make farms more productive and competitive.

Myanmar's new government has set economic objectives giving paramount importance to agriculture, and improving rural productivity. The major agricultural objectives are to fulfil food security, increase foreign exchange through more exports of agricultural products, and improve rural incomes.

In response to the new government objectives, a multidisciplinary program, called *MyFarm,* was developed by ACIAR collaboration with the Australian Government Department of Foreign Affairs and Trade, and in consultation with Myanmar counterparts, donors and potential research providers. It supports the Myanmar Government's goals on agricultural development and is consistent with the strategic objective of Australia's aid program of inclusive economic growth.

Highlights

- **Farmer project participants in the central dry zone of Myanmar adopted inland fish ponds.**
- **Grower groups for mungbean farmers are providing support and advice to produce better crops.**
- **A study of changes in soil water balance in the central dry zone has enabled researchers to draw up guidelines to improve farmer choices of varieties and timing of planting for best results.**

Research achievements

Fish is only second to rice in terms of importance for the diet of Myanmar's population, and fisheries are vital for national food security, income generation and export earnings. The ACIAR-funded *MyFish* projects, led by Dr Mike Akester of WorldFish (a CGIAR centre), aim to study small-scale aquaculture in the Ayeyarwady Delta and find ways to introduce inland fish ponds to the central dry zone of Myanmar (ACIAR projects FIS/2011/052 and FIS/2015/046).

Pilot studies led to enthusiastic uptake of new aquaculture methods by households who took part. The success of these trials has seen additional funding from WorldFish and Myanmar's Department of Fisheries to deliver training in small-scale aquaculture to 15,000 rural households. This should benefit about 60,000 people by 2019.

ACIAR is the core funder of the International Mungbean Improvement Network, a collaboration between the World Vegetable Centre (WorldVeg, a CGIAR centre) and international partners across Bangladesh, Myanmar, India and Australia, under the leadership of Dr Ramaskrishnan Nair from WorldVeg. The Myanmar team from the Department of Agricultural Research has characterised the WorldVeg core collection of mungbean and identified lines with useful resistance to yellow mosaic disease (ACIAR project CIM/2014/079). A sister project (ACIAR project CIM/2016/174) has just started, testing the most practical methods to mechanise the harvesting of mungbean, to address labour scarcity and increase quality of the harvested grain. This project benefits the first project because seed producers disseminating varieties from the first project will have improved quality of grain provided by mechanised harvesting of the crops.

CASE STUDY

Rainfall challenges and opportunities for dryland farmers

The central dry zone of Myanmar is a significant agricultural region covering 80,000 km^2, with farmers commonly growing pulses and sesame through double cropping and intercropping systems. Rain feeds 75% of cropping in the region, with crop yields typically low and variable.

An ACIAR-funded project research team, led by Professor David Herridge from the University of New England, studied historical rainfall records of the central dry zone.

The team discovered that, although total annual rainfall in the zone was relatively stable from 1951 to 2016, the number of rain days halved over the same period, and there was less early monsoon rain.

The trend towards increasingly intense and unpredictable rainfall events creates difficulties for smallholder farmers in the region, along with longer dry spells, making it difficult to establish crops and make effective use of topsoil nutrients. In a search for solutions, the researchers modelled the soil water balance in the central dry zone from 1951 to 2016 to assess potential agronomic solutions.

To assist the smallholder farmers, the researchers interpreted and applied the modelled information to establish that:

- long-duration pigeon pea with a short-duration intercrop period could use rainfall efficiently
- good results from the first crop planted in the double crop system are more likely, and so the first crop merits greater inputs
- the second crop is risky, so input use should depend on the season
- retention of residue from the previous crop will help with new crop establishment by slowing down topsoil drying
- slow-release fertilisers (such as manure) will mitigate the impact of nutrient leaching.

These recommendations, along with a wider scope of work from the whole project, promise improvements in the livelihoods and food security of smallholder farmers and their families in the central dry zone of Myanmar.

ACIAR project SMCN/2011/047

Philippines

Country overview

In the Philippines, the sector of agriculture, fisheries and forestry is important for achieving the growth and poverty reduction targets set in the government's *Philippine Development Plan 2017–2022*. The sector contributes an annual average of 11% to GDP, employs almost one-third of the labour force, and supplies raw materials for manufacturing.

Despite its economic importance and sustained public interventions, the sector remains weighed down by inequality, low productivity and poverty. Farmers have poor access to inputs, support services and technology, and limited links to high-value markets. Frequent and increasingly intense natural disasters often wipe out any development in the sector.

In the Philippines, ACIAR focuses on:

- making agricultural systems more productive, and products more marketable and internationally competitive
- making fisheries and aquaculture competitive and sustainable
- managing land and water resources for profitable and sustainable agriculture
- mitigating the effects of climate change on the rural poor
- helping poor indigenous households in the southern Philippines to adopt improved farming methods, by using innovative extension models, including Landcare, to increase their understanding and tackling constraints to adoption.

Highlights

- **Better management of mango trees through pruning, and closer attention to pest control have resulted in larger harvests of healthier fruit.**
- **The first mass re-seeding of coral colonies to help restore damaged reefs was achieved the Philippines.**
- **New technique developed for growing seaweed in the ocean, rather than ponds, will lift production and raise incomes.**

Research achievements

As alarm bells ring worldwide over damage to the planet's coral reef habitats, research work in the Philippines has achieved the first mass re-seeding of coral colonies to help restore damaged reefs. ACIAR is supporting reef restoration work in the reefs of northern Luzon, with a partnership of agencies and universities in the Philippines and Australia, being led by Dr Peter Harrison from Southern Cross University (ACIAR project FIS/2014/063).

The project has established a process of raising millions of coral larvae, and then assisting their settlement into damaged areas using underwater enclosures or tents made of fine mesh. The project has developed new techniques to raise coral larvae either in aquaculture facilities or directly in the sea. The success of the restoration trials has raised interest among reef management agencies around the world, including Australia.

Filipinos consider the local Carabao mango to be the best in the world, yet most mango trees in the Philippines are well past their prime, and are grown with a minimum of management. A project led by Dr Ian Newton, Queensland Department of Agriculture, Fisheries and Forestry, addressing integrated crop management in the southern Philippines has developed a regime to prune these old mango trees, to reduce their size and gain multiple benefits from better canopy management (ACIAR project HORT/2012/019).

The first and most important aspect of better management is simply to let in more light. This stimulates the mango tree to produce fresh shoots, which then flower and produce more fruit. When farmers accept the idea that 'less can be more', they also find plant protection measures, such as fungicide and insecticide treatments, are easier to apply. Further, when the trees are pruned to a reasonable size, it is easier to bag the mangoes to protect them from insect pests and to harvest fruit without bruising.

Jim Boy (right) talks with mango farmer Adela Borres Radana on Samal Island, Mindanao in the southern Philippines. ACIAR-supported projects worked with mango farmers to improve pre-harvest practices and ensure mango trees were more productive. PHOTO: © 2017 Conor Ashleigh/ACIAR

CASE STUDY

Empowering the next generation of women scientists

One of ACIAR's six strategic objectives is gender equity and women's empowerment. In the Philippines, a new wave of female scientists is already working on ACIAR-funded projects. At the University of the Philippines, in Mindanao, Chancellor Professor Sylvia 'Beng' Concepcion is leading the charge, fostering upcoming researchers in careers in developing countries and Australia.

'The idea is to open the doors of opportunity for them, so that they can spread their wings, find out what they like to do, find out what makes them happy,' Beng said.

'When you invest in knowledge development, knowledge dissemination, the impact is long term. Investing in research is like planting trees—you harvest after a long time.'

Beng, who ran the first ACIAR-funded project through the university in 2000, is currently the lead in the Philippines for the project *Developing vegetable and fruit value chains to support community development in the southern Philippines* (ACIAR project AGB/2012/109).

Another senior researcher encouraging young female scientists into a career of research for development is Professor Emma Ruth Bayogan. Currently the in-country project leader for an ACIAR-funded project *Improved postharvest management of fruit and vegetables in the Southern Philippines and Australia* (HORT/2012/098), Emma believes recruiting the next generation of female scientists is crucial to continuing the important work done through the university.

'There has to be a generation of upcoming young and female researchers, especially in this field,' Emma said.

'This pool of young postharvesters follows in the footsteps of those who went ahead. And maybe in my footsteps, because I'll be retiring in a few years.'

Emma has a team of research assistants working on the ACIAR-funded project—all young women inspired by the positive impact they are making in their community through their applied research. One of them is Viena Monterde, a graduate with a Bachelor's degree in Food Technology.

'Research is an underrated profession in the Philippines,' Viena said.

'Researchers need to have immense attention to detail, creativity, dedication, and, above all, compassion—compassion for our struggling fellow Filipinos who lack the technology and scientific know-how to run their business efficiently.

'It is absolutely the most fulfilling job there is!'

Timor-Leste

Country overview

Timor-Leste has made considerable social and economic progress since its independence in 2002. However challenges remain if Timor-Leste is to achieve the goals set out in its *Strategic Development Plan 2011–2030* of reaching upper-middle income status, eradicating extreme poverty and establishing a diversified non-oil economy by 2030.

Four in 10 Timorese live below the national poverty line and the country's mainly subsistence-based agriculture sector has low productivity and limited access to markets.

Australia is the largest development partner for Timor-Leste, and is intensifying its focus on improving nutrition, particularly for women and children. Australia's cross-sectoral approach on nutrition brings together agriculture, health, education, food security and water and sanitation.

ACIAR's research program directly supports objectives in the Timor-Leste Government's strategic development plan to:

- improve smallholder and community livelihoods through improved varieties of staple crops and legumes
- make livestock, fisheries and horticultural systems more productive and resilient
- improve individual and institutional research and development capacity in the Ministry of Agriculture and Fisheries and the University of Timor Lorosa'e.

Highlights

- **Australian, Indonesian and Timor-Leste scientists seek to introduce smallholder crop–livestock farmers and market chain operators to more efficient, commercially-oriented cattle production and improved access to markets.**
- **A new project focuses on cropping intensification to produce legumes and grain for an emerging stock and food processing industry, and production of selected non-timber tree products to diversify farm incomes.**
- **Future investment in pig research and development will be informed by a short project to identify practical husbandry practices to improve pig production.**

Research achievements

Livestock production in Timor-Leste is almost totally managed by individual households, very few of whom are specialist herders. Cultural and social influences, traditional management systems and poor awareness of and access to markets mean that farmers tend to maximise herd numbers in low-input, low-output systems on overused and degraded communal land.

ACIAR has embarked on the second project of a 10-year livestock strategy developed with TimorLeste's Ministry of Agriculture and Fisheries, in which Australian and Indonesian scientists are helping with livestock research and training. This project, led by Dr Geoffrey Fordyce from the University of Queensland, aims to increase the income of smallholder crop–livestock farmers and market chain operators through more efficient, commercially-oriented cattle production and improved access to markets (ACIAR project LPS/2014/038).

New systems will help farmers to manage and market cattle better, leading to more wealth, and capitalising on the cultural importance of cattle.

A new project started late in the 2017–18 year that will underpin opportunities for farmers re-focusing toward income-generating agriculture (ACIAR project CIM/2014/082). The project led by Professor William Erskine of the University of Western Australia has two broad avenues of research:

- cropping intensification to produce legumes and grain for an emerging stock and food processing industry
- production of selected non-timber tree products (tree legume fodder and their companion sandalwood) to diversify farm incomes.

This project builds on areas of research identified by the successful *Seeds of Life* project, which produced remarkable increases in yields of introduced and adopted crop varieties over local varieties in 13 districts (ACIAR project CIM/2009/049).

A short research activity also commenced in late 2017–18, with the overall aim to identify husbandry practices that are practical to be applied by smallholder pig farmers in Timor-Leste to improve pig production. The research is led by Dr Tamsin Barnes of The University of Queensland (ACIAR project LS/2017/102).

Preliminary trials of practices will be undertaken with a small number of farmers in Bobanaro and Baucau, providing farmers and other participants with practical hands-on training in pig husbandry. The results of this project will inform implementation of pig research programs over the next 4–5 years, for TOMAK (or Farming for Prosperity, an agricultural livelihoods program in Timor-Leste) and ACIAR.

Vietnam

Country overview

ACIAR's program in Vietnam supports technical and agribusiness research to enhance smallholder incomes from selected areas of high-value agriculture, aquaculture and forestry. In recent years, the program has focused on three geographic regions—the Mekong Delta, the south-central coast and the north-western highlands—where poverty has persisted and there are threats to sustaining the agricultural natural resource base.

ACIAR's program aligns well with agricultural priorities stated under the Australia–Vietnam Science and Technological Co-operation Treaty (2014) and the Australia's Aid Investment Plan for 2015–16 to 2019–20.

From extensive consultations with stakeholders, ACIAR staff and our Vietnamese partners have identified the following medium-term research priorities:

- improving the resilience of rice-based farming systems in the Mekong Delta in the face of climate change
- managing resources to enhance the profitability and sustainability of agriculture in south-central coastal Vietnam
- reducing poverty through engaging smallholder farmers in the north-western highlands with markets
- developing high-value aquaculture industries
- developing higher-value plantation forestry products
- providing advice on the effects of climate change, and designing adaptation policy for agriculture.

Highlights

- **The rice–shrimp cropping system in the Mekong Delta continues to be investigated to identify better growing practices.**
- **Cassava farmers are growing their crop more sustainably and have access to lucrative markets.**
- **Better water and nutrient management on the sandy soils of south-central Vietnam has enabled farmers to increase yields using far less water.**
- **The oyster industry in which smallholder farmers can participate is now flourishing in northern Vietnam.**

Research achievements

Increasing salinity, as a result of changing environmental conditions and regulation of riverine and tidal flow, is reducing productivity in rice–shrimp production systems in the Mekong Delta. ACIAR-supported research, led by Associate Professor Jes Sammut from the University of New South Wales with Vietnamese partners, validated better growing practices, which include rice platform preparation, testing and selection of more salt-tolerant rice varieties, use of nursery ponds for shrimp to improve survival, and fertiliser replacement using shrimp farming sludge (ACIAR project SMCN/2010/083).

Variable field results combined with ongoing suboptimal environmental conditions and food availability for shrimp, indicated that further improvements of the rice–shrimp systems is needed if both crops are to remain important in the region.

Field work was augmented with socio-economic focus group meetings to identify social and economic opportunities and bottlenecks to sustainable rice–shrimp farming, and determine the cost–benefit of different practices.

In the mountainous region of Son La Province, growing cassava is a way of life. For many farmers, growing cassava year after year on the same plot led to soil erosion and reduced soil fertility, leading to loss of productivity. An ACIAR-funded project, led by Dr Dominic Smith from The University of Queensland, worked with smallholder farmers to introduce methods for growing cassava more sustainably (ACIAR project AGB/2012/078). The farmers are finding that adoption of conservation agriculture practices has lifted their harvest, by 100% in some locations in the 2017–18 season, and along with assistance to enter more lucrative markets, they are enjoying real gains in income. The project has worked with cassava growers in Indonesia as well. A key feature of the project to date is increased capacity and knowledge of cassava production of project staff, local government partners, and private sector partners.

A project concluding in 2017–18 aimed to help smallholder farmers in south-central coastal Vietnam make a better living by increasing crop productivity on low fertility sands through better use of water and nutrient in farming systems that depend on groundwater. Led by Dr Richard Bell from Murdoch University, the ACIAR-supported project introduced technologies that address nutrient and water-use efficiency, especially for these groundwater-dependent crops (ACIAR project SMCN/2012/069).

The water-saving technology uses a mini-pan to measure the rate of water evaporation to determine irrigation rates by sprinklers (peanut and vegetables) or drippers (mango). Nutrients were applied in the form of inorganic and organic fertilisers, at balanced rates. Used together, these technologies have given increased yields, while using less water. Among several other key findings or outcomes of the project were collection of data to enable scenario modeling to determine water availability under different types of cropping, as well as due to climate change; and use of amendment materials (e.g. sugarcane straw, clay, bentonite) in conjunction with water saving irrigation technologies to improve water and nutrient use efficiencies.

CASE STUDY

Oyster industry goes from tiny to boom in 12 years

Twelve years ago, Dr Wayne O'Connor, a bivalve mollusc expert with the New South Wales Department of Primary Industries, set off to Vietnam on a scoping mission for ACIAR's fisheries program. Today, Vietnam boasts an oyster industry that produces more than 15,000 tonnes a year—outstripping Australia's own industry.

'There was no oyster industry in northern Vietnam before the first ACIAR-funded project, which started two years later in 2007. We were optimistic about the project but we've been amazed by how quickly things have progressed,' Dr O'Connor said.

Over the next few years, an ACIAR-funded project supported exchange visits between the two countries, enabling technicians from the RIA1 hatchery in north-east Vietnam to improve their skills at the Port Stephens Fisheries Institute in New South Wales.

This included training on algal culturing, spawning and nursery techniques. In parallel, the project helped upgrade the Vietnamese hatchery for oyster production, and developed a low-technology grow-out system that was accessible to even the poorest communities.

'People can buy just a few strings of oysters from the hatchery, so it's affordable,' Dr O'Connor said.

'They hang them in the water to grow, and keep an eye on them while they carry on with their other activities.

'Oysters are filter feeders, so they feed themselves. It's mostly straightforward—that's one of the reasons it has spread so quickly.'

Community involvement is increasing and the processing and marketing sectors are also expanding. With strong demand for 'luxury' foods from the expanding middle class and tourism sector in Vietnam, the market has easily absorbed all the oysters produced so far, and the demand shows no signs of abating.

The project due to finish in December 2018 also reports important new understanding of genetic diversity in oysters. Shared technology and skills between Vietnam and Australia has resulted in the core goal of developing a breeding program for oysters in Vietnam now generations ahead of schedule; as well as the most significant change in the Sydney rock oyster breeding program in its 25-year history.

ACIAR project FIS/2010/100

SOUTH ASIA REGION

Afghanistan

Bangladesh

India

Nepal

Pakistan

Sri Lanka

More than 500 million people live in extreme poverty in South and West Asia. Many more, particularly women, live just above the poverty line and do not have the opportunity to participate in economic growth. Half the total population of 1.5 billion people depends on agriculture for their livelihoods.

Greater levels of cooperation between resource users and managers, regions and countries are required to manage shared resources, particularly water, to ensure their long-term sustainability and capacity to support economic growth, and to maintain regional stability.

ACIAR has a long and strong track record on research and development in the South Asia region, including improving crop productivity, improving water use efficiency and driving policy reforms. The regional strategy is focused on the three ecosystems—highlands, plains and coastal zone—which are common to India, Bangladesh and Nepal. Gender equality is a focus in all the investments under the regional program.

Bangladesh

Country overview

Bangladesh is modernising quickly, supported by solid economic growth of about 6% per year over the past 10 years. During this period, poverty levels have halved, and real per capita gross domestic product has almost quadrupled.

With concerns about Bangladesh's ability to maintain food security in the light of its high vulnerability to the impacts of climate change, the emphasis of ACIAR's research program is shifting from production of food grain towards a farming systems approach that supports broader improved food security. The program includes research on conservation agriculture, farm mechanisation, saline land management and adaptation to climate change, particularly in the rice–wheat and rice–maize systems.

Because of the similarity of farming systems, production constraints and technologies across the Eastern Gangetic Plains, research linkages on sustainable intensification and diversification are being developed with eastern India and Nepal.

Bangladesh also faces the problem of inadequate nutrition, which is not just limited to food availability but also to gendered consumption practices. The country also is challenged by international market variations and effectiveness of government structures.

Highlights

- **A versatile multicrop planter, redesigned to optimise its use for minimum tillage, has become the focus of a growing enterprise, with 21 newly purchased versatile multicrop planters now servicing about 1,000 farmers adopting the conservation agriculture strip-planting mode.**
- **The social alienation of marginalised individuals and communities brought about by agricultural intensification was addressed.**
- **Women farmers have benefited from adopting sustainable and resilient intensification practices of farming systems.**

Research achievements

The rising popularity of mechanised cultivators and planters in Bangladesh has opened opportunities to introduce conservation agriculture, to decrease crop production costs and improve soil fertility, while maintain or improving yield. A regional project, *Sustainable and resilient farming system intensification in the Eastern Gangetic Plains,* conducted in Bangladesh, India and Nepal (ACIAR project CSE/2011/077) has shown the economic benefit of conservation agriculture, and has now entered a scale-out phase where different methods of technology dissemination are being tested.

An ACIAR-funded project to introduce a method of conservation agriculture in Bangladesh, led by Dr Richard Ball of Murdoch University, has resulted in the redesign of a versatile multicrop planter to optimise its use for minimum tillage.

In Bangladesh, an ACIAR-supported project has demonstrated the benefits of the versatile multicrop planter in lifting farm production and profits, as well enabling the adoption of conservation agriculture practices. PHOTO: © 2012 Conor Ashleigh/ACIAR

Working with private enterprise, Haque Corporation, the project resulted in the purchase of more than 150 redesigned versatile multicrop planters, and a large network local providers now are servicing about 6000 farmers planting crops including wheat, maize, lentil, chickpea, mustard and rice using minimum tillage (ACIAR project LWR/2010/080). The project has demonstrated benefits from adoption of conservation farming and mechanisation to include significant savings in labour, costs of production (seed, fertiliser and pesticide) and increases in yield and overall profits. A follow-on pilot project has been established in the coming year to investigate the commercialisation of smallholder planters for conservation agriculture in Bangladesh (ACIAR project LWR/2018/111).

Agricultural intensification is undeniably increasing food production, and ensuring food demand is met. But this has come at the cost of an increasing social disparity between more affluent landholders and socially disadvantaged groups, such as landless or marginal smallholder farmers, households run by women and tribal minorities.

An ACIAR-funded project, led by Dr Christian Roth from the CSIRO Land and Water, is seeking greater understanding of the key social, institutional, economic and environmental factors that affect livelihoods and lead to social exclusion and environmental degradation through agricultural intensification (ACIAR project LWR/2014/072).

The project has undertaken processes to understand how key social, institutional, economic and environmental factors affect livelihood risks, social exclusion and environmental degradation as a result of agricultural intensification. In doing this, opportunities to manage the risks and promote social inclusivity and equity under different agricultural development scenarios have been identified. Following on from these stages, the project will promote the development of socially inclusive and equitable policies and engagement processes for sustainable agricultural intensification.

CASE STUDY

Women farmers profit from sustainable crop practices

Wheat seed multiplication plots in Bangladesh. PHOTO: Neal Dalgliesh

In Rangpur district in Bangladesh, Halima and her husband farm 40 decimals of land (about 0.16 hectares). The soil is mostly sandy (termed charland), which has limited irrigation facilities and is flood prone during summer.

Until recently, she was only growing rice on her land. During winter the land remained mostly fallow, and Halima and her husband had to migrate to other places for alternative livelihood options to support their family.

Halima and her husband took part in the trials of the *Sustainable and resilient farming systems intensification* project, led by Dr Thakur Prasad Tiwari from the International Maize and Wheat Improvement Centre. She had thought her land was unsuitable for winter (rabi) crops but through the project she learned that it was possible to grow wheat, using the strip tillage method, with reduced irrigation and production costs.

Although they had doubts, Halima and her husband decided to grow wheat on their land following the practices they had learned from the project. The result was a harvest of 420 kilograms, worth A$129, a great return on her investment of A$43; and she grew the wheat with less tillage, irrigation and fertilisers.

Halima sold 320 kilograms of wheat, kept 80 kilograms for household consumption and 20 kilograms as seed for the coming season. Thus 420 kilograms of wheat significantly contributed to her household's food security, partly supported her daughter's education and enabled the purchase of a calf.

After this experience, Halima is interested in continuing the conservation agriculture system intensification practices next season. Her success has also inspired neighbouring women farmers to produce wheat in their charland areas.

ACIAR project CSE/2011/077

India

Country overview

ACIAR has supported collaborative agricultural research between Australia, India and other South Asian countries since 1983. The Indian Council of Agricultural Research leads the country's national agricultural research system, and is a cornerstone of ACIAR's program in India.

ACIAR's research activities with India increasingly are linked to food security problems in other South Asian states, and as such, have a growing regional character. These activities include programs delivered with CGIAR, state agricultural universities, non-government organisations, autonomous institutions and the private sector.

ACIAR's priorities for its research program in India were reconfirmed during consultations in 2017 and ACIAR continues to focus on a regional program involving India, Bangladesh and Nepal. Within India, the geographic focus of ACIAR's work remains in the east, where poverty is greatest. Sharing knowledge could transform the region.

The capacity of shared knowledge to transform the region is reflected in the medium to long-term research strategy, which focuses on creating regional collaborations that:

- better manage agricultural water, including rain-fed areas in the Eastern Gangetic Plains and coastal zone
- sustainably intensify and diversify cropping systems, using conservation agriculture and zero tillage
- breed improved varieties of wheat and mungbean
- develop policy about agriculture, farmers' livelihoods and climate change.

Highlights

- **Indian authorities encouraged the use of the ACIAR-developed Happy Seeder to reduce burning of crop residues and associated air pollution.**
- **The stay-green trait was successfully incorporated into six cultivars of sorghum grown in India.**
- **Project results will improve the analytical skills and understanding of policymakers and irrigation officials, specifically as they relate to Participatory Irrigation Management/Irrigation Management Transfer.**

Research achievements

Burning is the normal method of rice stubble management in mechanically harvested rice–wheat growing areas of north-west India. An estimated 22 million tonnes of rice stubble is burned each year. The resulting air pollution in October and November affects the entire Indo–Gangetic Plain. A solution to reduce burning is to greatly expand the use of the Happy Seeder, a machine that makes it possible to sow seed directly through rice crop residue.

The Happy Seeder is spearheading efforts to improve air quality with authorities in India encouraging much wider adoption as a solution for rice stubble management. In an ACIAR-supported project, led by Dr Adam Loch from the University of Adelaide, value chain and policy interventions to accelerate adoption of Happy Seeder zero tillage in rice–wheat farming systems across the Gangetic Plains is being investigated (ACIAR project CSE/2017/101).

Sorghum is grown by smallholder farmers in water limited areas of India, after the rainy season. Stover—the dry stems and leaves—is increasingly important in the sorghum value chain in India. A project that ran for 10 years, led by Dr Vincent Vadez of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT, a CGIAR centre) successfully identified and transferred the stay-green trait into popular cultivars of sorghum plants of the post-rainy sorghum area in India (ACIAR project CIM/2007/120). The first phase of the project established the trait could be conferred into selected sorghum lines without any trade-off between productivity and nutritional value. However, a thorough characterisation of the new lines showed highly variable patterns of stress, and further development required specific breeding/agronomic solutions to specific stress scenarios.

Dr Adam Loch, University of Adelaide, leads an ACIAR-supported project investigating value chain and policy interventions to accelerate adoption of the Happy Seeder in rice-wheat farming systems across the Gangetic Plains.

In Phase 2 of the project, the stay-green trait was incorporated into six sorghum cultivars adapted to the target region in India. This work was the result of a close partnership between ICRISAT and the Indian Institute of Millets Research. The development of the six cultivars also used crop simulation modelling to design optimal genetic and agronomic management packages for specific stress scenarios defined in Phase 1.

The project then expanded the modelling work to the west–central Africa region and initiated the development of genetic stocks needed to target traits underlying the stay-green phenotype and traits identified in Phase 1.

A project in India and Pakistan is evaluating the merits of an approach called Participatory Irrigation Management/Irrigation Management Transfer (PIM/IMT) as a mean of devolving the responsibilities of management of irrigation schemes to farmers (ACIAR project ADP/2014/045). The project uses empirical data drawn from surveys in four jurisdictions—Sindh and Punjab in Pakistan, Assam and Bihar in India—all with some unique characteristics.

It was expected that survey respondents would positively regard greater involvement of farmers in decision about water timing, allocation and delivery. However, the data indicates that not all farmer-managed irrigation schemes work well and that non-cooperation was quite likely for most settings. However, cooperation could be increased by changing the portion of irrigation fees that is held locally.

The results of the project, led by Professor Lin Crase of University of Adelaide, aims to improve the analytical skills and understanding of policymakers and irrigation officials, specifically as they relate to PIM/IMT.

Nepal

Country overview

Agriculture in Nepal faces numerous interdependent challenges associated with degrading resources, underdeveloped agricultural institutions and policies, and lack of productive technologies and mechanisation. These limit the improvement of farm household livelihoods.

The challenges are very different in the lowland Terai rice–wheat farming systems (an extension of the Ganges Plain of India) compared with the mixed crop–livestock–tree farming systems of the hill and mountain areas.

ACIAR's program in Nepal supports improved integration of soil, water, livestock and tree components of the farming systems, and seeks to increase productivity of the respective components through adoption of appropriate technologies.

Given the common agricultural production challenges across the alluvial plains of Nepal, eastern India and Bangladesh, cooperative research linkages are being fostered with neighbouring countries, with a special focus on conservation agriculture.

Highlights

- **Farmer attitudes to the management of household agroforestry and community forests changed through silvicultural demonstrations, resulting in uptake of better practices.**
- **An ACIAR project team helped landless people form a farmer group whose members successfully grow high-value produce on leased land.**

Research achievements

The ACIAR-funded EnLiFT forestry program, led by Dr Ian Nuberg from the University of Adelaide, aims to increase the capacity of household agroforestry systems and community forests to generate livelihoods and food security in the mid-hills region of Nepal (ACIAR project FST/2011/076). The project established silviculture demonstration and trial plots in the Kavre and Lamjung districts to teach forest users, and start a debate on silviculture-based management of community forests—some of which were established with Australian aid 40 years ago.

Forest users were at first hesitant, because they believed that cutting trees is detrimental to forests, but silviculture demonstrations changed this perception. EnLiFT partners now share their experience with pride to other forest users interested in improving forest management. Several extension activities held at the demonstration plots opened the door for active involvement of women in forest management.

At the start of the EnLiFT project, local foresters and forestry technicians were also reluctant due to possible public outcry. However, when they experienced the EnLiFT silviculture work, they realised that practices such as thinning to improve forest productivity is possible. Moreover, the timber removed during thinning operations proved to be very useful in rebuilding after the very damaging earthquakes in Nepal.

The silviculture demonstration plots have been eye-openers for the public, particularly the local media and politicians. The project has lifted demand for more silvicultural extension work around the project zone and more widely in Nepal.

CASE STUDY

Creating new enterprise for landless people

Kanakpatti is a village in the Saptari District of Nepal. The community comprises different ethnic groups, including a Dalit group, who have no agricultural land, and traditionally have depended on labour wages and firewood collection. An ACIAR-funded project, led by Mr Erik Schmidt from the University of Southern Queensland, has helped form a farmer group in the Dalit community, consisting of eight members—five men and three women.

The group has leased 0.42 hectares of land, and members receive capacity development through training in crop production, water management and leadership. The group has visited a project site in Madhubani, India, where members learned how farmers can work effectively as a collective.

Cropping in the region is mainly paddy rice during the monsoon. Access to reliable irrigation is key, and an electric pump and tubewell have been installed to satisfy all-year irrigation.

The farmers have built furrows to improve irrigation efficiency, flat hose pipes now deliver water efficiently to each plot, and a small solar pump irrigates 0.15 hectares.

The farmer group is already growing vegetable crops throughout the year on previously barren land. Each farmer is now contributing to a saving and credit scheme.

The local project team is continuing to train the group in improved agriculture and water management practices, and helping to support progression to a sustainable collective model of farming.

Measures are underway to improve the soil fertility, and the project aims to increase the area of leased land. The project has also introduced farmers to growing high-value crops that could maximise their income, and reduce their dependency on traditional occupations.

The project, which will concluded in June 2019, aims to enhance the livelihoods for women, and marginal and tenant farmers in the eastern Gangetic Plains through improved dry season irrigated agriculture. The project works at 30 sites and 10 villages in India (Madhubani and West Bengal), Nepal (Saptari) and north west Bangladesh. A variety of crops and irrigation technologies and management practices are being demonstrated at each site. Collective farming is practiced in all villages in India and Nepal. Successful expansion of irrigated vegetable production into adjacent areas has occurred and a number of new collectives have formed. Cropping intensity has increased at all sites with diversification into dry season vegetables, and improved crop and irrigation management practices are being demonstrated.

ACIAR project LWR/2012/079

Pakistan

Country overview

Pakistan has placed food, water and energy security as key pillars of its future development in its *Government of Pakistan Vision 2025*. Australia is committed, through its aid program, to helping Pakistan meet these challenges, and has developed a portfolio of projects to achieve this.

ACIAR works closely with the Pakistan Government, Australian agencies, donor partners, non-government organisations and the Pakistani private sector to provide research, development, technical capacity building, technical support and carefully targeted interventions that underpin Pakistan development programs.

Poverty reduction, linking smallholder farmers to markets and gender equality are major issues for development programs in Pakistan, and key considerations of ACIAR's research program in Pakistan. Australia shares similar challenges to Pakistan in terms of soil and water management and productivity of cropping and livestock systems, and has expertise to offer in addressing these challenges.

A co-investment strategy in Pakistan between ACIAR and the Australian Government Department of Foreign Affairs and Trade—the Agriculture Value Chain Collaborative Research Program—focuses on collaboration and research in selected agricultural value chains. Poor rural communities, particularly women, will significantly and equitably benefit from improvement in strategic value chains.

Highlights

- **Farmers adopted new management practices to lift dairy productivity, assisted by engaging early-career women graduates to work with women farmers.**
- **A study of smallholder goat value chains in Punjab and Sindh opened the way for developing a larger project to support smallholder livelihoods, and engage women in goat (and sheep) raising.**
- **Simple water management tools improved farmer water management skills, and in turn, the profitability of small and medium-sized irrigation farms.**

Research achievements

Dairy farmers in Pakistan face many challenges when rearing animals for milk, often struggling to make any profit. These challenges are underpinned by a general lack of information about how to manage animals, and what basic conditions are required for healthy productive cattle. An ACIAR-funded project, led by Dr David McGill from the University of Melbourne, recommended some practical measures to improve smallholder dairy profitability, as well as investigated the profitability of rearing cattle for meat production on smallholder dairy farms (ACIAR project LPS/2016/011). Uptake of new practices increased when the team recruited early-career women researchers who could easily engage with the women farmers.

There is great potential for developing the goat meat sector in Pakistan, with benefits for poor rural communities. Goat meat is in high demand and is expensive, but production and processing are under-optimised, leading to low efficiency and low-quality meat.

A project in Pakistan identified practical measures to improve smallholder dairy profitability. PHOTO: © 2017 Conor Ashleigh/ACIAR

An ACIAR-funded initiative, led by Dr Rebecca Doyle from The University of Melbourne, studied the challenges and research opportunities for smallholder goat value chains in the provinces of Punjab and Sindh (ACIAR project LS/2018/105). This study formed the basis for a larger project to support smallholder livelihoods, and especially to engage women in goat (and sheep) raising.

Irrigation is critical to securing Pakistan's food security, reducing poverty and developing its economy, but its irrigation practice is amongst the least profitable in the world. A project led by Dr Sandra Heaney-Mustafa of the University of Canberra aims to develop and scale out tools and approaches for increasing farmers' irrigation management skills, and hence their livelihoods, on small and middle-sized irrigated farms (ACIAR project LWR/2014/074). The project focuses on improving farmer water management skills while transforming the learning processes used with farmers.

During 2017–18, baseline data was collected and successful irrigation water management tools and techniques were demonstrated. The project moved from the pilot phase into trial phase with the selection 28 new villages in six districts of the three provinces increasing the total number of project sites to 31 sites. An engineer from Pakistan Council of Research in Water Resources was trained at CSIRO in scientific testing of moisture management tools and repair of Chameleon moisture sensors and readers.

Another component of the project achieved in 2017–18 was the training of 40 facilitators who will train farmers in enhanced water management skills, and identify farmers who can train other farmers.

Assessment of the impact of the work is in preparation but farmers have reported increased understanding that over-irrigation can leach the nutrients, thereby wasting money. Using new water management skills, the farmers have reduced irrigations by up to three events, while increasing the yield by 2–6 monds per acre (1 mond = 37 kg).

EASTERN AND SOUTHERN AFRICA REGION

Botswana
Burundi
Ethiopia
Kenya
Malawi
Mozambique
South Africa
South Sudan
Rwanda
Tanzania
Uganda
Zambia
Zimbabwe

Overview

For three decades, ACIAR-supported projects have delivered research outputs, impacts and capacity to the Eastern and South Africa Region. These projects tackle technological, market and policy challenges, encompassing soil, water, crops, horticulture, livestock, trees, biosecurity and aquaculture. A broad 'systems approach' integrates production management, improved varieties and breeds, input and market chains (with agribusiness a dominant actor), and policy and capacity building at both individual and institutional levels.

The themes of ACIAR's research program in Eastern and Southern Africa have emerged from consultations with national and regional partners, including the Comprehensive Africa Agriculture Development Programme and the Forum for Agricultural Research in Africa. The themes build on Australia's expertise in dryland farming and agroforestry systems, water management, livestock health and plant biosecurity.

In eastern Africa, projects are designed to address food security and poverty through intensification and increased resilience in maize–legume–livestock farming systems. The goal is to achieve improved dietary energy and nutritional quality, and increase household income. Botswana, Rwanda, Uganda and other countries are benefiting from this research.

In southern Africa, research on livestock and cropping systems focuses on disadvantaged farmers in Botswana, South Africa and Zimbabwe.

In Malawi and Mozambique, the focus is on maize–legume intensification. A separate focus on irrigation water management involves Malawi, Mozambique, South Africa, Tanzania and Zimbabwe. (Tanzania sits in eastern Africa, but also belongs to the Southern Africa Development Community; Zambia is also involved in two of the projects focusing on nutrition and agroforestry that span both regions.)

Highlights

- **Adoption by smallholder farmers, including women and young people, of locally adapted agroforestry practices was widespread in Ethiopia, Rwanda and Uganda.**
- **In Mozambique, Tanzania and Zimbabwe farmers achieved better yields with reduced losses of water and nutrients, following the introduction of two inexpensive, simple-to-use monitoring tools.**
- **In South Africa's Eastern Cape Province, high-quality free-range beef products from cattle of emerging and communal farmer herds cost-effectively met the preferences of South African beef consumers.**
- **More than 235,000 small farming households adopted conservation agriculture techniques, with buy-in from the five major country partners and three spillover countries.**

Photo: CIMMYT

Research achievements

An ACIAR-funded project, led by Professor Catherine Muthuri from the World Agroforestry Centre, is working to improve food security and the livelihood of smallholder farmers through widespread adoption of locally adapted agroforestry practices in Ethiopia, Rwanda and Uganda, and has now entered Phase 2 (ACIAR project FST/2015/039).

Researchers are assessing the best fit options and knowledge gaps in each agroforestry zone in each country. They are encouraging the development of communities of practice to facilitate wider adoption of agroforestry systems and giving support to grassroots institutions that encourage smallholder farmers, including women and young people, to take up agroforestry innovations.

In mid-2017, 15 Ugandan parliamentarians visited agroforestry sites as part of the 4th National Agroforestry Conference, leading to the establishment of a taskforce to scale up agroforestry nationally, including parliamentary committees to establish a national agroforestry strategy and policy.

Ethiopia is also committed to developing a national agroforestry scaling platform, to help the Ethiopian Government meet its commitments to green growth and land restoration. It also intends to facilitate scaling up of agroforestry by converting 30,000 existing local plant nurseries adopting the project's model of using Rural Resource Centres to both distribute seedlings and teach farmers about agroforestry.

In Mozambique, Malawi, Tanzania and Zimbabwe, farmers are achieving better yields with reduced losses of water and nutrients with the help of two inexpensive, simple-to-use tools developed by Dr Richard Stirzaker of CSIRO.

The tools are the Full Stop soil wetting front detector and solute collection device, and the Chameleon tool that measures moisture at different depths in the soil profile. Farmers used these to learn the best combination of fertiliser application and irrigation for their crops on their soils, and increased their yields.

The ACIAR-funded research, in two related projects led by Dr Richard Stirzaker of CSIRO (ACIAR project LWR/2014/085) and Associate Professor Jamie Pittock from Australian National University (ACIAR project LWR/2016/137), has enabled the farmers and related stakeholders to achieve success in a traditionally difficult sector.

Two earlier ACIAR-funded projects in South Africa clearly showed that cattle grazed by small-scale and emerging farmers can meet the specifications of various high-quality beef markets. But to date, integration of these cattle into South Africa's commercial beef supply chains has been poor.

In a new project, led by Professor Heather Burrow from the University of New England, Woolworths (South Africa) aims to develop a free-range line of beef derived from cattle from the project's smallholder farmers in conjunction with Cradock Abattoir in the Eastern Cape Province and Cavalier Meats in Gauteng.

The biggest challenge in supplying free-range animals is for farmers to deliver consistent numbers of animals within market specifications throughout the year. The project assists farmers to develop business plans and build skills in improving their production system to enable them to consistently meet the stringent quality specifications of the free-range markets (ACIAR project LS/2016/276). These arrangements will secure a consistent flow of cattle, cash flow to participating farmers, and more animals delivered to supply this lucrative and growing market for free-range beef.

CASE STUDY

Big dividends accumulating for smallholder farmers

ACIAR supports the program Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA), which is turning around the livelihoods of farmers faced with the stress of poor seasons. Originally launched in 2010, and now in its second and concluding phase, the program aims to sustainably increase productivity of maize-based smallholder farming systems in each target country by 30% by 2023, reaching at least 650,000 farming households.

Bedaso Bose of the Bofa community, Ethiopia, in his maize crop that was developed as a pilot site for the SIMLESA project. PHOTO: John Dixon

The program is managed by Dr Mulugetta Mekuria from the International Maize and Wheat Improvement Center (CIMMYT), supported by ACIAR and implemented by national agricultural research systems in five partner countries—Ethiopia, Kenya, Malawi, Mozambique and Tanzania.

By early 2017, more than 235,000 small farming households had adopted conservation agriculture techniques. While the core beneficiaries are partner countries, Botswana, Uganda and Rwanda are also benefiting.

Improved agriculture practices—such as weed control, herbicide use, a larger range of maize and legume varieties, soil rehabilitation—and improved value chains and scaling out of proven technologies are having a positive impact on crop diversity, resilience and production.

Smallholder farmers also face challenges in gaining access to credit, improved technology and information on good agricultural practices. SIMLESA is linking smallholder farmers to rural financing services, to enable farmers to obtain loans for their businesses. In turn, farmers are better positioned to access reliable and lucrative markets.

In Malawi, conservation agriculture systems that have introduced new drought-tolerant maize varieties and cropping techniques, such as mulching, intercropping and crop rotations, have helped smallholder farmers better cope with dry seasons resulting from prolonged El Niño events.

In eastern Kenya, the average yield of maize in SIMLESA research trials is more than 7 tonnes per hectare, compared with less than 1.8 tonnes per hectare from conventional farming. Average yield from bean trials with good agricultural practices is producing 1.2 tonnes per hectare, compared with 0.45 tonnes per hectare from previous estimates.

ACIAR project CSE/2013/008

IN THE NATIONAL INTEREST

ACIAR's primary role and mission are to achieve more productive and sustainable agricultural systems that help reduce poverty and improve livelihoods through international research partnerships, for the benefit of both developing countries and Australia.

For 36 years, ACIAR has supported collaborative research where scientists from Australia and their developing-country counterparts work together on mutual problems in agriculture, forestry and fisheries. This ensures that many projects deliver benefits to both partner countries and Australia, including building capacity, and creating opportunities for Australian scientists.

Independent analyses have shown that, as well as high returns to partner countries, benefits to Australia from the research are also substantial. During the 2017–18 year, several ACIAR-supported projects provided notable and significant benefits to Australian farmers and natural resource managers.

Helping coral grow

Australia's Great Barrier Reef is one of many systems around the world that stand to benefit from coral restoration technology.

An ACIAR-funded project in the in the northern Luzon region of the Philippines, led by Dr Peter Harrison from Southern Cross University, developed techniques to raise coral larvae either in aquaculture facilities or directly in the sea. Successful restoration trials have sparked the interest of reef management agencies around the world, including Australia (FIS/2014/063).

This project attracted considerable attention in the mainstream media in Australia and overseas in June 2018, reflecting community concern about coral reefs, and excitement about the potential impact of this Australian innovation facilitated by ACIAR.

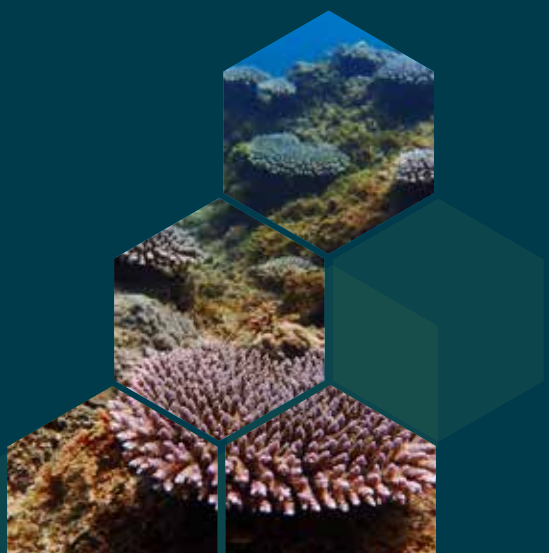
Protecting banana plants against disease

For almost a decade, ACIAR-supported projects have worked to prevent the spread of Panama disease (TR4)—a destructive disease of bananas—on smallholder farms in Indonesia and the Philippines (HORT/2012/097).

The experience gained from these projects meant that when TR4 was first detected in Australia in March 2015, at a banana plantation in Queensland, researchers were already armed with the knowledge on how to respond.

Lessons from Indonesia and the Philippines led to the implementation of the farm zone system, and a series of educational workshops were held to help Australian farmers prevent spreading the disease.

The project, led by Mr Stewart Lindsay from the Queensland Department of Agriculture, Fisheries and Forestry, has given Australian researchers a good scientific basis to continue further development of integrated management systems, using partially resistant cultivars in a disease suppressive soil management regime.



More productive pastoral lands

The positive impacts of ACIAR research are often long-lasting, providing benefits that can be applied to other areas, such as Australia, well after the projects are completed. ACIAR's Eastern Cape Arable Lands Project is a good example of this. By introducing grazing-tolerant legumes to South Africa's Eastern Cape, the project helped rehabilitate ploughed lands, increase soil fertility, and improve sheep health.

A collaboration between Murdoch University in Perth, the Government of Western Australia and the South African Government, the project identified the perennial South African legume *Lebeckia* as a salt-tolerant fodder for livestock (LPS/2004/022).

South Africa and southern Australia share a similar climate and soil composition, and *Lebeckia* has now been tested on several Western Australian sheep farms.

Trials have shown that the plant is palatable and non-toxic to Australian sheep, will not spread like a weed, fixes nitrogen, and is not vulnerable to existing local pests or diseases.

According to project leader Professor John Howieson, *Lebeckia* has the potential to turn five million hectares of Australia's marginal pastoral zone into much more productive country, by providing grazing and shelter for sheep.

A semi-commercial harvest of seed from farms with *Lebeckia* trial crops took place in December 2017. By helping farmers in developing nations, while delivering benefits for their Australian counterparts increasingly affected by climate change, this project represents a major success for Australia's foreign aid program.

It is hoped that the 2017 harvest is the start of true commercial production with widespread adoption across the marginal fringes of Australia's pastoral belts.

RESEARCH PROGRAM MANAGERS

The ACIAR 10-year Strategy 2018–2027, launched in February 2018, outlined a consolidation of the ACIAR research portfolio from 13 research programs down to 10, with the new program structure commencing 1 July 2018.

Although there was some transition to the new structure towards the end of the 2017–18 year, the programs and managers reported in this section are based on the previous research portfolio.

ACIAR's research programs in 2017–18 covered key agricultural sectors, the science needed to sustain the resource base, and the disciplines that generate economic and social benefits. An impact evaluation program assessed the achievements of ACIAR's research, to help guide future investment decisions.

Each research program is led by a Research Program Manager. They provide scientific leadership across the ACIAR research portfolio and conceive, commission, broker and assess research projects. The Research Program Managers report to the Chief Scientist and work together on key cross-cutting issues such as gender, climate change, nutritionally-sensitive agriculture, integrated farming systems, economics and policy and the link between livestock and human health risks.

The long-standing policy in ACIAR is that Research Program Managers can serve a maximum of eight years in their role. During 2017–18, the eight-year terms of four managers concluded. These were Dr Chris Barlow, Dr Richard Markham, Mr Tony Bartlett and Dr John Dixon. Collectively, these scientists and research managers made an enormous contribution to ACIAR and to scientific leadership across the region.

Each research program and the associated Research Program Manager for 2017–18 are listed as follows.

Agribusiness — Dr Rodd Dyer

The Agribusiness Program aims to give farmers and agribusiness better access to new knowledge, to underpin the production and marketing of agricultural outputs at higher levels of productivity and quality.

Before working at ACIAR, Dr Rodd Dyer managed the Northern Beef Program at Meat and Livestock Australia. Rodd holds a PhD in agricultural economics from the University of Aberdeen, undertaken in association with the International Livestock Research Institute in the Philippines. He also holds a Master of Agricultural Science specialising in rangeland ecology and a Bachelor of Agricultural Science with Honours, both from the University of Queensland.

Agricultural Development Policy — Dr Ejaz Qureshi

The Agriculture Development Policy Program studies how policies influence adoption and extend the outcomes of technical research.

Dr Ejaz Qureshi has more than 15 years' experience dealing with natural resource management and associated policies, in Australia, China, Pakistan, Indonesia and India. Before joining ACIAR, Ejaz worked at the Fenner School of Environment and Society, Australian National University, CSIRO, ABARES and James Cook University. Ejaz holds a PhD in Resource Economics and Environmental Management from the University of Queensland.

Crop Improvement and Management — Dr Eric Huttner

The Crop Improvement and Management Program helps make major crops and cropping systems more productive, sustainable and resilient to increase food security, by researching agronomic practices and improving breeding methods.

Dr Eric Huttner graduated as an agricultural scientist in Paris, France. He completed a PhD in plant molecular genetics in 1986, undertaking research at INRA (French National Institute for Agricultural Research) in Versailles, France. As part of his French national service obligations, Eric worked as a postdoc in Shanghai, China. He moved to Australia to establish the Australian research arm for the French seed company Limagrain, based at the Australian National University. In 2001, Eric became the founding General Manager of Diversity Arrays Technology, a company delivering genetic analysis services to plant scientists and plant breeders worldwide. Eric joined ACIAR in 2012.

Cropping Systems and Economics —
Dr John Dixon

The Cropping Systems and Economics Program aimed to make field crop farming systems more productive and sustainable to increase food security, using collaborative biophysical and economic research and development partnerships.

For 30 years, Dr John Dixon worked on developing country experience with agricultural research and development—including cropping systems, economics and natural resource management—in Asia, Africa, Latin America and the Middle East. He has worked for the CGIAR system, CIMMYT, and the Food and Agriculture Organization of the United Nations (FAO). He graduated from the University of New England with a PhD in agricultural economics, Master of Natural Resources, Master of Economics and Bachelor in Rural Science. John retired in July 2018 and was awarded a Distinguished Alumni Award by the University of New England.

Fisheries — Dr Ann Fleming
from November 2017

The Fisheries Program aims to make fisheries and aquatic farming systems in partner countries and Australia more productive and sustainable through international research partnerships.

Before joining ACIAR, Dr Ann Fleming was a research development specialist for Monash University, and a research program manager at NT Fisheries and the Abalone Aquaculture Program for the Fisheries R&D Corporation. Ann has reviewed Indigenous fisheries policy and management in the NT, and helped develop capacity of Indigenous youth and women in mariculture enterprises. Ann has brokered important private-sector partnerships and reviewed ACIAR fisheries projects in the Philippines, Cambodia and Timor-Leste. Ann holds a PhD in Aquaculture from the University of Melbourne, a Bachelor of Science (Honours) from Monash University and a Graduate Certificate in Public Sector Management from Flinders University. She is undertaking a Master of International Development at RMIT.

Fisheries —
Dr Chris Barlow
until September 2017

Dr Chris Barlow completed an eight-year term as Research Program Manager, Fisheries in September 2017. Before joining ACIAR, Chris was the Chief Technical Advisor of the Fisheries Program of the Mekong River Commission based in Vientiane, Laos. He set strategy for research programs, brokered major R&D partnerships between countries and organisations, and managed programs. Previously Chris worked with the Queensland Department of Primary Industries and Fisheries.

Forestry — Mr Tony Bartlett

The Forestry Program contributes to economic development and natural resource conservation and rehabilitation in partner countries by providing scientific support to establish, manage, and use forests sustainably.

Mr Tony Bartlett joined ACIAR in July 2010 from the Department of Agriculture, Fisheries and Forestry where he was responsible for Australian Government forestry and resource management programs. He has 40 years of experience in forestry, having worked in Victoria, Nepal, Vanuatu, and the Australian Capital Territory, as well as for the Australian Government. He was awarded a Centenary Medal in 2003 for his contribution to Australian and international forestry. He holds a Bachelor of Forestry Science from Melbourne, and a Master of Science from the University of Oxford. Tony completed his eight-year term as Research Program Manager in July 2018.

Horticulture — Dr Richard Markham
until March 2018

The Horticulture Program aims to improve the productivity, profitability and sustainability of fruit, vegetable and ornamental crop production in developing countries and Australia. It is working to improve supply chains, optimise productivity, improve quality and minimise losses of fruit and vegetable crops.

Dr Richard Markham worked in international research for development for 30 years. Before joining ACIAR, he worked for Bioversity International (a CGIAR centre), where he led a large scientific team across several continents, focusing on commodity crops as a source of livelihoods for rural communities. His main research training and experience is in crop protection, but his research management responsibilities have covered germplasm conservation, crop protection, production, postharvest and marketing issues. He has also worked in science writing on research, agricultural, environmental and development issues.

Horticulture — Ms Irene Kernot
from June 2018

Ms Irene Kernot is an extension specialist who started as Research Program Manager in June 2018. Irene has almost 40 years' experience in agriculture in northern Australia. She started as a field agronomist with the Northern Territory Department of Primary Industries, conducting trials on maize, sorghum, peanuts and soybean. At the Queensland Department of Primary Industries, Irene worked as an extension specialist on development projects for tropical fruit crops including mango, avocado, lychee and papaya. Irene then went on to manage a research team delivering high-impact, high-quality scientific research projects (including a number of ACIAR-supported projects) across horticulture production, integrated pest and disease management, market access and disinfestation, postharvest science and supply chain management.

Impact Assessment —
Dr Andrew Alford

The Impact Assessment Program evaluates the impact and return on investment in agricultural research, to refine priorities, learn lessons from current and past projects, and ensure accountability.

Dr Andrew Alford manages the professional evaluation of ACIAR's research and development investments, and develops methods to determine their effectiveness. He came to ACIAR from Meat and Livestock Australia, where he evaluated on-farm research and development investments. He holds a Bachelor of Rural Science, a Master of Economics, and a PhD in bioeconomic modelling of beef cattle systems from the University of New England. He completed his PhD, which involved optimising cattle genetics on pasture-based systems, while working with the New South Wales Department of Primary Industries as a dairy extension officer and as a livestock researcher.

Livestock Systems —
Dr Werner Stur

The Livestock Systems was created by merging the previous Animal Health and Livestock Production Systems programs of ACIAR. The new program builds an understanding of the technical constraints and the socioeconomic contributions of smallholder and pastoralist livestock systems, to find solutions that enable smallholder farmers to refine their livestock management toward production and income generation

For much of his working life Dr Werner Stur has been involved in livestock research for development, with a focus on forages, feeding and livestock production in smallholder farming systems in Asia. Werner has worked as a researcher for the universities in Australia and the International Center for Tropical Agriculture based in Lao PDR and the Philippines. He holds a PhD in tropical pasture science from the University of Queensland.

One Health —
Dr Anna Okello
Associate RPM

The One Health Program focuses on the interactions between animal health, human health and ecosystem health, with an emphasis on diseases of regional significance, including transboundary diseases, zoonotic diseases, diseases affecting production and diseases affecting trade and market access.

Dr Anna Okello is the Associate Research Program Manager for One Health. Anna has 15 years' experience in international livestock development and veterinary public health, with a research interest in operationalising integrated public health interventions in Africa and Asia. She holds a PhD in health policy/ systems research from the University of Edinburgh, and a veterinary undergraduate degree.

Social Sciences — Dr Jayne Curnow

The Social Sciences Program focused on livelihoods, agricultural extension, gendered social relations, women's empowerment, climate adaptation, ecosystems and natural resource management.

Dr Jayne Curnow is an anthropologist with a PhD from the Australian National University and a graduate of the Australian Institute of Company Directors. Before joining ACIAR, Jayne worked at the International Water Management Institute based in Sri Lanka where among many projects she led a project mapping gender data and statistics related to water and agriculture with research teams in the Volta, Nile, Ganges and Mekong river basins. Previously she was a lecturer in Anthropology and Development Studies at the University of Adelaide, worked at the World Bank in Indonesia, the Australian Department of Health and Ageing, and with several non-government organisations in Timor-Leste.

Soil and Land Management — Dr Robert Edis

The Soil and Land Management Program explored interventions in tillage and water management, nutrient management, and crop rotations projects, designed in the context of a systems approach to conservation agriculture.

Before joining ACIAR, Dr Robert Edis ran an agricultural science consulting practice, tackling issues of national and international importance. He was previously a Soil Scientist at the School of Land and Environment, The University of Melbourne. Robert holds a PhD from The University of Melbourne, specialising in Soil Science, and Master and Bachelor (Honours) degrees in Science (Agriculture) from The University of Sydney.

Water and Climate — Dr Robyn Johnston

The Water and Climate Program focuses on increasing water productivity through technical and water policy interventions.

Before joining ACIAR in 2017, Dr Robyn Johnston was a Principal Researcher with the International Water Management Institute (a CGIAR centre), including three years as the institute's Country Manager in Myanmar. Robyn previously worked with the Murray–Darling Basin Commission and the Mekong River Commission, AusAID, the Bureau of Rural Sciences and Geoscience Australia, on science and policy of land and water management. She holds a Bachelor of Science (Honours) from Australian National University, a Master of Science (Geochemistry) from the University of Leeds and a PhD from the University of New England.

IMPACT ASSESSMENT PROGRAM

Economic evaluation
Adoption study
Impact pathway analysis

The Impact Assessment Program measures the difference that ACIAR's investments make to the research capabilities and economic wellbeing of target groups in partner countries and Australia.

The results are used to support ACIAR's public accountability, improve project development and implementation and provide valuable input into setting priorities for future activities.

The program helps improve the accuracy of the information used to assess research impacts, and the effectiveness of methodology used to quantify investment returns.

The Impact Assessment Program commissions three types of assessment on completed projects:

- **Economic evaluation—**in-depth analyses of the adoption and impact of research outputs in partner countries and Australia. Quantitative estimates of the investment returns are provided, as well as a qualitative assessment of social and environmental impacts. Economic evaluations are published as reports in ACIAR's Impact Assessment Series.
- **Adoption study—**a project evaluation usually done by the Australian project leader, three to four years after the project's completion. It provides ACIAR and partner organisations with a greater understanding of the pathways to change, and why adoption has or may not have occurred.
- **Impact pathway analysis—**an in-depth understanding of the contextual environment, the key stakeholders, pathway linkages, the changes that have occurred, and actions that could be made within the project or program to increase the likelihood of the ultimate goals being reached.

Achievements 2017–18

During 2017–18, the Impact Assessment Program conducted a series of studies to understand the outcomes and impacts of investments in research projects focused on: giant clam research in the Indo–Pacific region; aquaculture-based livelihoods in the Pacific islands region and tropical Australia; and aquaculture rehabilitation projects in Aceh Indonesia. The reports of these studies were published in the ACIAR Impact Assessment Series during 2017–18.

An adoption study of project outputs for four ACIAR projects completed in 2012–13 was also undertaken and reported by the Impact Assessment Program. This study covered forestry and poultry in Papua New Guinea, wheat in Bangladesh and cattle in Indonesia; and the report was published in the Adoption of Project Outputs Series during 2017–18.

The knowledge gained from the impact assessments and impact pathway analysis was shared through ACIAR-funded and delivered training courses on research evaluation. Information sessions also were provided to researchers and project leaders throughout the year, along with sessions conducted for current John Allwright and John Dillon Fellowship holders.

Giant clam research in the Indo–Pacific region

From 1982 to 1997, ACIAR invested in four research projects on giant clams for their potential contribution to sustainable livelihoods.

Total financial support was about A$4 million, distributed across seven Pacific island countries and the Philippines. The projects had multiple objectives targeting scientific knowledge, environmental conservation and livelihood improvements. The impact assessment focused on restocking activities, hatchery technique development, documentation of giant clam biology, assessment of possible markets and development of grow-out techniques for coastal villages, predominantly in the Philippines and Solomon Islands.

The projects assessed were:

- *The culture of the giant clam for food and restocking of tropical reefs* (FIS/1982/032 and its extension FIS/1987/033)
- *Economics of giant clam mariculture* (EFS/1988/023)
- *Large-scale village grow-out trials for giant clams* (FIS/1995/042).

The investments in the Philippines built significant knowledge, capacity and conservation, demonstrated by the high number of ongoing activities in the Philippines.

Knowledge produced during the project was highly salient to the Philippines context, as some giant clam species, such as *Tridacna gigas*, were near extinct prior to this project. Restocking was critically needed to balance populations. Numerous restocking efforts have been made throughout the country, and academic literature reports that 10,000–20,000 *Tridacna gigas* individuals have been restocked over 20 years.

Capacity was already high at the time of the investments, with two highly trained institutions working on the projects. Since project completion, the team members involved in the Philippines project have continued to become global leaders in marine protected area development and research, mariculture techniques, and giant clam conservation and biological research.

These highly skilled individuals and institutions are training the next generation of marine researchers, and producing high-quality knowledge in academic publications. A ban on international giant clam sales in 1995 thwarted economic opportunities from giant clam sales for farmers. However, over time, a new, unintended impact emerged. As the research centres continued to produce giant clams for research and conservation purposes, an ecotourism industry developed.

Impact assessment studies on two ecotourism enterprises, using giant clams sourced from ACIAR partners to develop their activities, showed that the enterprises—one private and one public—generated incomes for local communities and increased tourist numbers. Similar stories exist throughout the Indo-Pacific region, where giant clams are iconic species, and tourists are willing to pay to see them.

Funding for giant clam grow-out research provided to Solomon Islands was relatively small. Some positive social, capacity and knowledge impacts were achieved, but economic and environmental impacts were not sustained.

After the clam industry closed in the country, successful farmers involved in the grow-out stages of the project were able to transfer skills to other sectors, such as sea cucumber and oyster pearl farming or bookkeeping jobs.

The local staff involved in the project developed advanced research and giant clam rearing skills, which they used for other employment opportunities after the project.

Overall, the impact of the projects on knowledge and capacity in mariculture techniques and giant clam biology was high. As the first major fisheries investments for ACIAR, the giant clam projects have left a legacy in the Indo–Pacific region, and the technical knowledge is well known.

The changing market context of the commodity has meant that sustained adoption of technology and marketing has not occurred. But the quality of the science and the capacity built means people are now able to respond and adapt to new conservation objectives, and marine-based research or commodities that might emerge.

Aceh aquaculture rehabilitation projects

An estimated 16,000 fishers and fish farmers of Aceh lost their lives following the Indian Ocean earthquake and tsunami on 26 December 2004.

There was also extensive damage to tambaks (brackish water aquaculture ponds) and infrastructure, including about 200 of the 297 shrimp hatcheries in Aceh—a socially, economically and environmentally important industry in Aceh.

Some estimates put the total number of people affected by the damage to aquaculture at more than 200,000.

This assessment reviewed the impacts and benefits of the contribution of ACIAR to the rehabilitation efforts in Aceh. Specifically, it involved an impact assessment of two aquaculture-focused projects:

- *Technical capacity building and research support for the reconstruction of tsunami-affected, brackish water aquaculture ponds in Aceh* (FIS/2005/009)
- *Aceh aquaculture rehabilitation project* (FIS/2006/002).

These projects focused on providing support to tambak redevelopment activities in Aceh, with an emphasis on building technical capacity within the Balai Perikanan Budidaya Air Payau (BPBAP), in partnership with the Aceh Aquaculture Rehabilitation Project. Both projects ran from 2006 to 2010.

Relief and recovery efforts in Aceh involved hundreds of agencies and institutions working in different and overlapping sectors. Further, the Aceh landscape had greatly changed over the years since the tsunami—politically, economically, demographically and physically.

As a result, it was a challenge to directly attribute changes or benefits solely to the ACIAR investment. However, a substantial amount of evidence showed the projects had direct and indirect benefits for Aceh. The projects built on previous ACIAR fisheries and aquaculture projects, applying technical knowledge and capacity building for disaster rehabilitation, to help 'build back better'.

The primary benefits arising from the projects were increased capacity and knowledge through training and education. The staff of BPBAP, local extension officers, local non-government organisations and farmer communities have been the main beneficiaries of this.

The projects resulted in:

- economic benefits—through better returns on investment from improved farming practices (such as diversified production, improved production, decreased losses)
- environmental benefits—from improved farm management, awareness of different soil profiles and changes to feeding regimes and water quality testing procedures
- social benefits—from improved knowledge and trade networks, greater employment opportunities and improved connectivity among BPBAP and others
- individual benefits—through improved knowledge, promotions, access to further education and increased linkages to networks
- institutional benefits—through increased capacity at BPBAP and upskilling of staff, resulting in more engagement with industry and more positions available at BPBAP.

The assessment found that the BPBAP was successfully supported, capacity was built, and the organisation continued to grow with the projects' support, fulfilling an important role in Aceh aquaculture.

In addition, the assessment team interviewed entrepreneurial individuals who definitively credit the two reviewed projects as the reason for their success. The evidence suggests that if ACIAR was again to develop and run programs following a disaster, a similar focus on a higher-level institution and a top-down approach would be recommended.

Aquaculture-based livelihoods in the Pacific islands and tropical Australia

An impact assessment study of two ACIAR-funded aquaculture-based livelihood projects was completed in Pacific island countries and tropical Australia. The two projects were:

- *Sustainable aquaculture development in the Pacific islands region and northern Australia* (FIS/2001/075)
- *Developing aquaculture-based livelihoods in the Pacific region and tropical Australia* (FIS/2006/138).

The projects represented a novel design for ACIAR research. Project leaders worked with stakeholders in Pacific island countries to identify 40 mini-projects that addressed short-term and specific aquaculture bottlenecks and opportunities.

Mini-projects targeted practical outcomes, the continuity of fledgling aquaculture industries, and sustaining research effort between larger and more complex ACIAR investments.

They were completed in seven Pacific island countries, one Pacific island territory and Australia, addressing aquaculture, mariculture and hatchery design.

Preliminary assessment showed that most mini-projects were successful—adoption pathways were clear, capacity was built, scientific knowledge was created and community economic, social and environmental benefits were generated.

ACIAR minimised the additional administrative burden of managing 40 mini-projects by integrating their management with other ACIAR projects. There was a high degree of collaboration among the technical teams, and regional and Australian experts contributed to project success.

Key findings from a qualitative analysis of three case study projects follow.

The two mini-projects addressing native freshwater prawn (*Macrobrachium lar*) capture and culture in Vanuatu and Wallis and Futuna were technically successful, and outputs from the project were immediately adopted by smallholders. However, over the subsequent six years, smallholders stopped using the methods, with the total number of farms adopting mini-project technology declining from a peak of 16 in Vanuatu in 2011 to between three and four in 2017. There was no sustained adoption in Wallis and Futuna.

A single mini-project addressing rainbow trout (*Onchorynchus mykiss*) production in Papua New Guinea demonstrated that while an imported diet led to better rainbow trout growth rates, a locally formulated diet was satisfactory, cost less and was more accessible to highland fish farmers. While the project produced only temporary outcomes in terms of farmers adopting the technologies generated in the project, it did lead to increased capacity among local research partners. Skills in aquaculture research were developed by Papua New Guinea institutions, and fish farmers improved their husbandry techniques. Preliminary success was attributable to a clear research objective, sound project design, a close working relationship with the relevant trout farms and an encouraging initial sale price for fish.

A mini-project undertaking the transfer of live rock culture knowledge from Tonga to Indigenous communities in Australia led to the commercialisation of live rock production for reef restoration and related intellectual property that could be licensed. (Live rock is the term given to either natural or artificial rock that has spent time in the sea and developed a covering of marine bacteria, plants and animals. It is used in home and commercial aquariums). The Buba Abrolhos Live Rock Pty Ltd has achieved some initial export success with their approach.

A larger impact assessment was also conducted of projects relating to winged pearl oyster (*Pteria penguin*) hatchery and nursery culture management, and training for mabé production in Fiji and Tonga.

Technologies developed through this ACIAR research included:

- new protocols for ocean capture of spat
- nursery protocols to increase oyster survival and shorten the oysters' non-productive period
- new oyster farming techniques addressing optimal depth of placement in the water column
- optimal stocking rate and cleaning requirements
- improvements in anesthetising and seeding oysters for pearl production
- techniques for producing quality mabé jewellery and mabé business analysis tools.

Adoption of research outputs by final users has been attributed to:

- research team continuity and in-country presence
- taking a long-term view focused on developing industry partnerships with government in Fiji and Tonga
- working with the commercial sector
- a lack of negative social and environmental impacts.

Capacity was developed in Australia, Fiji and Tonga, with the scientific community and the villages adopting research outputs, which included the establishment of pearl industry infrastructure. Mariculture scientists obtained masters and doctorate qualifications, remained in-country and engaged with the mabé and pearl industries.

Private sector technicians and farmers were trained in mabé production. Village-based training was completed in spat collection, oyster farming and handicraft making. Women were trained in oyster shell cutting, polishing and jewellery making. Business skills training was provided to spat collectors, mabé farmers and jewellery makers.

Importantly, the assessment of impacts on women involved in mabé production and the pearl industry in Fiji was specifically analysed, and found positive outcomes for capacity development, access and control of productive assets and income, and an additional role in decision-making and leadership. These gains in women's empowerment have been realised without an excessive increase in women's work hours.

Adoption of ACIAR project outputs 2017

Adoption studies help ACIAR assess the difference that projects make at the scientific and community levels in the partner countries and Australia. The studies provide ACIAR and our project partners with deeper understanding about the pathways to change in the complex contexts in which we operate. Typically, adoption studies are undertaken by the Australian project leader three or four years after the completion of the research phase of a project. During 2017–18, the adoption of results was studied for four ACIAR projects completed in 2012–13. The projects were:

- a forestry-related project in Papua New Guinea
- a crop-related project focused on wheat in Bangladesh
- a chicken-related project in Papua New Guinea
- a cattle-related project in Indonesia.

The outputs from the projects were diverse, ranging from the establishment of forestry genetic resources (in Papua New Guinea) to technology packages for cattle (in Indonesia).

The projects reported in this annual report reflect a broad balance of technology, policy and knowledge outputs. Most of the projects also involved capacity building in partner countries and institutions, ranging from formal university-based training to a variety of on-the-job training activities for technical staff, research scientists, non-government organisations and farmers.

The four adoption studies generally indicated medium levels of adoption of the project outputs. For each project, the adoption results provided some useful lessons and observations for ACIAR-funded projects.

Market and private sector interaction is crucial

The forestry project in PNG demonstrated the importance of markets for products, as well as commercial involvement. While some landowners were early adopters of new approaches, wider adoption required a clear financial benefit, which will only be achieved through the establishment of markets for product, as well as commercial intermediaries to provide market signals to landowners.

Care is needed in choosing research participants

The broiler feed project in Papua New Guinea illustrated the importance of choosing farmer participants who were able to take action, were accessible and reliable, and had sufficient motivation to participate.

Broad engagement is important

Researchers involved with the rabi-season (winter) cropping project in Bangladesh noted that considerably broader engagement with the farming community to increase the diversity of the participants (particularly gender diversity) would improve future projects.

Resources for extension are important

Limited resourcing to public extension agencies, and lack of incentives and training limited the capacity of extension officers to engage with research activities associated with the herd management project in Lombok, Indonesia.

In future projects, alternative or additional mechanisms for dissemination of beneficial research outcomes need to be considered, and could include partnering with the private sector or existing civil society organisations, or funding farmer champions for dissemination.

The Lombok project also noted the success of employing, training and mentoring a project team at the site.

Influencing policy needs ongoing and strong engagement

The Lombok project noted that policy influence at the provincial level resulted from strong networks built by the Lombok project team, and there was continued activity and engagement with the farming community over 15 years.

National policy influence, however, requires extensive institutional engagement. There is an important role for ACIAR to engage with the central government on national and provincial priorities and investments for cattle production to create a more supportive policy environment for livestock research activities in Indonesia.

Research into institutional settings is needed

An area of research that could have widespread utility is to document the different institutional settings associated with cattle production in Indonesia and the mechanisms available to influence policy. This would then enable analysis and comparison of the scope, advantages and disadvantages of engagement with different mechanisms.

Such an approach would support more targeted and informed policy engagement and might help close a gap between research outcomes and policy direction. This would, in turn, improve the effectiveness of Australian-funded research in livestock production and provide a more efficient policy pathway to improved livelihoods for smallholders—regardless of the politics of policymaking.

CAPACITY BUILDING

Building capacity in people and institutions in partner countries is a key priority for ACIAR. During 2017–18, ACIAR made significant progress developing its overall capacity building program to include a greater focus on leadership and career development. This is in line with ACIAR's 10-year strategy.

ACIAR's formal capacity-building program includes:

- postgraduate study for researchers involved with ACIAR projects
- training in research management and leadership
- financial support to attend or run short courses that directly benefit international agricultural research
- an alumni program to provide a platform for long-term engagement with ACIAR fellows and partners.

Postgraduate fellowships

John Allwright Fellowships for postgraduate training at Australian universities at the masters or doctoral level are awarded to partner-country scientists involved in ACIAR-supported collaborative research projects. ACIAR's research priorities are determined through regular consultation with partner countries. Alignment of postgraduate training with research ensures that the training needs of partner countries are met.

As a result, postgraduate studies focus on areas that add value to the theme of the ACIAR project in which the awardee is engaged, but do not directly form part of the project.

In 2017–18:

- 94 fellows were studying across 12 institutions
- 13 completed their Master or PhD study
- seven began study during the year.

The University of New England was successful in winning a tender in 2017–18 to develop and deliver the John Allwright Fellowship Executive Leadership program, which will start in 2019. The university will develop the curriculum and arrangements for the program, which will be delivered through both face-to-face and online learning modules. The program will provide John Allwright Fellows with the skills needed to successfully take up leadership and management positions when they return to their institutions, in-country.

ACIAR also provided scholarships to citizens of seven South Pacific countries (Fiji, Kiribati, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) to complete a postgraduate diploma or Master of Science degree at the University of the South Pacific.

These students are undertaking research in close collaboration with an ACIAR-funded project in the region, on a topic of high priority to one of ACIAR's Pacific region partner countries. The scholarship program is delivered through a 'twinning scheme' with the University of the Sunshine Coast to strengthen and support the scholarship program.

Research management and leadership training

The John Dillon Fellowship training program for mid-career scientists from ACIAR partner countries was conducted by the University of the Sunshine Coast during April–May 2018. For the first time, one Australian researcher was included in the cohort of 11 mid-career researchers.

The four-week program included workshops on leadership, project management and communication. The fellows also attended industry events and networking activities, as well as a field trip to Cairns and meeting at ACIAR House in Canberra. The final element of the fellowship was an institutional placement.

Feedback from 2018 John Dillon Fellows was extremely positive, although some fellows noted they would have liked it to be longer. This is being fed into the design of future rounds, where the length of the institutional placement will be tailored to each fellow.

From 2018–19, the John Dillon Fellowship will be run twice a year, with the cohort increased to 15 participants, including two Australians.

Significant work was completed to scope the requirements for a leadership program targeting women in agriculture in the Indo-Pacific. Applications will open in the second half of 2019. During 2017–18, ACIAR sponsored two women from Bangladesh to participate in the African Women in Agricultural Research and Development (AWARD) fellowships, to learn more about the program.

Internships and volunteers

During 2017–18, ACIAR piloted an internship program for Australian Masters of Business Administration (MBA) students, by placing them in ACIAR agribusiness projects. A University of Queensland MBA graduate worked with Yoma Bank in Myanmar, investigating value chain financing opportunities in the sugar sector.

John Dillion Fellows (left) learn about the Chameleon a device that measures soil moisture at different depths in the soil profile from the tool's developer and ACIAR partner, Dr Richard Stirzaker, CSIRO Land and Water.

A Melbourne Business School MBA graduate investigated the potential for a customised mobile app to improve the information flow between cassava starch processors, traders and farmers in Vietnam. In a second phase of the pilot program, ACIAR plans to place eight interns in 2018–19.

ACIAR also started work on *Farmers Without Borders*™, a volunteering program that will place Australian farmers in ACIAR projects to share their knowledge with farmers in developing countries. An initial operating model has been scoped, and ACIAR is preparing to move into the proof-of-concept stage for the program, assisted by agribusiness consultants Mecardo.

Financial support for short courses

ACIAR provides support to qualified individuals wishing to participate in a conference, seminar, workshop or field visit that aligns with the agriculture-for-development priorities of partner countries. Our events program has been renamed the Launch Fund. The fund provides financial assistance to organisations or individuals wishing to conduct or attend events that directly benefit international agricultural research.

Activities funded by the Launch Fund develop skills and knowledge and/or develop and maintain research partnerships to improve international agricultural research.

ACIAR provided support to various international training events and workshops during 2017–18. Funding was also provided to scientists of developing countries to attend TropAg 2018 in Brisbane, sharing lessons from ACIAR-funded research to colleagues from the region; and for training in forest pest and disease biosecurity at the University of the Sunshine Coast.

ACIAR supports The Crawford Fund to use its network and skills base to organise annual conferences, master classes, training and outreach activities that help build capacity in agricultural research and development both overseas and in Australia. ACIAR supported attendees to participate in The Crawford Fund's Agricultural Leadership and Management Masterclass. This masterclass series aims to accelerate the design, use and outreach of agricultural research in the Indo-Pacific region.

John Dillon Fellows and ACIAR staff meeting at ACIAR House in Canberra.

OUTREACH

ACIAR has responsibility to communicate the results of the agricultural research it undertakes to both people and institutions. The Outreach Program focuses on increasing understanding of the impact of Australia's aid investment through ACIAR and ensuring that more people in Australia and in partner countries can access, understand and use our research findings.

Publication of research results

ACIAR publishes scientific information in a number of formats, primarily focusing on research results. Three editions of ACIAR's flagship magazine, *Partners in research for development*, were published, printed and delivered to over 6000 people during 2017–18. Investigation into the scope for electronic subscription and circulation of the magazine continued.

Several synthesis publications in ACIAR's monograph series were also produced during the year, including:

- *Sharks and rays of Papua New Guinea*
- *A guide to manufacturing rotary veneer and products from small logs*
- *Impact assessment of giant clam research in the Indo-Pacific region.*

Chef Paul West, (second from right) features in one of six episodes of the *The Good Cooks* filmed on location, and profiling ACIAR-supported projects and local foods.

Website development

During the year, ACIAR redeveloped its website to be less text-heavy and much more engaging with captivating imagery, multimedia content and highlights. Upgrades to the site continue with work focusing on ensuring the interactive map integrates more closely with projects in each country, and the search function includes targeted terms.

Social media

Social media continued to be a key promotional tool for ACIAR, attracting more than 38,000 new followers across all channels for the financial year. Channels such as Facebook and Twitter were particularly successful in promoting the work of ACIAR both domestically and internationally, featuring a variety of images, videos and blog stories about projects all around the world. Since its launch in November, ACIAR's new blog site has attracted more than 200,000 readers.

Media partnerships

ACIAR developed two media partnerships during 2017–18, designed to communicate to Australian audiences the value of international agricultural research both domestically and internationally. Six episodes of *The Good Cooks*, a television cooking program profiling ACIAR-supported projects in six different countries were filmed on location in Africa, Asia and the Pacific. The series will premiere on SBS Food Network in November 2018.

ACIAR and the ABC Regional and Local division began working together on visits by ABC regional journalists to ACIAR-supported projects in the Indo-Pacific to capture a range of different stories and angles that will interest the general public in Australia. This will help ACIAR increase awareness about its work.

A visit to the Philippines to view successful research in coral restoration resulted in a feature on the television program *Landline* and news coverage across the ABC network's various platforms, including television, online, radio and social media, reaching an estimated 1.3 million viewers.

Several other ACIAR projects appeared in the Australian media during the year, including:

- parasitic wasps fighting gall wasps in the Mekong
- ACIAR-supported research work empowering farmers in Nepal
- Pacific Week of Agriculture in Vanuatu
- *Lebeckia* bringing hope to farmers with sandy and low fertility soil as pasture for livestock.

In-country capacity

ACIAR is also building communication capacity in its country offices to boost the dissemination of knowledge and information gained through projects to support decision-making on agricultural policymaking, funding and extension at the local level (often in local languages). As a pilot program, communication support was provided to ACIAR's Mekong and Vietnam offices to add capacity in those areas.

Events

In August 2017, The Crawford Fund held its annual parliamentary conference, focusing on the digital revolution in agriculture. ACIAR's Policy Advisory Council member, Lindiwe Majele Sibanda, provided the Sir John Crawford Memorial Address. ACIAR is a primary source of funding for The Crawford Fund.

A major event was held in Hanoi in April 2018 to showcase the 25-year anniversary of ACIAR working in Vietnam. The showcase was attended by the Australian Minister for Agriculture and Water Resources, the Hon. David Littleproud MP, the Australian Ambassador to Vietnam His Excellency Craig Chittick, and ACIAR CEO Professor Andrew Campbell.

ACIAR also had a presence at conferences and stakeholder events including:

- Australian Bureau of Agricultural Research and Economics, Outlook 2018 conference, Canberra
- The Pacific Community and the United Nations Food and Agriculture Organisation, Pacific Week of Agriculture
- University of Sydney's Australia–Africa Agricultural Research Symposium.
- Australasian Aid Conference, Australian National University, Canberra
- Trop-Ag 2017 (International Tropical Agricultural Conference), Brisbane

ACIAR Staff, Patrick Cape (third left) and Fitri Apriliyani (fourth left) escorted two ABC journalists, Rosie King (middle left) and Kallee Buchanan (middle right) through Aceh, Indonesia, as they reported on the impact of a soil project funded through the New South Wales Department of Primary Industries. Project leader, Malem McLeod (second right) was also on-hand to help tell the story of how the project was part of a wider ACIAR response to the Boxing Day tsunami in 2004.

PART 3
Annual performance

Outcome and program structure

Under the enhanced Commonwealth performance framework, ACIAR achieves its purpose under a single government outcome (Outcome 1) and program (Program 1).

Government outcomes are the intended results, impacts or consequences of actions by the government on the Australian community. Programs are the primary vehicle by which government entities achieve the intended results of their outcome statements.

ACIAR's planning and operations are guided at the highest level by its 10-year Strategy 2018–2027. The strategy defines six high-level objectives, which guide and are built upon in ACIAR's primary planning documents. Performance for the period covered in this Annual Report is guided by the ACIAR Corporate Plan 2017–18, which covers the four-year period 2017–18 to 2020–21.

The Corporate Plan 2017–18 identifies targets for performance, which are aligned with performance criteria and targets set out for ACIAR in the Portfolio Budget Statements 2017–18 (Budget Related Paper No. 1.9, Foreign Affairs and Trade Portfolio).

The diagram on the next page illustrates the relationship between the outcome, program and purpose of ACIAR, and how ACIAR plans and reports its performance according to these.

Outcome and program structure

Portfolio Budget Statements 2017–18	**Outcome 1** To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.					
	Program 1 International agricultural research for development for more productive and sustainable agriculture.					
	Purpose ACIAR's purpose is to achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through supporting international agricultural research and training partnerships.					
10-year Strategy 2018–27 Portfolio Budget Statements Corporate Plan 2017–18	Performance criteria					
	Food security and poverty reduction	Human health and nutrition	Natural resources and climate change	Value chains and private sector engagement	Empowering women and girls	Capacity building
	Targets					
	Productive, sustainable and resilient farming systems	Healthier and better nourished families	More resilient livelihoods in the face of climate change	Safer and more inclusive agrifood value chains	Improved social inclusion and greater empowerment of women and girls	Individual and institutional level capacity built in our partner countries, in Australia and in ACIAR
Annual Performance Statement (Annual Report 2017–18)	Report on performance to address	Report on performance to address	Report on performance to address	Report on performance to address	Report on performance to address	Report on performance to address
	Food security and poverty reduction	Human health and nutrition	Natural resources and climate change	Value chains and private sector engagement	Empowering women and girls	Capacity building
	Table 3.1 Page 101	Table 3.2 Page 102	Table 3.3 Page 103	Table 3.4 Page 104	Table 3.5 Page 105	Table 3.6 Page 106

Annual Performance Statement

Introductory statement

I, Andrew Campbell, as the accountable authority of the Australian Centre for International Agricultural Research (ACIAR), present the 2017–18 Annual Performance Statement of ACIAR, as required under paragraph 39(1)(a) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). In my opinion, this Annual Performance Statement is based on properly maintained records, accurately reflect the performance of the entity, and comply with subsection 39(2) of the PGPA Act.

Professor Andrew Campbell
Chief Executive Officer

Purpose

ACIAR's purpose is to achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through supporting international agricultural research and training partnerships.

Results

To achieve its purpose ACIAR instigated, brokered and supported research partnerships and programs with approximately 600 research organisations and institutions, across 36 countries in the Indo-Pacific region. There were 260 active research projects (ongoing or commencing) in 2017–18.

ACIAR's performance is reported by identifying and listing examples of projects and programs where the output addressed ACIAR's performance criteria and targets, as specified in *Portfolio Budget Statement 2017–18.* Tables 3.1 to 3.6 record ACIAR's performance in 2017–18 against its six performance criteria.

It is important to note that ACIAR's performance measures are evolving to more closely align to and be measurable against the six high-level objectives presented in ACIAR's 10-year Strategy, which was launched in February 2018. The development of ACIAR's Monitoring and Evaluation framework will further develop indicators and their measurability. In addition, the internal auditors Protiviti have been engaged to further develop the performance narrative.

Discussion of the outputs and achievements of selected research programs in ACIAR's regions of operation and in individual countries, is provided in Part 2 of this report, *Review of 2017–18.*

Table 3.1 **Food security and poverty reduction — ACIAR performance against this criteria in 2017–18**

Food security and poverty reduction	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable Agriculture.
Performance criteria	Food security and poverty reduction
Target	Productive, sustainable and resilient farming systems
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Sustainable and resilient farming systems intensification in the Eastern Gangetic Plains **CSE/2011/077**	
Sustainable intensification of maize–legume cropping systems for food security in eastern and southern Africa II (SIMLESA II) **CSE/2013/008**	
Sustainable wheat and maize production in Afghanistan **CIM/2011/026**	
Establishing the International Mungbean Improvement Network **CIM/2014/079**	
Improving research and development of Myanmar's inland and coastal fisheries **FIS/2011/052**	
Sustainable management of the shark resources of Papua New Guinea: socioeconomic and biological characteristics of the fishery **FIS/2012/102**	
Enhancing management and processing systems for value-adding in plantation-grown whitewood in Vanuatu **FST/2012/042**	
Intensification of beef cattle production in upland cropping systems in Northwest Vietnam **LPS/2015/037**	
Improving dry season agriculture for marginal and tenant farmers in the Eastern Gangetic Plains through conjunctive use of pond and groundwater resources **LWR/2012/079**	

Table 3.2 Human health and nutrition — ACIAR performance against this criteria in 2017–18

Human health and nutrition	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable agriculture.
Performance criteria	Human health and nutrition
Target	Healthier and better nourished families
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Value chain and policy interventions to accelerate adoption of Happy Seeder zero tillage in rice-wheat farming systems across the Gangetic Plains **CSE/20 17/101**	
Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song **FIS/2016/300**	
Improving technologies for inland aquaculture in Papua New Guinea **FIS/2014/062**	
Safe Pork: Market based approaches to improving the safety of pork in Vietnam **LPS/2016/143**	

Table 3.3 Natural resources and climate change — ACIAR performance against this criteria in 2017–18

Natural resources and climate change	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable agriculture.
Performance criteria	Natural resources and climate change
Target	More resilient livelihoods in the face of climate change
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Strengthening incentives for improved grassland management in China and Mongolia **ADP/2012/107**	
Developing value-chain linkages to improve smallholder cassava production systems in Vietnam and Indonesia **AGB/2012/078**	
Restoring damaged coral reefs using mass coral larval reseeding **FIS/2014/063**	
Developing integrated options and accelerating the scaling up of agroforestry for better food security and resilient livelihoods in eastern Africa (Trees for Food Security), Phase 2 **FST/2015/039**	
Improving the sustainability of rice–shrimp farming systems in the Mekong Delta, Vietnam **SMCN/2010/083**	
Integrated water, soil and nutrient management for sustainable farming systems in south-central coastal Vietnam and Australia **SMCN/2012/069**	
Improving soil health, agricultural productivity and food security on atolls **SMCN/2014/089**	
Soil management in Pacific Islands: investigating nutrient cycling and development of the Soils Portal **SMCN/2016/014**	

Table 3.4 Value chains and private sector engagement — ACIAR performance against this criteria in 2017–18

Value chains and private sector engagement	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable agriculture.
Performance criteria	Value chains and private sector engagement
Target	Safer and more inclusive agrifood value chains
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Improving market integration for high value fruit and vegetable production systems in Indonesia **AGB/2009/060**	
Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia **AGB/2012/078**	
Pacific Agribusiness Research in Development Initiative Phase 2 (PARDI 2) **AGB/2014/057**	
Developing cassava production and marketing systems to enhance smallholder livelihoods in Cambodia and Laos **ASEM/2014/053**	
Increasing private sector-led development of the canarium industry in Papua New Guinea **FST/2014/099**	
Integrating protected cropping systems into high value vegetable value chains in the Pacific and Australia **HORT/2014/080**	
High quality markets and value chains for small-scale and emerging beef cattle farmers in South Africa **LS/2016/276**	

Table 3.5 Empowering women and girls — ACIAR performance against this criteria in 2017–18

Empowering women and girls	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable agriculture.
Performance criteria	Empowering women and girls
Target	Improved social inclusion and greater empowerment of women and girls
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Creating wealth in smallholders farms through efficient credit systems in Pakistan **ADP/2016/028**	
Promoting traditional vegetable production and consumption for improved livelihoods in Papua New Guinea and northern Australia **ASEM/2012/084**	
Identifying opportunities and constraints for rural women's engagement in small-scale agricultural enterprises in Papua New Guinea **ASEM/2014/054**	
Examining the opportunities and constraints for Papua New Guinea women smallholders in the transition from subsistence farming to cash and commercial enterprises **ASEM/2014/095**	
Enhancing livelihoods and food security from agroforestry and community forestry in Nepal **FST/2011/076**	
Improving smallholder dairy and beef profitability by enhancing farm production and value chain management in Pakistan **LPS/2016/011**	
Smallholder goat value chains in Pakistan: challenges and research opportunities **LPS/2016/096**	
Promoting socially inclusive and sustainable agricultural intensification in West Bengal and Bangladesh **LWR/2014/072**	

Table 3.6 Capacity building — ACIAR performance against this criteria in 2017–18

Capacity building	
Outcome 1	To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships.
Program 1	International agricultural research for development for more productive and sustainable agriculture.
Performance criteria	Capacity building
Target	Individual and institutional level capacity built in our partner countries, in Australia and in ACIAR
Target achieved	Ongoing » ACIAR has invested in projects (sample below) that show alignment with the 10-year Strategy and the current corporate plan. » There is a robust process for research project selection and approval ensuring that research funded is designed for impact. » Processes and subject matter experts are in place to continuously manage research projects to maximise their performance.
Source of criteria	Portfolio Budget Statements 2017–18; ACIAR Corporate Plan 2017–18
Selected ACIAR projects and programs meeting this criteria	
Improved mungbean harvesting and seed production systems for Bangladesh, Myanmar and Pakistan **CIM/2016/174**	
Enhancing bivalve production in northern Vietnam and Australia **FIS/2010/100**	
Development of durable engineered wood products in Papua New Guinea and Australia **FST/2014/065**	
Enhancing community-based commercial forestry in Indonesia **FST/2015/040**	
Monitoring Agricultural Research Investments, capacity and impact in South-East Asia and the Pacific **GP/2016/093**	
Enabling improved plant biosecurity practices in Cambodia, Lao PDR and Thailand **HORT/2010/069**	
Smallholder cattle enterprise development in Timor-Leste **LPS/2014/038**	
Integrated resource management for vegetable production in Lao PDR and Cambodia **SMCN/2014/088**	
John Allwright Fellowship for postgraduate training at Australian universities for partner-country scientists **Capacity Building Program**	
Scholarships for Postgraduate Diploma or Master of Science degree at the University of the South Pacific **Capacity Building Program**	
John Dillon Fellowship for research management and leadership **Capacity Building Program**	
The Australia–Africa Plant Biosecurity Partnership to build the skills and capacity of plant biosecurity managers and decision-makers in 10 countries in eastern and southern Africa **Global Program**	

Financial performance

ACIAR's operations are split between departmental and administered activities. Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by ACIAR in its own right (costs of running the business). Administered activities involve the management or overseeing by ACIAR, on behalf of the Australian Government, of items controlled or incurred by the government (program delivery).

Departmental and administered activities are segregated in the financial statements.

Departmental activity

The net operating result for 2017–18 was a surplus of $0.204 million (2016–17: $0.511 million). Excluding depreciation and amortisation and other asset adjustments including re-valuation and write-downs, the surplus was $0.600 million (2016–17: $0.636 million). The surplus corresponds with self-funded expenditure on improving ACIAR's business systems which were capitalised during the year.

Revenue included a direct appropriation of $9.364 million (2016–17: $9.494 million) supplemented by other income of $1.252 million (2016–17: $2.049 million). Other income was mostly from fees derived from the management of research monies received under separate agreements or records of understanding with external parties.

The main components of departmental expenditure ($10.355 million; 2016–17 $11.124 million) were staff costs $5.871 million, operating expenses (e.g. property expenses, travel, IT, communications, etc.) $4.118 million, and depreciation and amortisation of $0.366 million.

Administered activity

Total administered funds appropriated to ACIAR for 2017–18 were $96.882 million (2016–17: $93.993 million). The 2017–18 appropriated funds were fully utilised. ACIAR received an additional $13.687 million (2016–17: $12.273 million) under separate agreements or records of understanding with external parties.

Total program expenditure for 2017–18 was $112.491 million (2016–17: $111.284 million). This included $15.609 million (2016–17: $17.291 million) expenditure of monies received under separate agreements or records of understanding with external parties (mainly DFAT).

Administered revenue included in appropriation revenue is the non-lapsing portion of the total available administered appropriations as approved by government.

Summary of total resources and payments

Entity resource statement 2017–18*

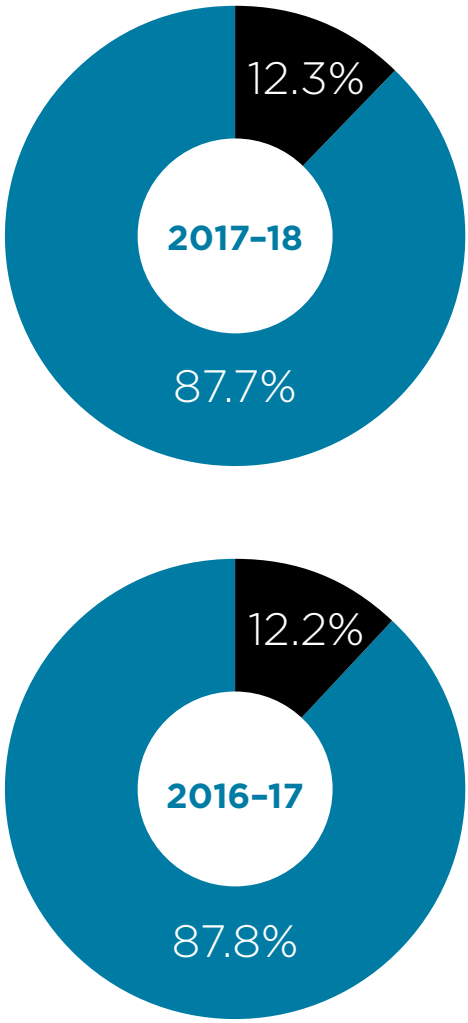
	Actual resources available 2017–18	Resources used 2017–18	Remaining balance 30 June 2018
	$'000	$'000	$'000
Departmental			
Prior year appropriations available	3,627	3,627	–
2017–18 appropriation	9,364	5,820	3,544
Own source income	1,195	1,195	–
Received free of charge	30	30	–
Prior year departmental capital budget available	–	–	–
2017–18 departmental capital budget	245	238	7
Prior year equity injection available	131	–	131
2017–18 equity injection	–	–	
Administered			
Prior year appropriations available	625	625	–
2017–18 appropriation	96,882	94,459	2,423
Special account			
Opening balance	15,402		
Receipts	14,825		
Payments		17,056	
Closing balance			13,171
Total resources	142,326	123,050	19,276

* Note: ACIAR administers one outcome only

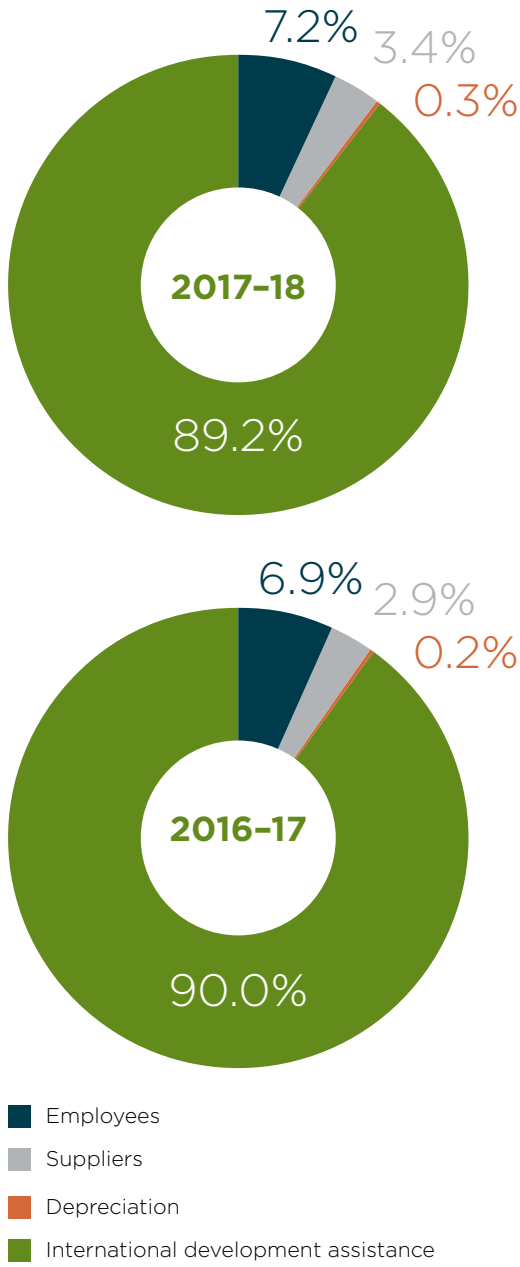
ACIAR revenue and expenditure

The pie charts show a summary picture of total departmental and administered revenue and expenditure for 2017–18 compared with 2016–17.

ACIAR revenue



ACIAR expenditure



PART 4
Management and accountability

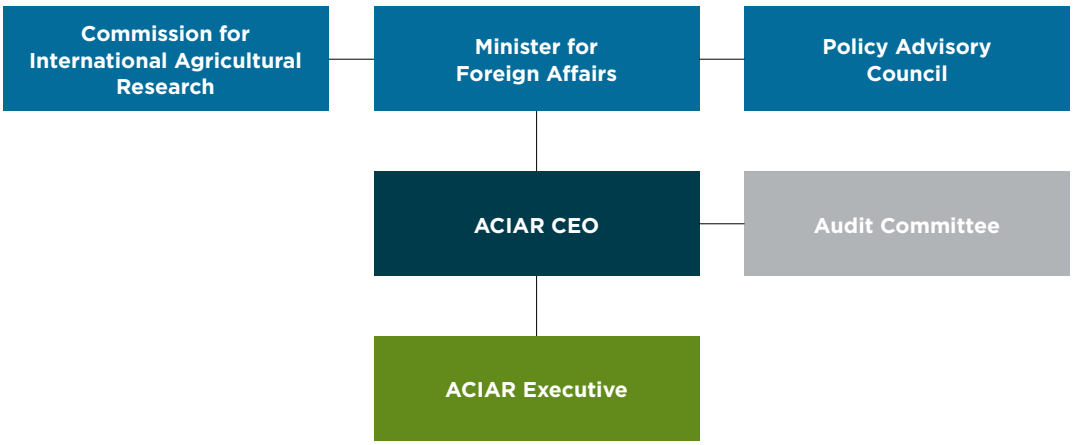
Corporate governance

ACIAR is established by the *Australian Centre for International Agricultural Research Act 1982* (the ACIAR Act), as amended. It is a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013* and a statutory agency under the *Public Service Act 1999*. ACIAR is part of the Foreign Affairs and Trade portfolio.

Also established under the ACIAR Act is the Commission for International Agricultural Research (the Commission), which provides collective decision-making and expert strategic advice to the Minister on ACIAR's operations; and the Policy Advisory Council, which provides advice to the Minister on strategic aspects of national and regional development.

ACIAR has an executive management governance structure headed by the Chief Executive Officer (CEO), who reports to the Minister for Foreign Affairs.

Governance structure of ACIAR



Commission for International Agricultural Research

The Commission for International Agricultural Research, as set out in Section 9 of the ACIAR Act, provides advice to the Minister in relation to:

- the formulation of agricultural research programs and policies, to identify agricultural problems and find solutions in developing countries
- commissioning and communicating research, and establishing and funding training schemes related to ACIAR-supported research
- priorities for the ACIAR program and funding
- on the Minister's request, any other matter relating to the Act.

Established by Section 7 of the ACIAR Act, the Commission comprises a Chair and six other Commissioners. Commissioners are appointed by the Governor–General and a Commissioner holds office for a period specified in the instrument of appointment, not exceeding three years. The table on page 114 lists the Commissioners, their appointment period and meetings attended.

Members of the Commission for International Agricultural Research, from left, Ms Su McCluskey, Professor Sandra Harding, Professor Gabrielle Persley, Mr Don Heatley (Chair), Ms Catherine Marriott, Professor Andrew Campbell and Dr Sasha Courville.

Chair and members of the Commission for International Agricultural Research

Commissioner	Term of appointment	Meetings eligible	Meetings attended
Mr Don Heatley (Chair)	18 Sep 2017 to 30 Jun 2020	4	4
Ms Catherine Marriott	18 Sep 2017 to 30 Jun 2020	4	4
Professor Gabrielle Persley	18 Sep 2017 to 30 Jun 2020	4	4
Dr Sasha Courville	18 Sep 2017 to 30 Jun 2020	4	3
Professor Sandra Harding	6 Jun 2016 to 5 May 2019	4	4
Ms Su McCluskey	29 May 2018 to 30 Jun 2020	1	1
Professor Andrew Campbell	31 Jul 2016 to 31 Jul 2019	4	4

The ACIAR Act requires that the Commission holds at least four meetings each financial year. During the 2017–18 financial year, the Commission met four times, as detailed in the table below.

Meetings of the Commission for International Agricultural Research 2017–18

Meeting	Date	Location
40th meeting	18 September 2017	Canberra
41st meeting	4–5 December 2017	Canberra
42nd meeting	11–16 March 2018	Fiji/Vanuatu
43rd meeting	3–4 June 2018	Canberra

Disclosure of interests

Commissioners are required to disclose to the Minister and to the Commission any direct or indirect pecuniary interest that may conflict with the proper performance of the Commissioners' functions. The disclosure and the nature of the interest are recorded in the Commission meeting minutes, which are available for consideration by ACIAR's auditors.

Commission costs

The direct cost of Commission operations during 2017–18 was $162,643, including fees, travel and other meeting expenses. The CEO's salary and other management costs are not included. The comparative figure for 2016–17 was $177,271.

Fees for the Chair and members of the Commission are set by the Remuneration Tribunal. The daily fees for the Chair and Members (other than the CEO) were $960 and $720 respectively as at 30 June 2018.

Members of the Commission at 30 June 2018

Mr Don Heatley OAM (Chair)

Mr Don Heatley has chaired the Commission since 2014. Don is a fifth generation cattle farmer from north Queensland and manages a family farm business producing beef for highly specialised markets in Korea, Japan and the United States, giving him a strong understanding of international agribusiness value chains. Mr Heatley has more than 30 years' experience promoting the Australian beef industry on the international stage, through roles that include membership of the Cattle Council of Australia and Chair of Meat and Livestock Australia. He has a strong personal interest in provision of research and development support to domestic beef industries throughout South-East Asia and the Middle East, and has travelled extensively throughout these regions representing the Australian beef industry with regional governments and industry.

Ms Catherine Marriott GAICD

A member of the Commission since August 2015, Ms Catherine Marriott uses her Rural Science degree to understand the technical aspects of agriculture, while her experience in business helps her improve stakeholder engagement, build leadership and improve communications. She has built national and international relationships through on the ground project delivery, including developing the first ever International Rural Women's Mentoring Program between farming women from Australia and Indonesia. Ms Marriott is the WA Manager for the CRC for Northern Australia and a director on a number of boards. She is a graduate of the Australian Rural Leadership Program, a Graduate of the Australian Institute of Company Directors and in 2012, the WA RIRDC Rural Women's Award Recipient and the National Runner-up.

Professor Gabrielle Persley AM

The first research program manager with ACIAR in the early 1980s, Professor Gabrielle Persley AM was appointed to the Commission in September 2017. She is a senior strategic science leader who has worked with the world's leading agricultural research and development agencies. Currently an Adjunct Professor at the Global Change Institute at the University of Queensland, Professor Persley works with several international research and development agencies, with emphasis on public–private partnerships and development of demand-led approaches in animal and plant breeding. Professor Persley is Founder and Chair of the Doyle Foundation, Scotland, which advocates the role of science and technology in development, especially in Africa. She was appointed a Member of the Order of Australia in 2010 for her services to international science in development and livestock health in Africa.

Dr Sasha Courville

Dr Sasha Courville is a business and sustainability professional, focusing on the role of business in addressing societal challenges for more than 20 years. Appointed to the Commission in September 2017, Dr Courville has experience across a range of industry sectors (including finance and agriculture), sustainability issues (from climate change and biodiversity to labour rights and women's economic empowerment) and geographic regions. She was responsible for setting up the Fairtrade labelling system in Australia and New Zealand. Currently, Dr Courville is Head of Social Innovation at National Australia Bank where she identifies, incubates and supports the scaling up of shared value initiatives within the bank, creating business results as well as solving social and environmental challenges. Dr Courville is on several boards and networks addressing corporate stewardship and sustainability.

Professor Sandra Harding

Professor Sandra Harding was appointed to the Commission in June 2016 and has extensive academic and academic leadership experience. An economic sociologist by training, her areas of enduring academic interest include work, organisation and markets and how they work. She also has a keen interest in public policy in two key areas: education policy and related areas, and the global tropics, northern Australia and economic development. Currently, Professor Harding is the Vice Chancellor and President of James Cook University, a role where she is responsible for ensuring clear and effective leadership and management of the university across all operating sites, including campuses in Cairns, Singapore and Townsville. Professor Harding also undertakes a wide variety of external roles within the business community and the higher education sector.

Ms Su McCluskey MAICD

Ms Su McCluskey, appointed to the Commission in 2018, is a highly experienced senior executive and non-executive director. Her experience and expertise includes strong leadership, strategic thinking, financial management, policy, governance, advocacy and analytical skills. She has been a highly effective change manager in both the government and private sectors and has excellent networks across all levels of government and industry. Ms McCluskey was named the Westpac/Australian Financial Review Regional Women of Influence in 2013 and received the Women in Agribusiness award in 2014 for outstanding contribution to policy development. She was the inaugural CEO of the Regional Australia Institute, taking it from a start-up company to be the leading voice on regional issues, underpinned by solid research and evidence-based policy.

Professor Andrew Campbell FAICD

Professor Andrew Campbell started his five-year term as CEO of ACIAR and three-year term as a member of the Commission in July, 2016. Professor Campbell has played influential roles in sustainable agriculture and natural resource management in Australia for 30 years. He has considerable research leadership experience and has held senior policy roles in land, water and biodiversity management. Professor Campbell was instrumental in the development of Landcare, working with the National Farmers' Federation and the Australian Conservation Foundation to develop the proposal that catalysed the Decade of Landcare. His family have been farming (sheep for meat and wool, cereals and farm forestry) in western Victoria since the 1860s, and he is still involved in managing the family farm from a distance. Professor Campbell represents Australia on the System Council of CGIAR. He also is a Professorial Fellow at Charles Darwin University and the Australian National University's Fenner School, a member of the Science Advisory Panel of Landcare Research New Zealand, and Patron of Landcare in Victoria.

Policy Advisory Council

The Policy Advisory Council (the Council) is established under Section 17 of the ACIAR Act. The Council provides advice to the Minister regarding:

- agricultural problems of developing countries
- programs and policies with respect to agricultural research that will either or both identify agricultural problems of developing countries and find solutions to agricultural problems of developing countries.

The Council role is to provide a valuable overview for advising the Minister, the Commission and ACIAR on matters including:

- national and regional development constraints
- opportunities for research and development collaboration
- national and regional research priorities, particularly those of ACIAR's partner countries
- the matching of Australian expertise (Australia's competitive advantage) with these priorities
- modes of operation for ACIAR
- sources of national and international expertise.

The Council's membership is limited to 13, comprising a President, the Secretary of the Department of Foreign Affairs and Trade or her nominee, and 9–11 other members appointed by the Minister. Predominantly, members are appointed from stakeholder organisations in ACIAR's partner countries, which brings a range of agricultural and development experience to the Council. Under the Act, the Minister is required to ensure that a substantial number of Council members are residents of countries other than Australia, having regard for the knowledge of appointees concerning the agricultural problems of developing countries or their experience in organising or conducting agricultural research.

Each year the Council meets to discuss areas related to its role and functions, sometimes with associated field visits. During 2017–18, the Council met in Fiji and Vanuatu 11–17 March 2018. During this time meetings were held in parallel and in conjunction with the Commission for International Agricultural Research (the Commission), providing an opportunity for the two bodies to share information and ideas on future directions for international agricultural research. The tour also included opportunities for interaction with in-country stakeholders and field site visits to ACIAR projects.

On 12 March, the Council and the Commission had a joint meeting, followed by visits to the Pacific Community (SPC), the University of the South Pacific and meetings with HE John Feakes, HoM, Fiji. On 13 March, the Council members visited a number of field sites en route from Suva to Nadi, including the Kaiming Ginger factory at Navua, the Galoa fish hatchery and the Sigatoka Research Station. On 14 March, the Council and the Commission transferred to Vanuatu where they visited the Vanuatu Forestry headquarters and a chocolate factory that works closely with ACIAR cocoa projects in the region.

The Council then met with HE Jenny Da Rin, HoM, Vanuatu and alumni of John Dillon Fellowships and John Allwright Fellows, and ACIAR project leaders provided overviews of their projects in the region. On 15 March, the Commission and Council held parallel meetings, followed by a joint meeting, followed by further joint field site visits.

President and members of the Policy Advisory Council

Name	Organisation
Professor Kym Anderson AC (President)	Professor of Economics University of Adelaide, Australia Crawford School of Public Policy
Dr Nguyen Van Bo	President Vietnam Academy of Agricultural Sciences, Vietnam
Professor Ramesh Chand	Member, Union Minister of State National Institute of Transforming India (NITI) Aayog, India
Dr Sar Chetra	Deputy Director Ministry of Agriculture, Forestry, and Fisheries, Cambodia
HE Naela Chohan	High Commissioner Pakistan High Commission to Australia, Pakistan
Dr Ir Agung Hendriadi	Director General Indonesian Agency for Agricultural Research and Development. Minister of Agriculture, Indonesia
Dr Jia Jingdun	Director General China Rural Technology Development Centre, Ministry of Science and Technology, China
Dr Lindiwe Majele Sibanda	CEO Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), South Africa
Dr Colin Tukuitonga	Director General Secretariat of the Pacific Community Noumea, Pacific

Chief Executive Officer

The office and role of the CEO are established in Sections 4A and 5 of the *Australian Centre for International Agricultural Research Act 1982* (the Act). The CEO manages the administrative and financial affairs of ACIAR and its staff, subject to, and in accordance with, any directions given by the Minister for Foreign Affairs under Section 5 of the Act.

The CEO's primary responsibilities are to:

- formulate programs and policies with respect to agricultural research that identify and/or solve agricultural problems in developing countries
- commission agricultural research to address programs and policies formulated
- communicate the results of such agricultural research
- establish and fund training schemes related to ACIAR's research programs
- conduct and fund development activities related to ACIAR's research programs
- fund international agricultural research centres.

The CEO holds responsibilities as Head of Agency as set out in the *Public Governance Performance and Accountability Act 2013* and the *Public Service Act 1999*. The CEO is not subject to direction by the Commission in relation to the performance of functions or exercise of powers under these Acts.

The Governor-General appoints the CEO for a term of up to seven years and the appointment is subject to the determinations of the Remuneration Tribunal, which determined the CEO to be an officer in the Principal Executive Officer (PEO) structure, at PEO Band C. The Minister is the identified Employing Body for remuneration purposes. Professor Andrew Campbell was appointed to the role of CEO on 31 July 2016.

Written directions may be given to the CEO by the Minister regarding the exercising of his powers or the performance of his functions. This includes directions with respect to the commissioning of particular research. In 2017–18 there were no directions given.

The remuneration of the CEO is subject to the relevant determinations of the Remuneration Tribunal. These provisions enable the Minister to determine the total remuneration, superannuation salary and performance pay components of the remuneration package, within the parameters of Remuneration Tribunal Determination 2015/19.

The CEO's remuneration package at 30 June 2018 consisted of:

- base salary of $252,638
- superannuation with an employer contribution of 15.4% of base salary
- other allowances.

Executive management

An executive management team of ACIAR supports and advises the CEO on strategic priorities and corporate and operational policies. The composition, as well as responsibilities and background, of the members of the Executive at 30 June 2018 are listed as follows. The Executive met 13 times in 2017–18.

Chief Executive Officer — Professor Andrew Campbell

The CEO is directly responsible to the Minister for managing the affairs of ACIAR, in a way that provides proper use of the Commonwealth resources for which the CEO is responsible. As agency head, the CEO is also responsible for managing the agency with direct accountability to the Australian Government.

Professor Andrew Campbell commenced the role of CEO on 1 August 2016. Previously, Andrew was the inaugural Director of the Research Institute for the Environment and Livelihoods at Charles Darwin University, in the Northern Territory. Andrew has played influential roles in sustainable agriculture and natural resource management in Australia for over 30 years.

Andrew has a Diploma of Forestry from Creswick, a Bachelor of Forest Science (Hons) from the University of Melbourne and a Master of Science (Management of Agricultural Knowledge Systems) from Wageningen University in The Netherlands. Professor Campbell is a Fellow of the Australian Institute of Company Directors and an honorary Professorial Fellow at Charles Darwin University and the Australian National University.

Chief Finance Officer —
Mr Albert Blair

The Chief Finance Officer is responsible for providing strategic financial advice to the organisation, in addition to managing ACIAR's Human Resources, Business Services (IT), procurement, legal, property and other corporate activity.

Mr Albert Blair joined ACIAR in May 2010 and has over 30 years' experience in all aspects of finance and accounting at strategic and operational levels. He has worked with a number of Australian Government entities and has extensive experience in the aid-funded sector, including with the Pacific Islands Forum Secretariat, Fiji, the Northern Land Council, Darwin, and as an auditor/accountant with Price Waterhouse in the United Kingdom and Papua New Guinea.

Albert is a Chartered Accountant and holds a Master of Commercial Law, a postgraduate diploma in advanced financial accounting and a BSc (Economics and Accounting).

General Manager, Capacity Building and Outreach —
Ms Eleanor Dean

The General Manager, Outreach and Capacity Building leads the development and implementation of ACIAR's outreach strategy and leads and directs a team responsible for ACIAR communications, stakeholder engagement, capacity building and outreach activities.

Eleanor has worked in public affairs and communication for the Australian Government for more than 23 years, on a diverse range of issues including natural resource management, biodiversity, education and training. Prior to joining ACIAR in 2017, Eleanor led the safety promotion and communication branch at the Civil Aviation Safety Authority. She has a Bachelor of Communication (Hons) from the University of Canberra.

Principal Advisor —
Dr John Dixon
until October 2017

Dr John Dixon has over 30 years developing-country experience with agricultural research and development, including cropping systems, economics and natural resource management in South, South-East and East Asia, Africa, Latin America and the Middle East, working for the CGIAR system and the FAO. John served as Director, Impacts, Targeting and Assessment at CIMMYT, leading activities on impact assessment, value chains, impact knowledge sharing, systems agronomy and conservation agriculture; and also in various capacities with FAO in their global, regional and country programs. He is a graduate from the University of New England with a PhD (agricultural economics), a Master of Natural Resource, a Master of Economics and a Bachelor in Rural Science. John retired from ACIAR in July 2018.

General Manager, Country Programs —
Dr Peter Horne

The General Manager Country Programs is responsible for leading and setting the research strategy for ACIAR's country (bilateral) programs, managing ACIAR's country office network, and leading the engagement with key research partners and stakeholders, in Australia and overseas.

Previously, Dr Peter Horne was Research Program Manager for Livestock Production Systems for ACIAR. Peter has spent most of his career based in Asia involved in agricultural research-for-development, with a particular focus on forages and livestock systems. Peter has a BSc (Hons) in Environmental Sciences from Griffith University and a PhD in Tropical Forage Agronomy from University of New England, Australia.

Chief Scientist —
Dr Daniel Walker

The Chief Scientist oversees the strategic science focus of ACIAR's research portfolio and its impact assessment, monitoring and evaluation work. The Chief Scientist also provides leadership for Research Program Managers across 10 research programs.

Dr Daniel Walker joined ACIAR in November 2017 to take up the newly-created role of Chief Scientist. Prior to ACIAR, Daniel spent 23 years at CSIRO, where he was Research Director for Agriculture and Global Change with CSIRO Agriculture and Food and previously, Chief of CSIRO Ecosystem Sciences. Daniel has a BSc (Hons) in Agriculture, Forestry and Rural Economy from the University of Edinburgh and a PhD from the University of Wales.

General Manager, Global Program —
Ms Mellissa Wood

The General Manager, Global Program is responsible for ACIAR's engagement with global and multilateral fora, such as the G20 and the United Nations Food and Agriculture Organisation, and leads the formulation and implementation of Australia's international stakeholder engagement strategies with CGIAR and other International Agricultural Research Centres.

Mellissa Wood joined ACIAR in 2012 as Director of the new Australian International Food Security Centre and she was appointed General Manager, Global Program in 2015. Prior to ACIAR, Mellissa held a number of positions developing expertise in improving the adoption of research outputs for food and nutrition security, through partnering with policymakers and the private sector, including several years with the Crop Trust in Rome. She holds a BSc in Resource and Environmental Management and Master of Public Policy in Development.

External scrutiny

During the reporting period, there were no judicial decisions or reviews by outside bodies that had a significant impact on the operations of ACIAR.

In 2017–18, ACIAR appeared before the Senate Standing Committees on Foreign Affairs, Defence and Trade estimates inquiry on one occasion. ACIAR also gave evidence or made submissions to several parliamentary committee inquiries, as set out in the table below.

Parliamentary submissions

Parliamentary committee inquiry	Actions	Date report tabled
Senate – Foreign Affairs, Defence and Trade References *Implications of climate change for Australia's national security*	Submission	17 May 2018
Senate – Foreign Affairs, Defence and Trade References *Australia's trade and investment relationships with the countries of Africa*	Submission/Evidence	21 June 2018
Senate – Foreign Affairs, Defence and Trade References *The United Nations Sustainable Development Goals (SDGs)*	Submission	Not yet tabled
Joint – Foreign Affairs, Defence and Trade *The strategic effectiveness and outcomes of Australia's aid program in the Indo-Pacific region and its role in supporting Australia's regional interests*	Submission	Not yet tabled
House – Education, Employment and Training *The efficiency, effectiveness and coherency of Australian Government funding for research*	Submission	Not yet tabled

Financial accountability and compliance

ACIAR, as a statutory authority, is subject to the policy guidelines determined by government from time to time regarding accountability, reporting, review and general operations.

The agency is accountable through the Minister to Parliament. It is also subject to government financial and accounting policies and procedures. Staff members are employed under the *Public Service Act 1999*. Within these constraints, ACIAR has the power to do all things it considers appropriate for the performance of its statutory functions.

Authority

ACIAR's authority derives from the *Australian Centre for International Agricultural Research Act 1982* (ACIAR Act). Financial powers and duties are also drawn from the *Public Governance, Performance and Accountability Act* 2013 (PGPA Act) and subordinate Rules, and from the *Public Service Act 1999* in the case of staffing.

Accounting practices

ACIAR follows accounting practices in accordance with the PGPA Act, other related legislation, and recognised accounting standards. ACIAR's financial statements are presented in accrual accounting format in Part 5 of this report. The financial statements have been audited by the Australian National Audit Office.

Insurances

Primary corporate insurance for ACIAR is provided through Comcover, as the manager of the Commonwealth's insurable risks. Comcover's coverage includes general and products liability professional indemnity, CEO's and officers' liability, property loss and damage, personal accident and official travel. The insurance premium for 2017–18 was $59,539 (excluding GST). The premium paid for 2017–18 was $40,722 (excluding GST).

Audit Committee

The Audit Committee is established in accordance with Section 45 of the PGPA Act.

The Committee's primary role is to provide independent assurance to the CEO on ACIAR's financial and performance reporting responsibilities, risk oversight and management, and system of internal auditing.

Four Audit Committee meetings were held in 2017–18. Each committee meeting was supported by advisers from ACIAR external auditors (Australian National Audit Office), internal auditors (Ernst & Young for one meeting and Protiviti for three meetings) and relevant agency staff, with secretariat support provided by the ACIAR finance team.

Audit Committee membership and meetings attendance

Member	Term of appointment	Meetings attended
Ms Anthea Tinney Chair & External Member	12 September 2016 for 3 years	4
Ms Christine Quick External Member	30 June 2015 for 3 years Resigned 16 April 2018	3
Dr Eric Huttner ACIAR Research Program Manager	25 July 2018 for 1 year extension	3
Mr Albert Blair ACIAR Member & Chief Finance Officer	Ex-officio, commenced 23 May, 2010	4

Risk management and business continuity planning

The Audit Committee is responsible for monitoring risk management and business continuity planning.

Internal audit and countering fraud

Internal audit forms an important part of ACIAR's governance framework, providing an integral contribution to governance, risk management and control. In 2017–18, internal audit activity consisted of a phase 2 review of ACIAR's information technology security as the final audit by Ernst & Young, and a risk assurance mapping refresh by the new auditors, Protiviti.

All recommendations arising from this review were either satisfactorily addressed during the year or were in the process of being addressed.

ACIAR's fraud prevention, investigation, reporting and data collection procedures and processes meet our specific needs and comply with Commonwealth fraud control requirements.

ACIAR's fraud control plan is focused on raising awareness among staff, through fraud prevention training, fostering an ethical and professional working environment aligned with the Australian Public Service (APS) Values and APS Code of Conduct, and maintaining strong internal control and audit processes that reduce fraud risks.

The Audit Committee is responsible for overseeing implementation of the fraud control plan. The plan is brought to the attention of new staff as part of ACIAR's induction process and is available electronically to all staff.

The CEO's Fraud Compliance Statement is presented on page 126.

Australian Government
Australian Centre for
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14 September 2018

Statement by the Chief Executive Officer:

Certification of compliance with PGPA Rule – Section 10 – Preventing, detecting and dealing with Fraud

I, Andrew Campbell, certify that I am satisfied that, for 2017-18, the Australian Centre for International Agricultural Research took all reasonable measures to prevent, detect and deal with fraud relating to the entity, including by:

(a) conducting fraud risk assessments; and

(b) having an appropriate fraud control plan to deal with identified risks; and

(c) having an appropriate mechanism for preventing fraud, including by ensuring that:

- officials of the entity were made aware of what constitutes fraud; and
- the risk of fraud was taken into account in planning and conducting the activities of the entity; and

(d) having an appropriate mechanism for detecting incidents of fraud or suspected fraud, including a process for officials of the entity and other persons to report suspected fraud confidentially; and

(e) having an appropriate mechanism for investigating or otherwise dealing with incidents of fraud or suspected fraud; and

(f) having an appropriate mechanism for recording and reporting incidents of fraud or suspected fraud.

Professor Andrew Campbell
Chief Executive Officer

ACIAR
Research that works for developing countries and Australia
aciar.gov.au

Management of human resources

ACIAR uses its Individual Development and Performance Evaluation Scheme to identify and measure the effectiveness of employee's capability development and performance. The scheme links each individual's performance and skill needs to the achievement of ACIAR's goals and organisational capability needs. ACIAR acknowledges the importance of sharing knowledge through coaching and mentoring, and under the scheme each employee makes a commitment to enhance the knowledge and skills of other ACIAR employees.

At 30 June 2018, ACIAR employed 76 employees. Of these, 53 were employed under the *Public Service Act 1999* and were located in Canberra; and 23 were at overseas missions and embassies. ACIAR had three SES Band 1 employees (1 male and 2 female), employed under subsection 24(1) of the *Public Service Act 1999.* ACIAR's CEO is not included in these statistics as he is Principal Executive Officer (PEO) Band C.

Snapshot of ACIAR staff* as at 30 June 2018

Staff employed under the Public Service Act	53 (51.39 FTE)
Median length of APS service	2 years
Median age	46
Females as % of total	66%
NESB staff as % of total	26%
Part-time staff as % of total	11%
Non-ongoing staff as % of total	43%
Employee turnover for 2017–18	43%
Employees who identify as Indigenous	0%

*excludes CEO

Staff employed under the *Public Service Act 1999* at 30 June for four years

	2014–15	2015–16	2016–17	2017–18
Canberra-based staff				
Staff no.	51	55	55	53
Staff (FTE)	49.4	53.38	52.53	51.39
Female (%)	54%	56%	58%	66%
Base salaries	$5,584,196	$5,927,949	$5,950,122	$6,422,518
Cessations	13	15	15	23
Staff turnover	25%	27%	27%	43%
Part-time	16%	23%	18%	11%
Non-ongoing	41%	40%	47%	43%
Learning and development	$66,656	$55,725	$95,060	$112,235
Overseas staff				
Staff (FTE)	17.8	23	22	23
Base salaries	$734,355	$830,317	$859,767	$941,368
Learning and development	$1,325	$12,889	$5,133	$1,765

Performance management

The Individual Development and Performance Evaluation Scheme encourages high achievement by improving individual performance through development, evaluation and planning to meet the needs of individuals and ACIAR.

The scheme operates on a three-point rating scale and employees who are rated as 'meets expectations' or 'exceeds expectations' in the annual performance assessment receive an increment, providing they are not already on top of a salary range. In the cycle concluded in June 2018, there were 41 completed assessments, with 41 rated as 'meets expectations' or higher. Of these, four were advanced one salary point.

Organisation bonuses

A bonus of $2000 is granted to employees rated as 'meets expectations' or higher in the performance cycle, who have worked for ACIAR for at least nine months and who were still employed by ACIAR on 30 June 2018, in recognition of ACIAR's achievements against ACIAR's Corporate Plan 2017–18. Part-time employees received a pro-rata payment based on hours worked. 41 employees received the performance bonus with payments totalling $73,933.

Bonus payments 2017–18

APS classification received organisational bonus	Number of employees by classification	Part-time received bonus	Full-time received bonus	TOTAL Employees by classification who received bonus	Aggregate bonus for each classification
EL2–RPM	11	0	11	11	$20,000
EL2	5	0	3	3	$5,000
EL1	5	0	5	5	$9,000
APS6	10	0	9	9	$17,000
APS5	12	3	7	10	$18,533
APS4	5	2	1	3	$4,400

Learning and development

ACIAR spent $112,235 on training and development for its Canberra-based employees in 2017–18. This expenditure does not include attendance of Research Program Managers at professional conferences and seminars in Australia and overseas. ACIAR also offers generous assistance for formal study and in 2017–18 two employees received study assistance.

Enterprise Agreement

The ACIAR Enterprise Agreement 2015–2018 has a nominal expiry date of 23 December 2018. There were four Individual Flexibility Arrangements in place for 2017–2018.

Social inclusion strategy

The Australian Government's Social Inclusion Statement, *A Stronger, Fairer Australia,* sets out the Government's plan for achieving greater social inclusion and seeks to ensure that all Australians have the capabilities, opportunities, responsibilities and resources to learn, work, connect with others and have a say.

ACIAR fosters an environment of inclusiveness through several program areas, such as supporting workplace diversity, workplace health and safety, learning and development and adherence to mechanisms such as the Commonwealth Disability Strategy and the *Carer Recognition Act 2010*.

Carer Recognition Act compliance

ACIAR's responsibility under the *Carer Recognition Act 2010* ensures its employees have an awareness and understanding of the Statement for Australia's Carers, by providing access to information about self-identification as a carer through our staff intranet.

Human resources policies are developed having due regard to the Statement for Australia's Carers, and workplace arrangements ensure flexibility for carers. ACIAR also collects statistics on the incidence of employees who are carers. In 2017–18 no staff members were identified as formal carers.

Workplace diversity

A culture of professional behaviour is promoted by ACIAR and we encourage relationships based on respect and appreciation of each other's differences. Achieving an appropriate balance of work, family and cultural responsibilities is encouraged and supported through ACIAR's Workplace Diversity Program, as is the importance of all employees.

ACIAR continued support for and participation in APS-wide initiatives to promote workplace diversity. We promote Indigenous training and development opportunities and encourage people with disabilities to apply for ACIAR employment opportunities.

Commonwealth Disability Strategy

ACIAR continues to adhere to the principles embodied in the Commonwealth Disability Strategy framework and is committed to ensuring that all people seeking employment have fair access to employment opportunities. As at 30 June 2018, no staff had identified as having a disability.

Work health and safety

A healthy lifestyle is actively encouraged and promoted by ACIAR, through providing access to non-salary benefits such as annual health assessments, subsidies for healthy lifestyle initiatives, annual influenza injections and pre-travel assessments for overseas travellers by the Travel Doctor.

Access to an Employee Assistance Program is also provided. This program provides free professional counselling and career-planning services to ACIAR employees and their families. The service also includes wellbeing seminars, mediation and conflict resolution services, and assistance to line managers.

Ergonomic assessments for new employees and employees who experience discomfort at their workstation are carried out by a qualified workplace assessor. Modifications are made to work practices and work areas as required, resulting in fewer work-related physical ailments and increased productivity.

In 2017–18, there were no accidents or dangerous occurrences giving rise to the issue of any formal notices or directions under the *Work Health and Safety Act 2011.*

Purchasing and tendering compliance

ACIAR complies with the Commonwealth Procurement Rules and the objectives of Commonwealth procurement. Value for money is applied as the core principle in the procurement process, consistent with Section 4 (4.4) of the rules. ACIAR's Accountable Authority Instructions include details on delegations, the commitment of public moneys, management of risk and dealing with public property. These instructions have been developed in accordance with the Commonwealth Procurement Rules.

Purchasing

Purchasing activities are subject to the provisions of the Accountable Authority Instruction (AAI 3 Procurement Process) relating to procurement. In accordance with the Commonwealth Procurement Rules that ACIAR publishes an Annual Procurement Plan on the AusTender website, www.tenders.gov.au.

The majority of ACIAR's procurement activity (by expenditure) is exempt from Division 2 of the Commonwealth Procurement Rules, predominantly exemption 6: procurement of research and development services, but not the procurement of inputs to research and development undertaken by the agency.

Agreements executed under exemption 6 include contracts for the conduct of research projects by Australian universities and research organisations with the collaboration of other governments and international agencies. In relation to research project activities, ACIAR:

- publishes an Annual Operational Plan that includes areas of priority for research developed in consultation with partner countries
- disseminates this to research providers, both within and outside Australia, inviting suitable experts to submit ideas and develop these in consultation with ACIAR's Research Program Managers.

ACIAR's reporting against the Senate Order of 20 June 2001 requiring departments and agencies to list contracts entered into with a value of more than $100,000, that were still to be concluded or had been concluded during the previous 12 months, is available on the ACIAR website and is reported separately from that outlined below.

In addition to contracts in excess of $100,000 reported under the Senate Order referred to above, ACIAR entered into an additional 177 contracts, agreements and variations to acquire services mainly related to research program support and services. These contracts totalled in $5,676,669 in 2017–18 (2016–17: $6,404,804). All contracts over $10,000 are reported on the AusTender website.

No contracts were let in excess of $10,000 that were exempted from publication in AusTender due to freedom of information exemptions. All ACIAR contracts in excess of $100,000 contained clauses permitting the Auditor-General through the Australian National Audit Office access to contractor premises.

Competitive tendering

ACIAR conducted six approaches to market for Requests for Tender (over $80,000) during 2017–18.

Four responses were reported on AusTender where ACIAR had engaged whole-of-government arrangements for travel, IT services and other services.

Consultants and contracts

ACIAR engages consultants where it lacks specialist expertise or when independent research, review or assessment is required. Consultants are typically engaged to: investigate or diagnose a defined issue or problem; carry out defined reviews or evaluations; or provide independent advice, information or creative solutions to assist in ACIAR's decision making.

Prior to engaging consultants, ACIAR takes into account the skills and resources required for the task, the skills available internally, and the cost-effectiveness of engaging external expertise. The decision to engage a consultant is made in accordance with the PGPA Act and related Rules including the Commonwealth Procurement Rules and relevant internal policies.

During 2017–18, one new consultancy contract was entered into, involving total actual expenditure of $48,950. In addition, three ongoing consultancy contracts were active at the end of the reporting period, involving total actual expenditure of $154,280.

Annual reports contain information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available on the AusTender website, www.tenders.gov.au

Small business

ACIAR supports small business participation in the Commonwealth Government procurement market. Small and Medium Enterprises (SME) and Small Enterprise participation statistics are available on the Department of Finance's website www.finance.gov.au/procurement/statistics-on-commonwealth-purchasing-contracts/.

In supporting small and medium enterprises, ACIAR applies:

- the Commonwealth Contracting Suite for low-risk procurements valued under $200,000
- Australian Industry Participation plans in whole-of-government procurement, where applicable
- the Small Business Engagement Principles (outlined in the government's Industry Innovation and Competitiveness Agenda), such as communicating in clear, simple language and presenting information in an accessible format.

ACIAR recognises the importance of ensuring that small businesses are paid on time. The results of the Survey of Australian Government Payments to Small Business are available on the Treasury's website.

Other mandatory information

Advertising and market research

During 2017–18, ACIAR did not conduct advertising campaigns. ACIAR did enter into one contract with a market research company, to conduct research on our stakeholders and their engagement with ACIAR. One promotional advertisement, promoting the work of ACIAR, was placed in the National Farmers' Federation Year Book. No other advertisements or agreements with media advertising organisations were entered into. No direct marketing of information to the public was undertaken and ACIAR has no contracts for any such activities.

Discretionary grants

ACIAR did not issue any discretionary grants during 2017–18 or have any ongoing grants from previous years.

Information Publications Scheme

Agencies subject to the *Freedom of Information Act 1982* (FOI Act) are required to make information publically available as part of the Information Publication Scheme.

Each agency must display on its website a plan showing what information it publishes in accordance with the Information Publication Scheme requirements. The content is available at: www.aciar.gov.au/Government-Reporting.

ACIAR received two freedom of information requests for information in 2017–18. One request was finalised during the reporting period and one was transferred to another agency.

Ecologically sustainable development and environmental performance

This report comprises ACIAR's report on its ecologically sustainable development and environmental performance, provided in accordance with Section 516A of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Project-related environmental impacts

ACIAR's project development guidelines include triggers to ensure that any projects developed that may result in significant environmental impacts follow the requirements under the EPBC Act. When partner organisations (proponents) are developing projects, the commissioned (lead) agency must consider all relevant obligations under the EPBC Act.

Should any potential significant environmental impacts be identified by ACIAR or project proponents, both ACIAR and the proponents are obliged to ensure that all relevant EPBC obligations have been appropriately considered.

Reference to the EPBC Administrative Guidelines on Significance (EPBC Guidelines) is included in project development processes. If a proposal may have significant environmental impact, the Research Program Manager and project proponent must use a risk assessment and management-based approach to assess the potential risks and may have informal consultation with the EPBC Referrals Unit of the Department of the Environment and Energy. ACIAR requires the proponent to submit a letter indicating that it agrees with the findings of the risk assessment.

Under the EPBC Guidelines, the ACIAR CEO is required to decide whether or not with the proposed risk-management approaches there is still a significant risk of environmental impact sufficient to warrant a formal referral of the matter to the Department of the Environment and Energy.

For any project for which potential significant environmental risks were identified during the project development phase, ACIAR includes a standard condition that the commissioned organisation must annually report to ACIAR on its implementation of the stated environmental risk-management procedures and/or any special conditions imposed by the relevant Minister in the event that the project had been formally referred to the Department of the Environment and Energy.

During project development, ACIAR also considers whether or not a project has any relevance to other international arrangements to which Australia is a signatory. This includes obligations under international arrangements to which Australia is a signatory, specifically for the use of biological resources, being met and properly documented.

Letters of approval relating to the use of experimental animals and/or genetically modified organisms must be provided, along with five letters confirming compliance with regulations relating to germplasm transfer, quarantine requirements, biosafety and so on.

How the outcomes of the organisation contribute to ecologically sustainable development

ACIAR's governing legislation outlines its mandate and functions under Section 5, including the formulation of policies to deliver against this mandate. Agricultural research is linked explicitly with sustainability. The link is maintained and implemented in the key planning document—the Annual Operational Plan. At the operational level project development, evaluation and monitoring deliver on this mandate.

Effect of the organisation's activities on the environment

Projects often have strong environmental benefits. These are spread throughout the ACIAR's mandated region of operations, in developing countries of the Indo-Pacific region. ACIAR projects address problems in developing countries that may also yield results applicable to environmental management in Australia. Such benefits are either a secondary objective or are the result of research having application within Australian settings.

- Agricultural Systems Management and Development Policy—mitigating and adapting against climate change; policy and institutional frameworks and their impacts on water management.
- Crop Improvement and Management—introducing crop management practices in concert with higher yielding varieties in farming systems, deploying alternative cropping methods; developing control and management strategies for weeds and pests threatening crop species; collection and conservation of unique crop and legume germplasm.
- Fisheries—management of cross-country fisheries resources, sustainable management of marine species, including inshore fisheries; and research to develop and implement sustainable aquaculture technologies to minimise wild capture and harvest in ACIAR's mandate region.
- Forestry—enhancements of breeding technologies for Australian species, such as eucalypts and acacias, widely used for forestry plantations in Australia and parts of Asia; improving disease and pest-surveillance methodologies and management; germplasm utilisation and management.

- Land and Water Resources—developing water allocation and management strategies; investigating new approaches to managing and alleviating the effects of salinity and soil acidification; assessing land suitability, crop diversification and constraints; minimising pollutants in waterways; developing and promoting new cropping systems for conservation agriculture.

Measures being taken by the organisation to minimise the impact of its activities on the environment

ACIAR's size and resourcing has resulted in the choice to adopt an informal system for managing environmental impacts, built upon the EMS framework circulated to government departments and agencies. The framework has been used to ensure that environmental performance within ACIAR's Canberra premises is as effective as possible.

ACIAR has installed a number of measures to mitigate its use of resources. ACIAR House has 50 solar panels installed on the roof with an estimated output wattage of 8.795 Kw. Rainwater tanks with a capacity of 40,000 litres capture runoff, and a grey-water reuse system is installed.

ACIAR established a Sustainability Committee in 2017–18, to explore additional environmental measures that can be undertaken by the organisation, including better ways of offsetting travel-related emissions and ways of improving wildlife habitat in the environs of ACIAR House at Bruce.

ACIAR is the sole building tenant, responsible for the management of all infrastructure and implementation of policies to deliver sound environmental management at its Canberra premises. Like all government agencies and departments, daily operations generate waste and consume electricity, water and materials.

Mechanisms for reviewing and increasing the effectiveness of these measures

Formal reporting guidelines on environmental management and associated activities are used for an internal review of environment management processes. These include:

- Sustainable Procurement Guide (2013)
- Energy Use in Commonwealth Operations (annual publication)
- The Australian National Audit Office Green Office Procurement and Sustainable Office Management (2008).

Resource use by ACIAR House, Canberra

Resource	Usage	
	2016–17	2017–18
Energy (kilowatt hours)	278,550	234,496
Water (kilolitres)	1220	1355

PART 5
Financial statements 2017–18

CONTENTS

Independent Auditor's Report

INDEPENDENT AUDITOR'S REPORT

To the Minister for Foreign Affairs

Opinion

In my opinion, the financial statements of the Australian Centre for International Agricultural Research for the year ended 30 June 2018:

(a) comply with Australian Accounting Standards – Reduced Disclosure Requirements and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial position of the Australian Centre for International Agricultural Research as at 30 June 2018 and its financial performance and cash flows for the year then ended.

The financial statements of the Australian Centre for International Agricultural Research, which I have audited, comprise the following statements as at 30 June 2018 and for the year then ended:

- Statement by the Chief Executive Officer and Chief Finance Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement;
- Administered Schedule of Comprehensive Income;
- Administered Schedule of Assets and Liabilities;
- Administered Reconciliation Schedule;
- Administered Cash Flow Statement; and
- Notes to the financial statements, comprising an Overview, Summary of Significant Accounting Policies and other explanatory information.

Basis for Opinion

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Australian Centre for International Agricultural Research in accordance with the relevant ethical requirements for financial statement audits conducted by the Auditor-General and his delegates. These include the relevant independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) to the extent that they are not in conflict with the *Auditor-General Act 1997*. I have also fulfilled my other responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Accountable Authority's Responsibility for the Financial Statements

As the Accountable Authority of the Australian Centre for International Agricultural Research the Chief Executive Officer is responsible under the *Public Governance, Performance and Accountability Act 2013* for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards – Reduced Disclosure Requirements and the rules made under that Act. The Chief Executive Officer is also responsible for such internal control as the Chief Executive Officer determines is necessary to enable the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

GPO Box 707 CANBERRA ACT 2601
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Independent Auditor's Report

In preparing the financial statements, the Chief Executive Officer is responsible for assessing the Australian Centre for International Agricultural Research's ability to continue as a going concern, taking into account whether the entity's operations will cease as a result of an administrative restructure or for any other reason. The Chief Executive Officer is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the assessment indicates that it is not appropriate.

Auditor's Responsibilities for the Audit of the Financial Statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian National Audit Office Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with the Australian National Audit Office Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Accountable Authority;
- conclude on the appropriateness of the Accountable Authority's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern; and
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Australian National Audit Office

Rita Bhana

Senior Director

Delegate of the Auditor-General

Canberra

14 September 2018

Statement by Chief Executive Officer and Chief Finance Officer

In our opinion, the attached financial statements for the year ended 30 June 2018 comply with subsection 42(2) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA Act.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Australian Centre for International Agricultural Research will be able to pay its debts as and when they fall due.

Andrew Campbell
Chief Executive Officer
14 September 2018

Audrey Gormley
Chief Finance Officer
14 September 2018

Statement of Comprehensive Income

for the period ended 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
NET COST OF SERVICES				
Expenses				
Employee benefits	1.1A	**5,871**	7,255	6,435
Suppliers	1.1B	**4,118**	3,623	4,130
Write-down and impairment of assets	1.1C	**-**	4	-
Depreciation and amortisation	3.2A	**366**	241	351
Losses from asset sales		**-**	1	-
Total expenses		**10,355**	11,124	10,916
Own-Source Income				
Own-source revenue				
Sale of goods and rendering of services	1.2A	**1,195**	1,991	1,170
Other revenue	1.2B	**30**	30	31
Total own-source revenue		**1,225**	2,021	1,201
Gains				
Gains from sale of assets		**27**	-	-
Reversal of write-downs and impairment	1.2C	**-**	28	-
Total gains		**27**	28	-
Total own-source income		**1,252**	2,049	1,201
Net cost of services		**9,103**	9,075	9,715
Revenue from Government	1.2D	**9,364**	9,494	9,364
Surplus after income tax on continuing operations		**261**	419	(351)
OTHER COMPREHENSIVE INCOME				
Items not subject to subsequent reclassification to net cost of services				
Changes in asset revaluation surplus		**(57)**	92	-
Total other comprehensive income / (loss)		**(57)**	92	-
Total comprehensive income after income tax		**204**	511	(351)

The above statement should be read in conjunction with the accompanying notes.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

Gains from sale of asset & Changes in asset revaluation surplus

A motor vehicle was sold during the year which was not anticipated during budget development.

Statement of Financial Position

as at 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
ASSETS				
Financial Assets				
Cash and cash equivalents	3.1A	**11**	125	71
Trade and other receivables	3.1B	**3,731**	3,803	3,766
Total financial assets		**3,742**	3,928	3,837
Non-Financial Assets				
Leasehold improvements	3.2A	**936**	1,059	840
Plant and equipment	3.2A	**180**	229	246
Intangibles	3.2A	**1,954**	1,404	1,140
Other non-financial assets	3.2B	**96**	247	152
Total non-financial assets		**3,166**	2,939	2,378
Total assets		**6,908**	6,867	6,215
LIABILITIES				
Payables				
Suppliers	3.3A	**335**	569	590
Other payables	3.3B	**662**	553	338
Total payables		**997**	1,122	928
Provisions				
Employee provisions	6.1A	**1,994**	2,277	2,235
Total provisions		**1,994**	2,277	2,235
Total liabilities		**2,991**	3,399	3,163
Net assets		**3,917**	3,468	3,052
EQUITY				
Contributed equity		**2,479**	2,234	2,479
Reserves		**147**	204	112
Retained surplus		**1,291**	1,030	461
Total equity		**3,917**	3,468	3,052

The above statement should be read in conjunction with the accompanying notes.

Statement of Financial Position

as at 30 June 2018

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

Cash and Cash equivalents

This reflects the cash balance of day to day operations with funds being drawn to meet payments as required, and changes from time to time in the normal course of business.

Leasehold improvements

The value of minor acquisitions during 2016-17 were not taken into account during budget development, resulting in a higher than estimated closing balance for 2017-18.

Plant and equipment

A motor vehicle was sold during the year resulting in a lower than estimated closing balance.

Intangibles

$0.7m relates to a new project management system that was capitalised. At the time the original budget was prepared ACIAR did not have sufficient information to identify the capital/non-capital split so the full anticipated cost was deemed non-capital.

Other non-financial assets

ACIAR recognises pre-payments at the end of the year for goods and services paid for but not yet consumed, this amount changes from time to time in the normal course of business.

Suppliers and Other payables

ACIAR recognises payables and accrued expenditure at the end of the year for work performed but not yet paid (including salaries), this amount changes from time to time in the normal course of business.

Employee provision

A number of long serving staff retired during the year which reduced provision balances for leave below those anticipated during budget development.

Statement of Changes in Equity

for the period ended 30 June 2018

	Retained earnings			Asset revaluation reserve			Contributed equity/capital			Total equity		
	2018	2017	Original Budget	**2018**	2017	Original Budget	**2018**	2017	Original Budget	**2018**	2017	Original Budget
	$'000	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000
Opening balance												
Balance carried forward from previous period	**1,030**	611	812	**204**	112	112	**2,234**	1,987	2,234	**3,468**	2,710	3,158
Adjusted opening balance	**1,030**	611	812	**204**	112	112	**2,234**	1,987	2,234	**3,468**	2,710	3,158
Comprehensive income												
Surplus / (deficit) for the period	**261**	419	(351)	**n/a**	n/a	n/a	**n/a**	n/a	n/a	**261**	419	(351)
Other comprehensive income / (loss)	**-**	-	-	**(57)**	92	-	**-**	-	-	**(57)**	92	-
Total comprehensive income / (loss)	**261**	419	(351)	**(57)**	92	-	**-**	**-**	**-**	**204**	511	(351)
Transactions with owners												
Contributions by owners												
Departmental capital budget	**-**	-	-	**-**	-	-	**245**	247	245	**245**	247	245
Equity injection - Appropriations	**-**	-	-	**-**	-	-	**-**	-	-	**-**	-	-
Total transactions with owners	**-**	-	-	**-**	-	-	**245**	247	245	**245**	247	245
Closing balance as at 30 June	**1,291**	1,030	461	**147**	204	112	**2,479**	2,234	2,479	**3,917**	3,468	3,052

The above statement should be read in conjunction with the accompanying notes.

Accounting Policy

All variances above 10% of the relevant category are considered significant and explained below.

Equity Injections

Amounts appropriated which are designated as 'equity injections' for a year (less any formal reductions) and Departmental Capital Budgets (DCBs) are recognised directly in contributed equity in that year.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

In addition to the flow-on impact of items referred to in the Budget Variances Commentary on the Statement of Comprehensive Income and the Statement of Financial Position, a revaluation write-back of $56,857 was recognised for the sale of an asset, which was not contemplated when the 2017-18 budget was developed.

Cash Flow Statement

for the period ended 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
OPERATING ACTIVITIES				
Cash received				
Appropriations		**9,440**	9,175	9,331
Sales of goods and rendering of services		**1,225**	2,207	1,170
Net GST received		**340**	310	230
Total cash received		**11,005**	11,692	10,731
Cash used				
Employees		**6,159**	7,021	6,421
Suppliers		**4,432**	3,980	4,310
Total cash used		**10,591**	11,001	10,731
Net cash from operating activities		**414**	691	-
INVESTING ACTIVITIES				
Cash received				
Proceeds from sales of property, plant and equipment		**21**	-	-
Total cash received		**21**	-	-
Cash used				
Purchase of property, plant and equipment		**794**	884	245
Total cash used		**794**	884	245
Net cash (used by) investing activities		**(773)**	(884)	(245)
FINANCING ACTIVITIES				
Cash received				
Contributed equity		**245**	247	245
Total cash received		**245**	247	245
Net cash from financing activities		**245**	247	245
Net increase / (decrease) in cash held		**(114)**	54	-
Cash and cash equivalents at the beginning of the reporting period		**125**	71	71
Cash and cash equivalents at the end of the reporting period	3.1A	**11**	125	71

The above statement should be read in conjunction with the accompanying notes.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

Net GST received

This reflects GST payments expected to be received from the Australian Taxation Office based on estimates of expenditure made during budget development. It is not unusual for this amount to change from time to time in the normal course of business.

Proceeds from sales of property, plant and equipment

A motor vehicle was sold during the year.

Purchase of property, plant and equipment (PP&E)

ACIAR budgeted for purchases of PP&E consistent with its known Departmental Capital Budget. However, during the year ACIAR made planned use of current year revenue which it had not included in its budget to continue the development of its project system.

Administered Schedule of Comprehensive Income

for the period ended 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
NET COST OF SERVICES				
Expenses				
International development assistance	2.1A	**112,491**	111,284	117,552
Total expenses		**112,491**	111,284	117,552
Income				
Revenue				
Non-taxation revenue				
External funds	2.2A	**13,687**	12,273	16,340
Total non-taxation revenue		**13,687**	12,273	16,340
Total revenue		**13,687**	12,273	16,340
Net cost of services		**98,804**	99,011	101,212
(Deficit) after income tax		**(98,804)**	(99,011)	(101,212)
Total comprehensive (loss)		**(98,804)**	(99,011)	(101,212)

The above schedule should be read in conjuction with the accompanying notes.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

External funds

The majority of ACIAR's external funds currently come from DFAT. Due to a slowing of the growth in Australia's aid programme external funding was less than originally budgeted.

Administered Schedule of Assets and Liabilities

as at 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
ASSETS				
Financial assets				
Cash and cash equivalents	4.1A	**13,181**	16,883	7,888
Taxation receivables	4.1B	**1,468**	1,407	538
Trade and other receivables	4.1C	**647**	561	-
Total financial assets		**15,296**	18,851	8,426
Non-financial assets				
Other non-financial assets	4.2	**34**	-	-
Total non-financial assets		**34**	-	-
Total assets administered on behalf of Government		**15,330**	18,851	8,426
LIABILITIES				
Payables				
Suppliers	4.3A	**2,396**	2,354	817
Other payables	4.3B	**1,462**	1,365	482
Total payables		**3,858**	3,719	1,299
Provisions				
Employee provisions	6.1B	**150**	90	79
Total provisions		**150**	90	79
Total liabilities administered on behalf of Government		**4,008**	3,809	1,378
Net assets		**11,322**	15,042	7,048

The above schedule should be read in conjunction with the accompanying notes.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

Cash and cash equivalents

Increase mainly due to a combination of delays in contracting overseas research activity and delays in external funders confirming availability of funds.

Taxation receivables

This reflects GST receivable from the Australian Taxation Office based on estimates of expenditure made during budget development. It is not unusual for this amount to change from time to time in the normal course of business.

Trade and other receivables

The budget assumes that revenues will be received before year end. In this instance the closing balance reflects cash receivable from Department of Foreign Affairs and Trade.

Other non-financial assets

ACIAR recognises pre-payments at the end of the year for goods and services paid for but not yet consumed, this amount changes from time to time in the normal course of business.

Suppliers and Other payables

ACIAR recognises payables and accrued expenditure at the end of the year for work performed but not yet paid (including salaries), this amount changes from time to time in the normal course of business.

Employee provisions

Relates to a number of program delivery positions transferred to administered funding as a result of an internal staffing review not envisaged at the time the original budget was developed.

Administered Reconciliation Schedule

for the period ended 30 June 2018

	2018	2017
	$'000	$'000
Opening assets less liabilities as at 1 July	**15,042**	20,304
Net (cost of)/contribution by services		
Income	**13,687**	12,273
Expenses	**(112,491)**	(111,284)
Transfers (to)/from the Official Public Account		
Appropriation transfers from Official Public Account		
Annual appropriations		
Payments to entities other than corporate Commonwealth entities	**95,519**	93,956
Appropriation transfers to OPA		
Transfers to OPA	**(435)**	(207)
Closing assets less liabilities as at 30 June	**11,322**	15,042

The above schedule should be read in conjunction with the accompanying notes.

Accounting Policy

Administered Cash Transfers to and from the Official Public Account

Revenue collected by ACIAR for use by the Government, rather than ACIAR, is Administered revenue. Collections are transferred to the Official Public Account (OPA) maintained by the Department of Finance. Conversely, cash is drawn from the OPA to make payments under Parliamentary appropriation on behalf of Government. These transfers to and from the OPA are adjustments to the Administered cash held by the entity on behalf of the Government and reported as such in the Schedule of Administered Cash Flows and in the Administered Reconciliation Schedule.

Administered Cash Flow Statement

for the period ended 30 June 2018

	Notes	2018 $'000	2017 $'000	Original Budget $'000
OPERATING ACTIVITIES				
Cash received				
External funds		**13,600**	11,711	16,340
Net GST received		**5,500**	4,659	5,000
Total cash received		**19,100**	16,370	21,340
Cash used				
International development assistance		**117,937**	115,250	117,512
Total cash used		**117,937**	115,250	117,512
Net cash (used by) operating activities		**(98,837)**	(98,880)	(96,172)
Cash and cash equivalents at the beginning of the reporting period		**16,883**	21,144	12,218
Cash from Official Public Account				
Appropriations		**101,166**	99,502	96,882
		101,166	99,502	96,882
Cash to Official Public Account				
Appropriations		**6,031**	4,883	5,000
		6,031	4,883	5,000
Cash and cash equivalents at the end of the reporting period	4.1A	**13,181**	16,883	7,928

This schedule should be read in conjunction with the accompanying notes.

Budget Variances Commentary

All variances above 10% of the relevant category are considered significant and explained below.

External funds

Less than budgeted due to a combination of delays in contracting overseas research activity, delays in external funders confirming availability of funds and the securing of less external funding than originally budgeted.

Net GST received

This reflects GST payments expected to be received from the Australian Taxation Office based on estimates of expenditure made during budget development. It is not unusual for this amount to change from time to time in the normal course of business.

Cash and cash equivalents at the beginning of the reporting period

The impact of lower than expected expenditure in 2016-17 on closing cash balances was not taken into account during budget development, resulting in a higher than estimated opening balance for 2017-18.

Appropriations

This primarily reflects GST payments receipted back to the Official Public Account and is based on estimates of expenditure made during budget development. It is not unusual for this amount to change from time to time in the normal course of business.

Basis of Preparation

The financial statements are general purpose financial statements and are required by section 42 of the *Public Governance, Performance and Accountability Act 2013*.

The financial statements have been prepared in accordance with :

a) *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015* (FRR); and

b) Australian Accounting Standards and Interpretations – Reduced Disclosure Requirements issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars.

Reporting of Administered Activities

Administered revenues, expenses, assets, liabilities and cash flows are disclosed in the Administered Schedules and related notes.

Except where otherwise stated, Administered items are accounted for on the same basis and using the same policies as for Departmental items, including the application of Australian Accounting Standards.

Events After the Reporting Period

Departmental

There have been no events or transactions after the reporting date which could significantly affect the ongoing structure and financial activities of ACIAR.

Administered

There have been no events or transactions after the reporting date which could significantly affect the ongoing structure and financial activities of ACIAR.

Taxation

ACIAR is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

New Australian Accounting Standards

Adoption of New Australian Accounting Standard Requirements

No accounting standard has been adopted earlier than the application date as stated in the standard.

No new/ revised/ amending standards and/ or interpretations issued prior to the signing of the statement by the accountable authority and chief finance officer were applicable to the current reporting period.

Future Australian Accounting Standard Requirements

The following new/ revised/ amending standards and/ or interpretations were issued by the Australian Accounting Standard Board prior to the signing of the statements by the Chief Executive Officer and the Chief Finance Officer, which are expected to have a material impact on ACIAR's financial statements for future reporting period(s):

Standard/ Interpretation	Application date for the entity[1]	Nature of impending change/s in accounting policy and likely impact on initial application
AASB 15 Revenue from Contracts with Customers	1-Jul-18	The Standard provides a single revenue recognition model and establishes principles for reporting information about the nature, amount, timing and uncertainty of revenue and cash flows arising from ACIAR's contracts with customers, with revenue recognised as 'performance obligations' are satisfied. Likely impact: ACIAR has a number of arrangements in place for the provision of services (mainly to DFAT) which may be impacted by the application of this standard, primarily in the timing and recognition of revenue.
AASB 16 Leases	1-Jan-19	The Standard removes the distinction between operating and financing leases. A lease is a contract that conveys the right to use an asset for a period in exchange for consideration. This will result in ACIAR recording a right-of-use asset, as well as a lease liability representing obligations to make lease payments, for all applicable leases. Likely impact: ACIAR has a number of existing property leases which are within the scope of this standard. While application of the standard will result in changes to the Statement of Comprehensive Income and Statement of Financial Position, it should also increase readability and information for users. ACIAR sees the application of this standard as a positive outcome.

[1]ACIAR's expected initial application date is when the accounting standard becomes operative at the beginning of the entity's reporting period.

All other new/ revised/ amending standards and/ or interpretations that were issued prior to the sign-off date and are applicable to future reporting period(s) are not expected to have a future material impact on the ACIAR's financial statements.

Financial Performance

This section analyses the financial performance of ACIAR for the year ended 2018.

1.1: Expenses

	2018	2017
	$'000	$'000
1.1A: Employee Benefits		
Wages and salaries	**4,563**	5,476
Superannuation:		
Defined contribution plans	**410**	573
Defined benefit plans	**339**	323
Leave and other entitlements	**405**	873
Separation and redundancies	**154**	10
Total employee benefits	**5,871**	7,255

Accounting Policy
Accounting policies for employee related expenses are contained in the People and Relationships section.

1.1B: Suppliers		
Goods and services supplied or rendered		
Contractors, consultants and service providers	**1,247**	538
Travel	**559**	470
IT Services	**685**	521
Property services (excluding rent)	**296**	245
Workforce capability	**262**	231
Publications and promotion	**106**	634
Other	**264**	255
Total goods and services supplied or rendered	**3,419**	2,894
Goods supplied	**501**	414
Services rendered	**2,918**	2,480
Total goods and services supplied or rendered	**3,419**	2,894
Other suppliers		
Operating lease rentals	**652**	655
Workers compensation expenses	**47**	74
Total other suppliers	**699**	729
Total suppliers	**4,118**	3,623

1.1: Expenses (continued)

	2018	2017
	$'000	$'000

Leasing commitments

ACIAR, in its capacity as lessee, has in place a number of non-cancellable operating lease agreements for office accommodation in Canberra and overseas. The terms and conditions of these leases vary based on local market conditions.

Commitments for minimum lease payments in relation to non-cancellable operating leases are payable as follows:		
Within 1 year	**834**	813
Between 1 to 5 years	**3,411**	3,410
More than 5 years	**1,642**	2,477
Total operating lease commitments[1]	**5,887**	6,700

[1]Commitments are GST inclusive where relevant.

Accounting Policy

Operating lease payments are expensed on a straight-line basis which is representative of the pattern of benefits derived from the leased assets.

1.1C: Write-Down and Impairment of Assets		
Revaluation decrements	**-**	4
Total write-down and impairment of assets	**-**	4

1.2: Own-Source Revenue and Gains

	2018 $'000	2017 $'000
Own-Source Revenue		
1.2A: Sale of Goods and Rendering of Services		
Sale of goods	**13**	1
Rendering of services	**1,182**	1,990
Total sale of goods and rendering of services	**1,195**	1,991

Accounting Policy

Revenue from the sale of goods is recognised when:

a) the risks and rewards of ownership have been transferred to the buyer; and

b) ACIAR retains no managerial involvement or effective control over the goods.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

1.2B: Other Revenue		
Resources received free of charge		
Remuneration of auditors	**30**	30
Total other revenue	**30**	30

Accounting Policy

Resources Received Free of Charge

Resources received free of charge are recognised as revenue when, and only when, a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense. Resources received free of charge are recorded as either revenue or gains depending on their nature.

1.2C: Reversal of write-downs		
Reversal of prior year asset write-downs	**-**	28
Total reversals of previous asset write-downs	**-**	28

1.2D: Revenue from Government		
Appropriations		
Departmental appropriation	**9,364**	9,494
Total revenue from Government	**9,364**	9,494

Accounting Policy

Revenue from Government

Amounts appropriated for Departmental appropriations for the year (adjusted for any formal additions and reductions) are recognised as Revenue from Government when the entity gains control of the appropriation, except for certain amounts that relate to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned. Appropriations receivable are recognised at their nominal amounts.

Income and Expenses Administered on Behalf of Government

This section analyses the activities that ACIAR does not control but administers on behalf of the Government. Unless otherwise noted, the accounting policies adopted are consistent with those applied for Departmental reporting.

2.1: Administered—Expenses

	2018	2017
	$'000	$'000
2.1A: International Development Assistance		
Research program	**78,954**	80,227
Multilateral program	**23,914**	22,642
Education and training	**8,299**	7,808
Communicating research results	**1,324**	607
Total international development assistance	**112,491**	111,284
International Development Assistance is made up of:		
Employee benefits	**2,940**	1,154
Supplier expenses	**109,551**	110,130
Total	**112,491**	111,284

Accounting Policy

International Development Assistance

ACIAR administers international development assistance programs and projects on behalf of the Government.

International development assistance liabilities are recognised to the extent that:

(i) the services required to be performed by the recipient have been performed; or

(ii) the contract eligibility criteria have been satisfied, but payments due have not been made.

Comparative values reported for 2017 have been amended from the following

Research program	80,767
Multilateral program	21,906
Education and training	7,546
Communicating research results	1,065
	111,284

The changes (which have also been applied in 2018) reflect a refinement of cost allocation methodology.

2.2: Administered—Income

	2018 $'000	2017 $'000
Revenue		
Non–Taxation Revenue		
2.2A: External Funds		
External funds	**13,687**	12,273
Total external funds	**13,687**	12,273

Accounting Policy

All Administered revenues are revenues relating to ordinary activities performed by the entity on behalf of the Australian Government. As such, Administered appropriations are not revenues of the individual entity that oversees distribution or expenditure of the funds as directed.

Financial Position

This section analyses the ACIAR's assets used to conduct its operations and the operating liabilities incurred as a result. Employee related information is disclosed in the People and Relationships section.

3.1: Financial Assets

	2018 $'000	2017 $'000
3.1A: Cash and Cash Equivalents		
Cash on hand or on deposit	**11**	125
Total cash and cash equivalents	**11**	125

Accounting Policy

Cash is recognised at its nominal amount. Cash and cash equivalents includes:

a) cash on hand;
b) demand deposits in bank accounts with an original maturity of 3 months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value; and
c) cash in special accounts.

3.1B: Trade and Other Receivables		
Appropriations receivable		
Appropriation receivable	**3,682**	3,758
Total appropriations receivable	**3,682**	3,758
Other receivables		
GST receivable from the Australian Taxation Office	**49**	45
Total other receivables	**49**	45
Total	**3,731**	3,803

Credit terms for goods and services were within 30 days (2017: 30 days)

Accounting Policy

Loans and Receivables

Trade receivables, loans and other receivables that have fixed or determinable payments and that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment.

Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due less any impairment allowance account. Collectability of debts is reviewed at the end of the reporting period. Allowances are made when collectability of the debt is no longer probable.

3.2: Non-Financial Assets

3.2A: Reconciliation of the Opening and Closing Balances of Leasehold Improvements, Plant and Equipment and Intangibles

Reconciliation of the opening and closing balances of leasehold improvements, plant and equipment and intangibles for 2018

	Leasehold improvements	Plant and equipment	Intangibles Computer software[1]	Total
As at 1 July 2017	**$'000**	**$'000**	**$'000**	**$'000**
Gross book value	**1,031**	**229**	**534**	**1,794**
Accumulated depreciation, amortisation and impairment	**-**	**-**	**(518)**	**(518)**
Work in progress	**28**	**-**	**1,388**	**1,416**
Total as at 1 July 2017	**1,059**	**229**	**1,404**	**2,692**
Additions				
Purchase	**23**	**99**	**673**	**795**
Depreciation and amortisation	**(146)**	**(97)**	**(123)**	**(366)**
Disposals				
Asset cost	**-**	**(70)**	**-**	**(70)**
Accumulated depreciation	**-**	**19**	**-**	**19**
Total as at 30 June 2018	**936**	**180**	**1,954**	**3,070**
Total as at 30 June 2018 represented by				
Gross book value	**1,054**	**258**	**2,514**	**3,826**
Accumulated depreciation, amortisation and impairment	**(146)**	**(78)**	**(641)**	**(865)**
Work in progress	**28**	**-**	**81**	**109**
Total as at 30 June 2018	**936**	**180**	**1,954**	**3,070**

[1]The carrying amount of computer software included $2,183k internally generated software.

No indicators of impairments were found for leasehold improvements, plant and equipment or computer software.

No leasehold improvements, plant and equipment or computer software are expected to be sold or disposed of within the next 12 months.

3.2: Non-Financial Assets (continued)

Revaluations of non-financial assets

All revaluations were conducted in accordance with the revaluation policy stated at Note 7.4. On 30 June 2018, an independent valuer from Jones Lang LaSalle conducted the revaluations.

ACIAR has a number of contractual commitments for the acquisition of plant and equipment and intangible assets	**2018 $'000**	2017 $'000
Within 1 year	**41**	340
Between 1 to 5 years	**-**	-
Total commitments[1]	**41**	340

[1]Commitments are GST inclusive where relevant.

Accounting Policy

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Asset Recognition Threshold

Purchases of leasehold improvements, plant and equipment and intangibles are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $2,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

The initial cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located.

Revaluations

Following initial recognition at cost, leasehold improvements, plant and equipment assets are carried at fair value less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depends upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit except to the extent that they reverse a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset restated to the revalued amount.

3.2: Non-Financial Assets (continued)

Depreciation

Depreciable leasehold improvements, property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to ACIAR using, in all cases, the straight-line method of depreciation.

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2018	2017
Leasehold improvements	**Lower of useful life or lease term**	Lower of useful life or lease term
Plant and equipment	**3 to 10 years**	3 to 10 years

Impairment

All assets are assessed for impairment annually. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if ACIAR were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of leasehold improvements or plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

Intangibles

ACIAR's intangibles comprise software for internal use. These assets are carried at cost less accumulated amortisation and accumulated impairment losses.

Software is amortised on a straight-line basis over its anticipated useful life. The useful lives of the ACIAR's software are 3 to 10 years (2017: 3 to 10 years).

All computer software assets are assessed for indications of impairment annually.

	2018	2017
	$'000	$'000
3.2B: Other Non-Financial Assets		
Prepayments	**96**	247
Total other non-financial assets	**96**	247

No indicators of impairment were found for other non-financial assets.

3.3: Payables

	2018 $'000	2017 $'000
3.3A: Suppliers		
Trade creditors and accruals	**335**	569
Total suppliers	**335**	569

All supplier payables are expected to be settled within 12 months.

Settlement was usually made within 30 days.

3.3B: Other Payables		
Salaries and wages	**116**	123
Superannuation	**8**	7
Rent payable	**7**	38
Lease incentive	**277**	317
Other	**254**	68
Total other payables	**662**	553

Assets and Liabilities Administered on Behalf of Government

This section analyses assets used to conduct operations and the operating liabilities incurred as a result which ACIAR does not control but administers on behalf of the Government. Unless otherwise noted, the accounting policies adopted are consistent with those applied for Departmental reporting.

4.1: Administered—Financial Assets

	2018	2017
	$'000	$'000
4.1A: Cash and Cash Equivalents		
Cash in special accounts	**13,171**	15,402
Cash on hand or on deposit	**10**	1,481
Total cash and cash equivalents	**13,181**	16,883
4.1B: Taxation Receivables		
GST receivable from Australian Taxation Office	**1,468**	1,407
Total taxation receivables (net)	**1,468**	1,407
4.1C: Trade and Other Receivables		
Goods and services receivables	**3**	561
Other receivables	**644**	-
Total trade and other receivables (net)	**647**	561

No indicators of impairment were found for trade and other receivables.

Trade and other receivables credit terms were within 30 days (2017 : 30 days).

4.2: Administered—Non-Financial Assets

	2018 $'000	2017 $'000
4.2: Other Non-Financial Assets		
Prepayments	**34**	**-**
Total other non-financial assets	**34**	-

4.3: Administered—Payables

	2018 $'000	2017 $'000
4.3A: Suppliers		
Trade creditors and accruals	**2,396**	2,354
Total suppliers	**2,396**	2,354
Settlement was usually made within 30 days.		
4.3B: Other Payables		
GST payable to OPA	**1,403**	1,352
Salaries and wages	**55**	13
Superannuation	**4**	-
Total other payables	**1,462**	1,365

Funding

This section identifies ACIAR's funding structure.

5.1: Appropriations

5.1A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2018

	Annual Appropriation[1] $'000	Section 74 Adjustments to appropriation $'000	Total appropriation $'000	Appropriation applied in 2018 (current and prior years) $'000	Variance[2] $'000
DEPARTMENTAL					
Ordinary annual services	**9,364**	**1,195**	**10,559**	**10,642**	**(83)**
Capital Budget[3]	**245**	**-**	**245**	**238**	**7**
Total departmental	**9,609**	**1,195**	**10,804**	**10,880**	**(76)**
ADMINISTERED					
Ordinary annual services					
Administered items	**96,882**	**-**	**96,882**	**95,084**	**1,798**
Total administered	**96,882**	**-**	**96,882**	**95,084**	**1,798**

Notes:

[1]In 2017-18, there were no appropriations which have been quarantined.

[2]In 2017-18, the variances are not considered material.

[3]Departmental and Administered Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts.

NOTES TO THE FINANCIAL STATEMENTS

for the period ended 30 June 2018

5.1: Appropriations (continued)

Annual Appropriations for 2017

	Annual Appropriation[1] $'000	Section 74 Adjustments to appropriation $'000	Total appropriation $'000	Appropriation applied in 2017 (current and prior years) $'000	Variance[2] $'000
DEPARTMENTAL					
Ordinary annual services	9,494	1,990	11,484	11,102	382
Capital Budget[3]	247	-	247	310	(63)
Total departmental	9,741	1,990	11,731	11,412	319
ADMINISTERED					
Ordinary annual services					
Administered items	93,993	-	93,993	93,956	37
Total administered	93,993	-	93,993	93,956	37

Notes:

[1]In 2016-17, there were no appropriations which have been quarantined.

[2]In 2016-17, the variances are not considered material.

[3]Departmental and Administered Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts.

5.1: Appropriations (continued)

5.1B: Unspent Annual Appropriations ('Recoverable GST exclusive')

	2018	2017
Authority	**$'000**	$'000
DEPARTMENTAL		
Appropriation Act (No 4) 2015-16 Non Operating - Equity Injection	**131**	131
Appropriation Act (No 1) 2016-17	**-**	3,627
Appropriation Act (No 1) 2017-18 Capital Budget (DCB) Non Operating	**7**	-
Appropriation Act (No 1) 2017-18	**3,544**	-
Total	**3,682**	3,758
ADMINISTERED		
Appropriation Act (No 1) 2016-17	**-**	625
Appropriation Act (No 1) 2017-18	**2,423**	-
Total	**2,423**	625

5.2: Special Accounts

5.2: Special Accounts (Recoverable GST exclusive)

	ACIAR Special Account[1]	
	2018	2017
	$'000	$'000
Balance brought forward from previous period	**15,402**	21,144
Increases		
Other receipts	**14,825**	14,263
Total increases	**14,825**	14,263
Available for payments	**30,227**	35,407
Decreases		
Administered		
Payments made to suppliers	**(17,056)**	(20,005)
Total Administered	**(17,056)**	(20,005)
Total decreases	**(17,056)**	(20,005)
Total balance carried to the next period	**13,171**	15,402
Balance represented by:		
Cash held in the Official Public Account	**13,171**	15,402
Total balance carried to the next period	**13,171**	15,402

[1]Appropriation: *Public Governance, Performance and Accountability Act 2013* section 80
Establishing Instrument: *Australian Centre for International Agricultural Research Act 1982* section 33
Purpose: For crediting amounts received from time to time to cover the discharge of costs.

5.3: Net Cash Appropriation Arrangements

	2018	2017
	$'000	$'000
Total comprehensive income excluding depreciation / amortisation expenses previously funded through revenue appropriations	**570**	752
Plus: depreciation/amortisation expenses previously funded through revenue appropriation	**(366)**	(241)
Total comprehensive income - as per the Statement of Comprehensive Income	**204**	511

People and Relationships

This section describes a range of employment and post employment benefits provided to our people and our relationships with other key people.

6.1: Employee Provisions

	2018	2017
	$'000	$'000
6.1A: Employee Provisions		
Leave	**1,599**	1,882
Other	**395**	395
Total employee provisions	**1,994**	2,277
6.1B: Administered - Employee Provisions		
Leave	**150**	90
Total employee provisions	**150**	90

Accounting policy

Liabilities for short-term employee benefits and termination benefits expected within twelve months of the end of reporting period are measured at their nominal amounts.

Other long-term employee benefits are measured as net total of the present value of the defined benefit obligation at the end of the reporting period, minus the fair value at the end of the reporting period of plan assets (if any), out of which the obligations are to be settled directly.

Leave

The liability for employee benefits includes provision for annual leave and long service leave.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including ACIAR's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long-service leave has been determined by reference to the shorthand method. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy

Provision is made for separation and redundancy benefit payments. ACIAR recognises a provision for termination when it has developed a detailed formal plan for the terminations and has informed those employees affected that it will carry out the terminations.

6.1: Employee Provisions (continued)

Superannuation

ACIAR's staff are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS), or the PSS accumulation plan (PSSap), or other superannuation funds held outside the Australian Government.

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap and other superannuation funds held outside the Australian Government are defined contribution schemes.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance's Administered schedules and notes.

ACIAR makes employer contributions to the employees' defined benefit superannuation scheme at rates determined by an actuary to be sufficient to meet the current cost to the Government. ACIAR accounts for the contributions as if they were contributions to defined contribution plans.

The liability for superannuation recognised as at 30 June represents outstanding contributions.

For other superannuation funds held outside the Australian Government, as employer, ACIAR, contributes a minimum of 9.5% of superannuable salaries.

6.2: Key Management Personnel Remuneration

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of ACIAR, directly or indirectly, including any director (whether executive or otherwise) of ACIAR. ACIAR has determined the key management personnel to be the Portfolio Minister (the Minister for the Department of Foreign Affairs and Trade), Chief Executive Officer, Chief Finance Officer and other Senior Management Team members. Key management personnel remuneration is reported in the table below:

	2018	2017
	$'000	$'000
Short-term employee benefits	**1,305**	1,124
Post-employment benefits	**286**	175
Other long-term employee benefits	**301**	198
Total senior executive remuneration expenses[1]	**1,892**	1,497

The total number of key management personnel that are included in the above table is 7 (2017: 6).

1. The above key management personnel remuneration excludes the remuneration and other benefits of the Portfolio Minister. The Portfolio Minister's remuneration and other benefits are set by the Remuneration Tribunal and are not paid by ACIAR.

6.3: Related Party Disclosures

Related party relationships:
ACIAR is an Australian Government controlled entity. Related parties to this entity are Key Management Personnel including the Portfolio Minister (the Minister for the Department of Foreign Affairs and Trade) and Executive, and other Australian Government entities.

Transactions with related parties:
Given the breadth of Government activities, related parties may transact with the government sector in the same capacity as ordinary citizens. Such transactions include the payment or refund of taxes, receipt of a Medicare rebate or higher education loans. These transactions have not been separately disclosed in this note.

The following transactions with related parties occurred during the financial year:

- The entity transacts with other Australian Government controlled entities consistent with normal day-to-day business operations provided under normal terms and conditions, including the payment of workers compensation and insurance premiums. These are not considered individually significant to warrant separate disclosure as related party transactions.

- Refer to Note 6.1 Employee Provisions for details on superannuation arrangements with the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS), and the PSS accumulation plan (PSSap).

Managing uncertainties

This section analyses how ACIAR manages financial risks within its operating environment.

7.1A: Contingent Assets and Liabilities

Quantifiable Contingencies

At 30 June 2018, ACIAR had no quantifiable contingencies (2017: $Nil).

Unquantifiable Contingencies

At 30 June 2018, ACIAR had no unquantifiable contingencies (2017: $Nil).

7.1B: Administered—Contingent Assets and Liabilities

Quantifiable Contingencies

At 30 June 2018, ACIAR had no quantifiable contingencies (2017: $Nil).

Unquantifiable Contingencies

At 30 June 2018, ACIAR had no unquantifiable contingencies (2017: $Nil).

Accounting Policy

Contingent liabilities and contingent assets are not recognised in the Statement of Financial Position, but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

7.2: Financial Instruments

	2018 $'000	2017 $'000
7.2A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash and cash equivalents	**11**	125
Total financial assets	**11**	125
Financial Liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	**335**	569
Other	**284**	355
Total financial liabilities	**619**	924

Accounting policy

Financial assets

ACIAR holds loans and receivables.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Financial assets are recognised and derecognised upon trade date.

Effective Interest Method

Income is recognised on an effective interest rate basis except for financial assets that are recognised at fair value through profit or loss.

Impairment of Financial Assets

Financial assets are assessed for impairment at the end of each reporting period.

Financial assets held at cost - if there is objective evidence that an impairment loss has been incurred, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

Financial Liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Other Financial Liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective interest basis.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

7.3: Administered—Financial Instruments

	2018	2017
	$'000	$'000
7.3A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash on hand or on deposit	**13,181**	16,883
Trade and other receivables	**647**	561
Total financial assets	**13,828**	17,444
Financial Liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	**2,396**	2,354
Total financial liabilities	**2,396**	2,354

7.4: Fair Value Measurements

Accounting policy
ACIAR engaged the service of the Jones Lang LaSalle (JLL) to conduct a revaluation of carrying amounts for all non-financial assets at 30 June 2018. An annual assessment is undertaken to determine whether the carrying amount of the assets is materially different from the fair value. Comprehensive valuations are carried out at least once every three years with the previous valuation conducted at 30 June 2017. JLL has provided written assurance to the ACIAR that the models developed are in compliance with AASB 13.

The methods utilised to determine and substantiate the unobservable inputs are derived and evaluated as follows:

Physical Depreciation and Obsolescence - Assets that do not transact with enough frequency or transparency to develop objective opinions of value from observable market evidence have been measured utilising the Depreciated Replacement Cost approach. Under the Depreciated Replacement Cost approach the estimated cost to replace the asset is calculated and then adjusted to take into physical depreciation and obsolescence. Physical depreciation and obsolescence has been determined based on professional judgement regarding physical, economic and external obsolescence factors relevant to the asset under consideration. For all Leasehold Improvement assets, the consumed economic benefit / asset obsolescence deduction is determined based on the term of the associated lease.

ACIAR's policy is to recognise transfers into and transfers out of fair value hierarchy levels as at the end of the reporting period.

	Fair value measurements at the end of the reporting period	
	2018	2017
Non-financial assets[1]	**$'000**	$'000
Leasehold improvements	**919**	1,059
Plant and equipment	**28**	59

[1]No non-financial assets were measured at fair value on a non-recurring basis as at 30 June 2018 (2017: Nil).

ACIAR's assets are held for operational purposes and not held for the purposes of deriving a profit. The current use of all non-financial asset's is considered their highest and best use.

PART 6
Appendixes

Appendix 1.

Basis of authority

ACIAR's governing legislation is the *Australian Centre for International Agricultural Research Act 1982* (the ACIAR Act), proclaimed on 3 June 1982 as Act No. 9 of 1982. The ACIAR Act was described as 'an Act to encourage research for the purpose of identifying, or finding solutions to, agricultural problems of developing countries'.

The Act was amended in 2007, coming into effect from 1 July 2007. The principal purpose of the amendments introduced in the *Australian Centre for International Agricultural Amendment Act 2007* (the Amendment Act), was to change the governance arrangements of ACIAR. This replaced the Board of Management with an executive management structure with a Chief Executive Officer (CEO) and a seven-member Commission. The functions of the CEO are set out at Section 5 of the legislation, and cited below.

5. Functions of the CEO

1. The functions of the CEO are:
   a. to formulate programs and policies with respect to agricultural research for either or both of the following purposes:
      i. identifying agricultural problems of developing countries
      ii. finding solutions to agricultural problems of developing countries
   b. to commission agricultural research by persons or institutions (whether the research is to be conducted in Australia or overseas) in accordance with such programs and policies
   c. to communicate to persons and institutions the results of such agricultural research
   d. to establish and fund training schemes related to the research programs referred to in paragraph (a)
   e. to conduct and fund development activities related to those research programs
   f. to fund international agricultural research centres.
2. The CEO must, in performing his or her functions with respect to agricultural research, have regard to the need for persons or institutions in developing countries to share in that research.
3. Nothing in this section authorises, or permits, the CEO to carry out research on behalf of the Commonwealth.
4. The CEO must, in performing his or her functions, comply with any directions given to the CEO under section 5A.

5A. Power of Minister to give directions

1. The Minister may, by writing, give directions to the CEO with respect to the performance of the CEO's functions under this Act (including in relation to the appropriate strategic direction the CEO should take in performing his or her functions). Note: A direction under this section is included in the annual report: see section 39.

2. A direction given under subsection (1) is not a legislative instrument.

Appendix 2.

Current research projects 2017–18

Listed projects may be active in more than one country. Some projects have components in countries not formally listed as ACIAR partners in the 'Year in review' section. In these projects, results are being extended beyond partner countries to those countries that would benefit from the work through project networks.

Project No.	Project full title	Country	End date
Agribusiness			
AGB/2009/060	Improving market integration for high-value fruit and vegetable production systems in Indonesia	Indonesia	31/12/2018
AGB/2010/099	Evaluating smallholder livelihoods and sustainability in Indonesian coffee and cocoa value chains	Indonesia	31/12/2019
AGB/2012/059	Towards more profitable and sustainable vegetable production systems in north-western Vietnam	Vietnam	31/12/2018
AGB/2012/060	Improving smallholder incomes in the north-western highlands of Vietnam by increasing access and competitiveness in regional temperate and subtropical fruit markets	Vietnam	31/12/2018
AGB/2012/061	Improving smallholder farmer incomes through strategic market development in mango supply chains in southern Vietnam	Vietnam	30/06/2021
AGB/2012/078	Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia	Indonesia, Vietnam	31/12/2019
AGB/2012/099	Improving milk supply, competitiveness and livelihoods in smallholder dairy chains in Indonesia	Indonesia	31/05/2020
AGB/2012/109	Developing vegetable and fruit value chains and integrating them with community development in the southern Philippines	Philippines	31/07/2018
AGB/2014/035	Improving livelihoods in Myanmar and Vietnam through vegetable value chains	Myanmar, Vietnam	28/02/2021
AGB/2014/057	Pacific Agribusiness Research in Development Initiative Phase 2 (PARDI 2)	Fiji, Tonga, Vanuatu	31/05/2021
AGB/2015/014	Evaluation of livelihood impacts from agribusiness development opportunities in the Pacific (PARDI 2)	Fiji, Samoa, Solomon Islands, Tonga, Vanuatu	31/12/2017
AGB/2015/015	Analysis of mango markets, trade and strategic research issues in the Asia–Pacific	Indonesia, Pakistan, Vietnam	31/07/2017

Project No.	Project full title	Country	End date
AGB/2015/029	A strategic approach to pro-poor consumer research in the Mekong region—extended analyses	Vietnam	31/07/2017
AGB/2015/030	Developing a sustainable business model for upscaling the Agribusiness master class	Myanmar	31/12/2017
AGB/2016/006	Supporting access to mango research information, communication, collaboration and capacity development	Indonesia, Pakistan, Philippines, Vietnam	30/06/2019
AGB/2016/007	Challenges and opportunities for meeting requirements of China mango markets	Indonesia, Pakistan, Philippines, Vietnam	30/06/2019
AGB/2016/008	Opportunities and strategies to improve biosecurity, market access and trade for selected mango markets	Indonesia, Pakistan, Philippines, Vietnam	30/06/2019
AGB/2016/009	Enhancing mango fruit quality in Asian mango chains	Indonesia, Pakistan, Philippines, Vietnam	30/06/2019
AGB/2016/010	Priority opportunities in tropical fruit processing in selected mango markets	Indonesia, Pakistan, Philippines, Vietnam	13/04/2019
AGB/2016/031	Developing a trade model and information network for cattle and beef trade sector of South-East Asia and China	Myanmar, Vietnam	30/09/2017
AGB/2016/033	Evaluating options for reducing agricultural transport costs and improving market access for smallholders in South-East Asia	Indonesia, Lao PDR, Vietnam	15/06/2018
AGB/2016/053	Impact assessment of cocoa interventions in Vanuatu	Vanuatu	30/09/2018
AGB/2017/008	Integrating gender and social inclusion into agricultural valuechain research in Vietnam	Vietnam	31/12/2018
AGB/2018/121	Revision and update of markets for the poor and agribusiness master class	Indonesia, Vietnam	28/02/2019
Agricultural Development Policy			
ADP/2012/107	Strengthening incentives for improved grassland management in China and Mongolia	China, Mongolia	31/12/2019
ADP/2014/043	Policy and institutional reforms to improve horticultural markets in Pakistan	China, Pakistan	15/12/2019
ADP/2014/045	Efficient participatory irrigation institutions to support productive and sustainable agriculture in South Asia	India, Pakistan	30/06/2019
ADP/2014/047	Improving policies for forest plantations to balance smallholder, industry and environmental needs in Lao PDR and Vietnam	Lao PDR, Vietnam	31/12/2018

Project No.	Project full title	Country	End date
ADP/2015/043	Agricultural policy research to support natural resource management in Indonesia's upland landscapes	Indonesia	31/12/2021
ADP/2016/003	Linkages and impacts of cross-border informal trade in agricultural inputs in eastern South Asia	Bangladesh, India, Nepal	30/09/2017
ADP/2016/026	Improving policies and institutions for sustainable intensification of agriculture and resilient food systems in eastern Indo–Gangetic plains	Bangladesh, India, Nepal	15/08/2017
ADP/2016/028	Creating wealth in smallholders farms through efficient credit systems in Pakistan	Pakistan	30/11/2018
ADP/2016/043	Economic analysis of policies affecting pulses in Pakistan	Pakistan	30/06/2018
ADP/2018/120	Evaluating and improving policies for attracting investment in the agricultural sector in Vietnam	Vietnam	31/05/2019
ADP/2018/131	Policy drivers for public–private partnerships in Pacific organics—improving extension policy through an evidencebased approach	Fiji, Vanuatu	07/06/2019
Agricultural Systems Management			
ASEM/2011/043	Strengthening institutional capacity, extension services and rural livelihoods in the central dry zone and Ayeyarwaddy Delta regions of Myanmar	Myanmar	30/06/2018
ASEM/2012/063	Improving the methods and impacts of agricultural extension in Western Mindanao, Philippines	Philippines	31/03/2019
ASEM/2012/072	Strengthening livelihoods for food security among cocoa and oil palm farming communities in Papua New Guinea	Papua New Guinea	28/02/2019
ASEM/2012/073	Improving food security in the northern uplands of Lao PDR—identifying drivers and overcoming barriers	Lao PDR	30/09/2020
ASEM/2012/081	Improving market engagement, postharvest management and productivity of the Cambodian and Lao PDR vegetable industries	Cambodia, Lao PDR	31/03/2019
ASEM/2012/084	Promoting traditional vegetable production and consumption for improved livelihoods in Papua New Guinea and northern Australia	Papua New Guinea	31/12/2018
ASEM/2013/003	Uptake of agricultural technologies among farmers in Battambang and Pailin provinces, Cambodia	Cambodia	31/12/2020
ASEM/2014/007	Lao PDR Agricultural Research Fund 3	Lao PDR	28/02/2018
ASEM/2014/051	Action ready climate knowledge to improve disaster risk management for smallholder farmers in the Philippines	Philippines	30/06/2020
ASEM/2014/052	Smallholder farmer decision-making and technology adoption in southern Lao PDR—opportunities and constraints	Lao PDR	31/12/2019

Project No.	Project full title	Country	End date
ASEM/2014/053	Developing cassava production and marketing systems to enhance smallholder livelihoods in Cambodia, Lao PDR and Myanmar	Cambodia, Lao PDR, Myanmar	31/12/2019
ASEM/2014/054	Identifying opportunities and constraints for rural women's engagement in small-scale agricultural enterprises in Papua New Guinea	Papua New Guinea	30/06/2020
ASEM/2014/095	Improving opportunities for economic development for women smallholders in rural Papua New Guinea	Papua New Guinea	31/03/2019
ASEM/2016/030	Using the Environmental Livelihoods Security framework for developing climate-smart landscapes—a preliminary investigation for informing agricultural policy in the South Pacific	Fiji, Solomon Islands, Tonga, Vanuatu	31/08/2017
ASEM/2016/041	Engaging agricultural communities in climate resilient food production adaptation—a Papua New Guinea highlands case study	Papua New Guinea	30/09/2017
ASEM/2016/047	Agricultural extension approaches	Cambodia, Lao PDR, Myanmar, Papua New Guinea, Philippines	30/04/2018
ASEM/2016/100	Improving Livelihoods of smallholder coffee communities in Papua New Guinea	Papua New Guinea	31/12/2021
ASEM/2016/101	Climate-smart landscapes for promoting sustainability of Pacific island agricultural systems	Fiji, Solomon Islands, Tonga, Vanuatu	31/12/2021
ASEM/2016/103	Enhancing livelihoods through forest and landscape restoration	Philippines	30/06/2022
ASEM/2018/117	The potential of International Landcare	Fiji, Indonesia, Philippines, South Africa, Sri Lanka, Uganda	04/12/2019
Animal Health			
AH/2011/014	Village-based biosecurity for livestock disease risk management in Cambodia	Cambodia	31/12/2018
AH/2011/054	Improving livelihoods of small-scale livestock producers in the central dry zone through research on animal production and health in Myanmar	Myanmar	24/12/2017
AH/2012/066	Improving the production and competitiveness of Australian and Philippines pig production through better health and disease control	Philippines	31/12/2018
AH/2012/067	Enhancing transboundary livestock disease risk management in Lao PDR	Lao PDR	31/07/2019
AH/2012/068	Development of a market-driven biosecure beef production system in Lao PDR	Lao PDR	31/07/2019
AH/2016/020	Improving dairy cattle health and production in Vietnam	Vietnam	28/02/2018

Project No.	Project full title	Country	End date
Crop Improvement and Management			
CIM/2012/086	Developing a foundation for the long-term management of basal stem rot of oil palm in Papua New Guinea and Solomon Islands	Papua New Guinea, Solomon Islands	30/06/2021
CIM/2013/005	A targeted approach to sorghum improvement in Ethiopia	Ethiopia	30/06/2018
CIM/2013/009	Molecular marker technologies for faster wheat breeding in India phase 2	India	31/10/2017
CIM/2013/011	Indo–Australian project on root and establishment traits for greater water use efficiency in wheat phase 2	India	30/06/2018
CIM/2014/076	Incorporating salt-tolerant wheat and pulses into smallholder farming systems in southern Bangladesh	Bangladesh	28/02/2021
CIM/2014/081	Mitigating the effects of stripe rust on wheat production in South Asia and eastern Africa	Ethiopia, India, Nepal, Pakistan	30/06/2020
CIM/2014/082	Agricultural innovations for communities for intensified and sustainable farming systems in Timor-Leste (AI-Com)	Timor-Leste	30/09/2021
CIM/2015/041	Increasing productivity and profitability of pulse production in cereal-based cropping systems in Pakistan	Pakistan	30/06/2021
CIM/2016/039	Insect tolerant chickpea for Bangladesh	Bangladesh	01/10/2018
CIM/2018/113	Understanding direct seeded rice techniques and business models	Lao PDR	31/12/2019
Cropping Systems and Economics			
CSE/2012/077	Mechanisation and value adding for diversification of lowland cropping systems in Lao PDR and Cambodia	Cambodia, Lao PDR	30/04/2019
CSE/2015/044	Sustainable intensification and diversification in the lowland rice system in north-west Cambodia	Cambodia	30/10/2021
CSE/2016/023	Competitiveness of Cambodian farming systems—characterisation of farming systems to inform research and policy	Cambodia	15/09/2017
CSE/2017/015	Workshop and review of innovation platforms to enable scaling out of conservation agriculture-based sustainable intensification in the eastern Gangetic plains	Bangladesh	31/01/2018
CSE/2017/101	Value chain and policy interventions to accelerate adoption of Happy Seeder zero tillage in rice–wheat farming systems across the Gangetic Plains	Bangladesh, India	31/08/2018
Fisheries			
FIS/2009/059	Developing research capacity for management of Indonesia's pelagic fisheries resources	Indonesia	31/12/2017

Project No.	Project full title	Country	End date
FIS/2010/042	Expansion and diversification of production and management systems for sea cucumbers in the Philippines, Vietnam and northern Australia	Philippines, Vietnam	31/03/2018
FIS/2010/055	Building research and project management skills in fisheries staff in Papua New Guinea	Papua New Guinea	01/08/2018
FIS/2010/096	Evaluating the impacts of improving postharvest processing of sea cucumbers in the western Pacific region	Fiji, Kiribati, Tonga	30/11/2017
FIS/2010/098	Diversification of seaweed industries in Pacific island countries	Fiji, Kiribati, Samoa	30/06/2018
FIS/2010/100	Enhancing bivalve production in northern Vietnam and Australia	Vietnam	31/12/2018
FIS/2012/076	Improving community-based aquaculture in Fiji, Kiribati, Samoa and Vanuatu	Fiji, Kiribati, Samoa, Solomon Islands, Vanuatu	30/06/2018
FIS/2012/100	Improving the design of irrigation infrastructure to increase fisheries production in floodplain wetlands of the Lower Mekong and Murray–Darling Basin	Lao PDR	30/09/2018
FIS/2012/101	Developing technologies for giant grouper (*Epinephelus lanceolatus*) aquaculture in Vietnam, the Philippines and Australia	Philippines, Vietnam	30/09/2019
FIS/2012/102	Sustainable management of the shark resources of Papua New Guinea—socioeconomic and biological characteristics of the fishery	Papua New Guinea	31/03/2018
FIS/2013/015	Sustainable management of sport fisheries for communities in Papua New Guinea	Papua New Guinea	30/09/2018
FIS/2014/041	Quantifying biophysical and community impacts of improved fish passage in Lao PDR and Myanmar	Lao PDR, Myanmar	31/12/2020
FIS/2014/059	Research for development of lobster growout technology in Indonesia	Indonesia	30/06/2019
FIS/2014/060	Developing pearl industry-based livelihoods in the western Pacific	Fiji, Papua New Guinea, Tonga	31/08/2020
FIS/2014/061	Improving technical and institutional capacity to support development of mariculture-based livelihoods and industry in New Ireland, Papua New Guinea	Papua New Guinea	28/02/2020
FIS/2014/062	Improving technologies for inland aquaculture in Papua New Guinea	Papua New Guinea	30/06/2019
FIS/2014/063	Restoring damaged coral reefs using mass coral larval reseeding	Philippines	30/06/2020
FIS/2015/006	Application of fish passage design principles to enhance sustainability of inland fishery resources in South-East Asia	Thailand	30/12/2017

Project No.	Project full title	Country	End date
FIS/2015/038	Improving seaweed production and processing opportunities in Indonesia	Indonesia	31/07/2020
FIS/2016/048	Developing a bilingual web-based fish identification tool for field use in Indonesia	Indonesia	30/06/2018
FIS/2016/049	Description and risk assessment of the bycatch communities in the Gulf of Papua prawn fishery	Papua New Guinea	31/08/2018
FIS/2016/052	Developing legal value chains and alternative markets for western province fisheries in Papua New Guinea	Papua New Guinea	30/06/2018
FIS/2016/116	Harvest strategies for Indonesian tropical tuna fisheries to increase sustainable benefits	Indonesia	31/12/2021
FIS/2016/126	Half-pearl industry development in Tonga and Vietnam	Tonga, Vietnam	30/06/2021
FIS/2016/128	Reef colonisation and socioeconomic impacts from trochus translocations to Samoa	Samoa	30/06/2019
FIS/2016/130	Accelerating the development of finfish mariculture in Cambodia through south–south research cooperation with Indonesia	Cambodia, Indonesia	30/06/2021
FIS/2016/135	Development of rice fish systems in the Ayeyarwaddy Delta, Myanmar	Myanmar	31/12/2021
FIS/2016/300	Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song	Kiribati, Solomon Islands, Vanuatu	30/06/2021
FIS/2017/002	Assessing production of giant freshwater prawns in reservoirs in Sri Lanka	Sri Lanka	30/06/2019
FIS/2017/016	Assessing fisheries mitigation measures at Xayaburi Dam in Lao PDR	Lao PDR	31/12/2018
FIS/2018/115	Evaluating processes and outcomes in south–south research collaboration—finfish mariculture development in Cambodia through cooperation with Indonesia	Cambodia, Indonesia	30/06/2021
FIS/2018/116	Extending capacity of fish identification skills for improved fisheries assessments	Indonesia	30/06/2019
FIS/2018/129	Monitoring and evaluation of socioeconomic impacts of pearlbased livelihood development	Fiji, Tonga	30/06/2020
FIS/2018/150	Extension activities for PNG's shark fishery	Papua New Guinea	30/06/2019
Food Security			
FSC/2012/023	Strengthening food and nutrition security through family poultry and crop integration in Tanzania and Zambia	Tanzania, Zambia	31/01/2019
FSC/2012/047	Farm mechanisation and conservation agriculture for sustainable intensification	Ethiopia, Kenya, Tanzania, Zambia, Zimbabwe	30/06/2019

Project No.	Project full title	Country	End date
Forestry			
FST/2011/003	Effective implementation of payments for environmental services in Lao PDR	Lao PDR	10/08/2017
FST/2011/076	Enhancing livelihoods and food security from agroforestry and community forestry in Nepal	Nepal	30/06/2018
FST/2012/040	Enhancing smallholder benefits from reduced emissions from deforestation and forest degradation in Indonesia	Indonesia	30/06/2018
FST/2012/041	Teak-based agroforestry systems to enhance and diversify smallholder livelihoods in the Luang Prabang province of Lao PDR	Lao PDR	30/06/2019
FST/2012/043	Enhancing economic opportunities offered by community and smallholder forestry in the Solomon Islands	Solomon Islands	13/12/2017
FST/2012/091	Biological control of galling insect pests of eucalypt plantations in the Mekong region	Cambodia, Lao PDR, Thailand, Vietnam	30/06/2019
FST/2012/092	Enhancing value-added wood processing in Papua New Guinea	Papua New Guinea	31/12/2018
FST/2014/064	Maximising productivity of eucalyptus and acacia plantations for growers in Indonesia and Vietnam	Indonesia, Vietnam	30/06/2019
FST/2014/065	Development of durable engineered wood products in Papua New Guinea and Australia	Papua New Guinea	31/12/2018
FST/2014/066	Improving returns from community teak plantings in the Solomon Islands	Solomon Islands	30/06/2019
FST/2014/067	Enhancing value-added products and environmental benefits from agroforestry systems in Papua New Guinea and the Pacific	Fiji, Papua New Guinea, Solomon Islands, Vanuatu	31/07/2019
FST/2014/068	Management strategies for Acacia plantation diseases in Indonesia and Vietnam	Indonesia, Vietnam	31/07/2019
FST/2014/069	Improvement and management of teak and sandalwood in Papua New Guinea and Australia	Papua New Guinea	30/06/2019
FST/2014/099	Enhancing private sector-led development of the Canarium nut industry in Papua New Guinea	Papua New Guinea	31/12/2018
FST/2015/040	Enhancing community-based commercial forestry in Indonesia	Indonesia	31/12/2020
FST/2016/024	Developing sandalwood community and smallholder plantation sector in Yogyakarta	Indonesia	31/01/2019
FST/2016/025	Developing DNA-based chain-of-custody systems for legally-sourced teak	Indonesia, Lao PDR, Myanmar, Papua New Guinea, Solomon Islands, Thailand	31/12/2018

Project No.	Project full title	Country	End date
FST/2016/054	Enhance the formation of heartwood in sandalwood in Vanuatu	Vanuatu	28/02/2019
FST/2016/144	Improving community fire management and peatland restoration in Indonesia	Indonesia	31/12/2021
FST/2016/151	Advancing enhanced wood manufacturing industries in Lao PDR and Australia	Lao PDR	30/09/2021
FST/2016/153	Enabling community forestry in Papua New Guinea	Papua New Guinea	30/09/2021
FST/2016/154	Enhancing returns from high-value agroforestry species in Vanuatu	Vanuatu	30/06/2021
FST/2016/158	Domestication and breeding of sandalwood in Fiji and Tonga	Fiji, Tonga	30/06/2019
Country Programs			
GMCP/2016/004	At-scale evaluation of digital data collection apps in ACIAR projects—mobile acquired data phase 2 (MAD 2)	Myanmar, Pakistan, Vanuatu, Vietnam	01/09/2017
GMCP/2016/042	Mobile acquired data phase 3 (MAD 3)—evaluation of staged adoption and implementation strategy	Myanmar, Pakistan, Vanuatu, Vietnam	01/09/2017
GMCP/2016/044	Mobile acquired data for the transformative agriculture and enterprise development program—MAD 4 TADEP	Papua New Guinea	01/09/2017
GMCP/2018/130	CropCow initial training and project development activities	Indonesia	31/10/2018
Global Program			
GP/2018/109	Improving plant biosecurity in the Pacific Islands	Fiji, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Timor-Leste	
Horticulture			
HORT/2010/065	Integrated crop management strategies for root and tuber crops—strengthening national and regional capacities in Papua New Guinea, Fiji, Samoa, Solomon Islands and Tonga	Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga	28/02/2019
HORT/2010/069	Enabling improved plant biosecurity practices in Cambodia, Lao PDR and Thailand	Cambodia, Lao PDR, Thailand	31/03/2018
HORT/2010/089	Adapting integrated crop management technologies to commercial citrus enterprises in Bhutan and Australia	Bhutan	31/12/2017
HORT/2010/090	Strengthening integrated crop management research in the Pacific islands in support of sustainable intensification of highvalue crop production	Fiji, Samoa, Solomon Islands, Tonga	31/12/2017

Project No.	Project full title	Country	End date
HORT/2012/003	Building a resilient mango industry in Cambodia and Australia through improved production and supply chain practices	Cambodia	31/12/2017
HORT/2012/019	Research and development of integrated crop management for mango production in the southern Philippines and Australia	Philippines	30/06/2018
HORT/2012/020	Integrated crop management to enhance vegetable profitability and food security in the southern Philippines and Australia	Philippines	30/10/2017
HORT/2012/026	Improved management strategies for cocoa in Papua New Guinea	Papua New Guinea	30/11/2018
HORT/2012/083	Integrated disease management of sugarcane streak mosaic in Indonesia	Indonesia	31/12/2018
HORT/2012/087	Bogia coconut syndrome in Papua New Guinea—developing biological knowledge and a risk management strategy	Papua New Guinea	30/06/2019
HORT/2012/095	Tropical tree fruit research and development in the Philippines and northern Australia to increase productivity, resilience and profitability	Philippines	30/06/2018
HORT/2012/097	Integrated management of *Fusarium* wilt of bananas in the Philippines and Australia	Philippines	31/12/2019
HORT/2012/098	Improved postharvest management of fruit and vegetables in the southern Philippines and Australia	Philippines	31/08/2019
HORT/2012/113	Integrated disease management strategies for the productive, profitable and sustainable production of high-quality papaya fruit in the southern Philippines and Australia	Philippines	31/01/2019
HORT/2014/077	Enhanced fruit production and postharvest handling systems for Fiji, Samoa, and Tonga	Fiji, Samoa, Tonga	30/12/2019
HORT/2014/078	Aligning genetic resources, production and postharvest systems to market opportunities for Pacific island and Australian cocoa	Fiji, Samoa, Solomon Islands, Vanuatu	30/07/2021
HORT/2014/080	Integrating protected cropping systems into high-value vegetable value chains in the Pacific and Australia	Fiji, Samoa, Tonga	31/12/2020
HORT/2014/083	Developing improved crop protection options in support of intensification of sweetpotato production in Papua New Guinea	Papua New Guinea	31/08/2021
HORT/2014/094	Developing the cocoa value chain in Bougainville	Papua New Guinea	31/12/2021

Project No.	Project full title	Country	End date
HORT/2014/096	Enterprise-driven transformation of family cocoa production in the East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea	Papua New Guinea	28/02/2021
HORT/2014/097	Supporting commercial sweetpotato production and marketing in the Papua New Guinea highlands	Papua New Guinea	28/02/2021
HORT/2016/012	Strengthening vegetable value chains in Pakistan for greater community livelihood benefits	Pakistan	31/12/2021
HORT/2016/056	Optimising tissue culture of coconut in support of saving the Pacific regional genebank	Fiji, Papua New Guinea, Samoa	30/11/2018
HORT/2016/057	Exploring coffee genetic resources for the Pacific islands	Fiji, Vanuatu	31/12/2018
HORT/2016/185	Responding to emerging pest and disease threats to horticulture in the Pacific islands	Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga	31/12/2023
HORT/2017/013	Evaluating improvements in vegetable value chains in Mozambique associated with closer market linkages	Mozambique	15/12/2017
HORT/2017/014	Defining the biotic constraints to fresh taro from Samoa gaining market access to Australia	Samoa	30/06/2018
HORT/2018/114	Basic research on the cocoa pod borer in Papua New Guinea to permit effective pest management	Papua New Guinea	31/05/2019
Impact Assessment			
IAP/2017/010	Development of mixed-method approaches to impact assessments of Philippines research projects	Philippines	30/12/2019
Livestock Production Systems			
LPS/2005/128	High-quality markets and value chains for small-scale and emerging beef cattle farmers in South Africa	South Africa	31/12/2017
LPS/2012/062	Developing productive, sustainable and profitable smallholder beef enterprises in central Vietnam	Vietnam	30/04/2018
LPS/2012/064	Integrating herbaceous forage legumes into crop and livestock systems in East Nusa Tenggara, Indonesia	Indonesia	30/11/2018
LPS/2013/021	Profitable feeding strategies for smallholder cattle in Indonesia	Indonesia	31/12/2020
LPS/2014/036	Developing profitable dairy and sheep meat production systems in central Tibet, China	China	31/03/2020
LPS/2014/037	Increasing the productivity and market options of smallholder beef cattle farmers in Vanuatu	Vanuatu	30/09/2019
LPS/2014/038	Smallholder cattle enterprise development in Timor-Leste	Timor-Leste	31/12/2020

Project No.	Project full title	Country	End date
LPS/2015/037	Intensification of beef cattle production in upland cropping systems in north-west Vietnam	Vietnam	30/06/2022
LPS/2016/011	Improving smallholder dairy and beef profitability by enhancing farm production and value-chain management in Pakistan	Pakistan	30/09/2021
LPS/2016/021	Assessment of markets and production constraints to small ruminant farming in the Pacific island countries	Fiji, Samoa, Vanuatu	31/01/2019
LPS/2016/022	Potential of new Australian oldman saltbush varieties to fill ruminant feed gaps in arid and saline areas of Pakistan	Pakistan	31/12/2018
LPS/2016/027	Assessing goat production and marketing systems in Lao PDR and market linkages into Vietnam	Lao PDR, Vietnam	30/10/2018
LPS/2016/096	Smallholder goat value chains in Pakistan—challenges and research opportunities	Pakistan	30/09/2018
LPS/2017/009	IndoBeef preparatory program activities	Indonesia	7/10/2017
LS/2015/048	Improving smallholder beef supply and livelihoods through cattle-palm system integration in Indonesia	Indonesia	30/06/2021
LS/2016/276	High-quality markets and value chains for small-scale and emerging beef cattle farmers in South Africa (Stage 2)	South Africa	31/12/2021
LS/2017/100	Novel approaches for increasing participation in the honeybee industries of the Pacific	Fiji, Papua New Guinea, Solomon Islands	30/01/2019
LS/2017/102	Identifying husbandry options for smallholder pig farmers in Timor-Leste	Timor-Leste	30/06/2019
LS/2018/100	Improving cattle health and production in Myanmar	Myanmar	01/10/2018
LS/2018/102	Research opportunities for smallholder beef cattle systems in Pacific island countries	Fiji, Samoa, Solomon Islands, Tonga, Vanuatu	31/08/2018
LS/2018/106	Diversifying rural poultry production in Myanmar—opportunities for smallscale farmers	Myanmar	31/03/2019
Land and Water Resources			
LWR/2010/080	Overcoming agronomic and mechanisation constraints to development and adoption of conservation agriculture in diversified rice-based cropping in Bangladesh	Bangladesh	30/09/2017
LWR/2012/079	Improving dry season agriculture for marginal and tenant farmers in the Eastern Gangetic Plains through conjunctive use of pond and groundwater resources	Bangladesh, India, Nepal	30/06/2019

Project No.	Project full title	Country	End date
LWR/2014/072	Promoting socially inclusive and sustainable agricultural intensification in West Bengal and Bangladesh	Bangladesh, India	29/02/2020
LWR/2014/073	Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India	Bangladesh, India	31/10/2020
LWR/2014/074	Developing approaches to enhance farmer water management skills in Balochistan, Punjab and Sindh in Pakistan	Pakistan	30/09/2020
LWR/2014/085	A virtual irrigation academy to improve water productivity in Malawi, Tanzania and South Africa	Malawi, South Africa, Tanzania	29/06/2019
LWR/2015/036	Improving groundwater management to enhance agriculture and farming livelihoods in Pakistan	Pakistan	30/09/2020
LWR/2016/136	Nutrient management for diversified cropping in Bangladesh	Bangladesh	31/07/2021
LWR/2016/137	Transforming smallholder irrigation into profitable and selfsustaining systems in southern Africa	Malawi, Mozambique, South Africa, Tanzania, Zimbabwe	15/06/2021
LWR/2017/028	Improving salinity and agriculture water management in the Indus Basin of Pakistan	Pakistan	31/12/2017
LWR/2018/118	Support for NDC reporting for Fiji using the Full Lands Integration Tool	Fiji	30/11/2018
LWR/2018/119	Digital earth Africa business case	Ghana, Kenya, South Africa	01/03/2019
Soil Management and Crop Nutrition			
SLAM/2018/122	Trial of Eddy Covariance flux towers and Chameleon sensors for evaluating peatland restoration in Indonesia	Indonesia	28/06/2020
SLAM/2018/123	Inoculants for plant nutrition use in Greater Mekong Region	Vietnam	28/06/2019
SLAM/2018/127	X-projects and synthesis, Cambodia	Cambodia	31/12/2019
SMAR/2008/025	Improved seaweed culture and postharvest waste use in SouthEast Asia	Indonesia, Philippines	01/08/2017
SMCN/2009/056	Sustainable productivity improvements in allium and solanaceous vegetable crops in Indonesia and subtropical Australia	Indonesia	31/01/2019
SMCN/2010/083	Improving the sustainability of rice–shrimp farming systems in the Mekong Delta, Vietnam	Vietnam	31/10/2019
SMCN/2011/047	Increasing productivity of legume-based farming systems in the central dry zone of Myanmar	Myanmar	31/01/2019
SMCN/2012/029	Soil and nutrient management strategies for sustainable vegetable production in southern Philippines	Philippines	31/01/2019

Project No.	Project full title	Country	End date
SMCN/2012/069	Integrated water, soil and nutrient management for sustainable farming systems in south-central coastal Vietnam and Australia	Vietnam	31/12/2019
SMCN/2012/071	Improving water and nutrient management to enable double cropping in the rice growing lowlands of Lao PDR and Cambodia	Cambodia, Lao PDR	30/04/2019
SMCN/2012/075	Management practices for profitable crop livestock systems for Cambodia and Lao PDR	Cambodia, Lao PDR	29/02/2020
SMCN/2012/103	Improving soil and water management and crop productivity of dryland agriculture systems of Aceh and New South Wales	Indonesia	30/11/2018
SMCN/2012/105	Sustaining soil fertility in support of intensification of sweetpotato cropping systems	Papua New Guinea	31/12/2019
SMCN/2014/044	Management of nutrients for improved profitability and sustainability of crop production in central Myanmar	Myanmar	30/06/2020
SMCN/2014/048	Optimising soil management and health in Papua New Guinea integrated cocoa farming systems	Papua New Guinea	31/07/2020
SMCN/2014/049	Improving maize-based farming systems on sloping lands in Vietnam and Lao PDR	Lao PDR, Vietnam	30/06/2021
SMCN/2014/075	Land resource evaluation for productive and resilient landscapes in the central dry zone of Myanmar	Myanmar	31/03/2020
SMCN/2014/088	Integrated resource management for vegetable production in Lao PDR and Cambodia	Cambodia, Lao PDR	30/06/2020
SMCN/2014/089	Improving soil health, agricultural productivity and food security on atolls	Kiribati, Tuvalu	30/04/2019
SMCN/2016/019	Crop diversification challenges in the changing environment of the Mekong Delta, Vietnam	Vietnam	30/11/2017
SMCN/2016/051	Farming system diversification and nutrient management options for pulse-based cropping in Myanmar	Myanmar	30/04/2018
SMCN/2016/111	Soil management in Pacific islands–investigating nutrient cycling and development of the soils portal	Fiji, Kiribati, Samoa, Tonga, Tuvalu	30/09/2021
SMCN/2016/237	Land suitability assessment and site-specific soil management for Cambodian uplands	Cambodia	30/09/2021

Multilateral projects

The multilateral projects listed below have an International Agricultural Research Centre as the project leader (commissioned organisation).

Project ID	Project full title	Country	End date
Bioversity International			
GP/2017/007	School food revolution—evaluating opportunities for further research	Kenya	31/05/2018
GP/2017/012	Kenya school feeding phase 2–research into scaling-up use of African leafy vegetables for nutrition in Kenya	Kenya, Tanzania	31/05/2018
GP/2017/023	Coordinating the conservation and use of coconut diversity in the Asia–Pacific region and globally	Fiji, Papua New Guinea, Samoa, Solomon Islands, Vanuatu	30/06/2018
GP/2018/101	Schools as platforms to increase dietary diversity, improve nutrition and enhance livelihoods and environmental sustainability in Kenya, Ethiopia, Tanzania and Uganda	Ethiopia, Kenya, Tanzania, Uganda	31/12/2018
HORT/2014/100	Linking smallholders to markets—scoping study on developing value chains for conserving local biodiversity and improving diets	Kenya	31/08/2017
International Center for Agricultural Research in the Dry Areas			
LWR/2008/047	Integrated catchment management and capacity building for improving livelihoods in Afghanistan	Afghanistan	31/10/2018
AH/2012/021	Forage options for smallholder livestock in water-scarce environments of Afghanistan	Afghanistan	31/12/2017
International Center for Tropical Agriculture			
AGB/2016/032	Developing an emergency response and long-term management strategy for the cassava mosaic virus in Cambodia and Vietnam	Cambodia, Vietnam	31/07/2018
LPS/2016/097	Update of Selection of Forages for the Tropics (SoFT)	Indonesia, Vietnam	31/05/2019
International Food Policy Research Institute			
AGB/2016/163	Inclusive agriculture value-chain financing	Indonesia, Myanmar, Vietnam	31/05/2022
GP/2016/093	Monitoring Agricultural Research Investments, capacity and impact in South East Asia and the Pacific	Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand, TimorLeste, Vietnam	30/06/2019
International Crops Research Institute for the Semi-Arid Tropics			

Project ID	Project full title	Country	End date
CIM/2007/120	Improving post-rainy sorghum varieties to meet the growing grain and fodder demand in India	India	31/07/2018
International Livestock Research Institute			
CSE/2010/022	Integrating crops and livestock for improved food security and livelihoods in rural Zimbabwe	Zimbabwe	30/11/2017
LPS/2010/047	Reducing disease risks and improving food safety in smallholder pig value chains in Vietnam	Vietnam	30/09/2017
LS/2016/143	Safe pork—market-based approaches to improving the safety of pork in Vietnam	Vietnam	30/06/2022
International Maize and Wheat Improvement Center			
CIM/2011/026	Sustainable wheat and maize production in Afghanistan	Afghanistan	31/10/2018
CSE/2011/077	Sustainable and resilient farming systems intensification in the Eastern Gangetic Plains	Bangladesh, India, Nepal	30/06/2019
CSE/2013/008	Sustainable intensification of maize–legume cropping systems for food security in eastern and southern Africa phase 2 (SIMLESA 2)	Ethiopia, Kenya, Malawi, Mozambique, Tanzania	30/06/2019
CSE/2016/035	Institutionalisation of innovation systems in Rwanda	Rwanda	30/06/2018
CSE/2016/037	Informing policies for removing barriers to scaling conservation agriculture-based sustainable intensification in the Eastern Gangetic Plains	Bangladesh, India, Nepal	30/09/2017
CIM/2016/219	Identification of sources of resistance to wheat blast and their deployment in wheat varieties adapted to Bangladesh	Bangladesh	30/06/2021
International Rice Research Institute			
SMCN/2011/046	Diversification and intensification of rice-based systems in lower Myanmar	Myanmar	31/12/2017
CIM/2016/046	Breeding for low chalk in rice	Bangladesh, India, Indonesia, Myanmar, Philippines, Thailand, Vietnam	31/12/2018
SMCN/2016/050	Management of key coastal areas of Indonesia to improve agricultural productivity and resilience to climate change	Indonesia	31/10/2017
The World Vegetable Center			
FSC/2012/111	Improving income and nutrition in eastern and southern Africa by enhancing vegetable-based farming and food systems in peri-urban corridors	Ethiopia, Malawi, Mozambique, Tanzania	31/12/2017

Project ID	Project full title	Country	End date
CIM/2014/079	Establishing the International Mungbean Improvement Network	Bangladesh, India, Myanmar	31/12/2019
CIM/2016/174	Improved mungbean harvesting and seed production systems for Bangladesh, Myanmar and Pakistan	Bangladesh, Myanmar, Pakistan	30/06/2021
World Agroforestry Centre			
FST/2014/093	Developing value-chain innovation platforms to improve food security in east and southern Africa	Uganda, Zambia	31/05/2019
FST/2015/039	Developing integrated options and accelerating scaling up of agroforestry for improved food security and resilient livelihoods in Eastern Africa—Trees for Food Security phase 2	Ethiopia, Rwanda, Uganda	31/12/2020
FST/2016/141	Developing and promoting market-based agroforestry options and integrated landscape management for smallholder forestry in Indonesia (Kanoppi2)	Indonesia	30/09/2021
FST/2016/152	Developing and promoting market-based agroforestry and forest rehabilitation options for north-west Vietnam	Vietnam	30/08/2021
WorldFish Center			
FIS/2012/074	Improving community-based fisheries management in Pacific island countries	Kiribati, Solomon Islands, Vanuatu	31/10/2017
FIS/2015/031	Fish in national development—contrasting case studies in the Indo–Pacific region	Solomon Islands, Vanuatu	31/10/2017
FIS/2015/046	Improving fishery management in support of better governance of Myanmar's inland and delta fisheries	Myanmar	31/12/2020
FIS/2017/003	The contribution of small-scale fisheries research to a food secure world	Cambodia, Solomon Islands	31/03/2018

Co-investment projects

Co-investment projects listed are listed below.

Project ID	Project full title	Country	End date
FSC/2013/019	Demand-led plant variety design for emerging markets in Africa	Ghana, Kenya, Senegal, Uganda	31/12/2018
C2016/367	Cultivate Africa's Future (CultiAF)	Burundi, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe	30/06/2018

Appendix 3.

Publications 2017–18

ACIAR code	Title	Author(s)	ISBN
Adoption Studies			
AS014	Adoption of ACIAR project outputs 2017	Pearce D. and Alford A. (eds) (2018)	978-1-925746-20-4
Impact Assessment Series			
IAS94	Impact assessment of giant clam research in the Indo–Pacific region	Federico, D., Sloan, T., Milne, M., Van Kerkhoff, L. (2018)	978-1-86320-058-5
IAS095	Impact assessment of ACIAR's Aceh aquaculture rehabilitation projects	Ackerman J.L. and Sayaka B. (2018)	978-1-925746-25-9
IAS096	Impact assessment of investment in aquaculture-based livelihoods in the Pacific islands region and tropical Australia.	Clarke, M. and Mikhailovich, K. (2018)	978-1-925746-23-5
Monographs			
MN164	Kunthea and the Happy cow	Bognar, S., Ourm, N. and Pen, M.	978-1-925746-05-1
MN182	A guide to the manufacturing of rotary veneer and products from small logs.	Leggate W., McGavin R. and Bailleres H. (eds) (2018)	978-1-86320-053-0
MN189	Sharks and Rays of Papua New Guinea	White, W.T., Baje, L., Sabub, B., Appleyard, S., Pogonoski, J.J., Mana, R. (2017)	978-1-925746-03-7
MN198	The farmer-to-farmer adult learning manual: a process and resources for the development of farmers as peer educators.	Pamphilon, B. (2017)	978-1-86320-047-9
MN200	A history of the establishment of successful research and development projects in the highlands of Papua province Indonesia. A novel approach to rural development in traditional communities	Cargill, C. and Mahalaya, S. (2017)	978-1-86320-050-9
MN201	Trees for life in Oceania: conservation and utilisation of genetic diversity	Thomson L., Doran J. and Clarke B. (eds) 2018	978-1-925746-17-4

ACIAR code	Title	Author(s)	ISBN
MN202	Transforming smallholder irrigation schemes in Africa. A guide to help farmers become more profitable and sustainable	Pittock, J., Ramshaw, P., Bjornlund, H., Kimaro, E., Mdemu, M.V., Moyo, M., Ndema, S., van Rooyen, R., Stirzaker, R. and de Sousa, W. (2018)	978-1-925746-27-3
Corporate Publications			
	10-year Strategy 2018–2027	ACIAR (2018)	978-1-925746-09-9
	Gender Equity Policy and Strategy 2017–2022	ACIAR (2017)	978-1-925746-13-6
	Annual Report 2016–17	ACIAR (2017)	978-1-86320-085-1
	Annual Operational Plan 2017–18	ACIAR (2017)	978-1-925746-15-0
	Corporate Plan 2017–18	ACIAR (2017)	978-1-86320-055-4

Appendix 4.

Staffing statistics

Employee numbers 2017–18

Public Service Act 1999 employee numbers (ongoing and non-ongoing), 30 June 2018

	Ongoing staff	Non-ongoing staff	Total
Full-time	24	23	47
Male	8	10	18
Female	16	13	29
Part-time	6	0	6
Male	0	0	0
Female	6	0	6
Total	30	23	53

Staff turnover

Employee turnover in ACIAR for 2017–18 is 16% higher than previous years. Twenty-three employees ceased employment. The table below shows a comparison of employee turnover over the past four years.

	2014–15	2015–16	2016–17	2017–18
Retrenched	5	1	0	3
Promotions/transfers	1	4	3	1
End of contract	1	7	3	6
Resigned	5	1	3	13
Retired	1	2	2	0
Leave without pay	2	0	4	0
Temporary movement	0	0	0	0
Other	0	0	0	0
Total	15	15	15	23

Non-APS employees employed overseas

ACIAR employed 23 staff overseas. These staff are locally-engaged staff to provide program support in-country. Details below were current at 30 June 2018.

Location	Male	Female	Full-time	Part-time	Total
Vientiane	1	1	2	0	2
Beijing	1	0	1	0	1
Hanoi	1	2	3	0	3
Jakarta	0	3	3	0	3
Manila	0	2	2	0	2
New Delhi	0	2	2	0	2
Nairobi	0	2	2	0	2
Port Moresby	0	3	3	0	3
Fiji	1	1	2	0	2
Yangon	1	0	1	0	1
Islamabad	1	1	2	0	2
Total	6	17	23	0	23

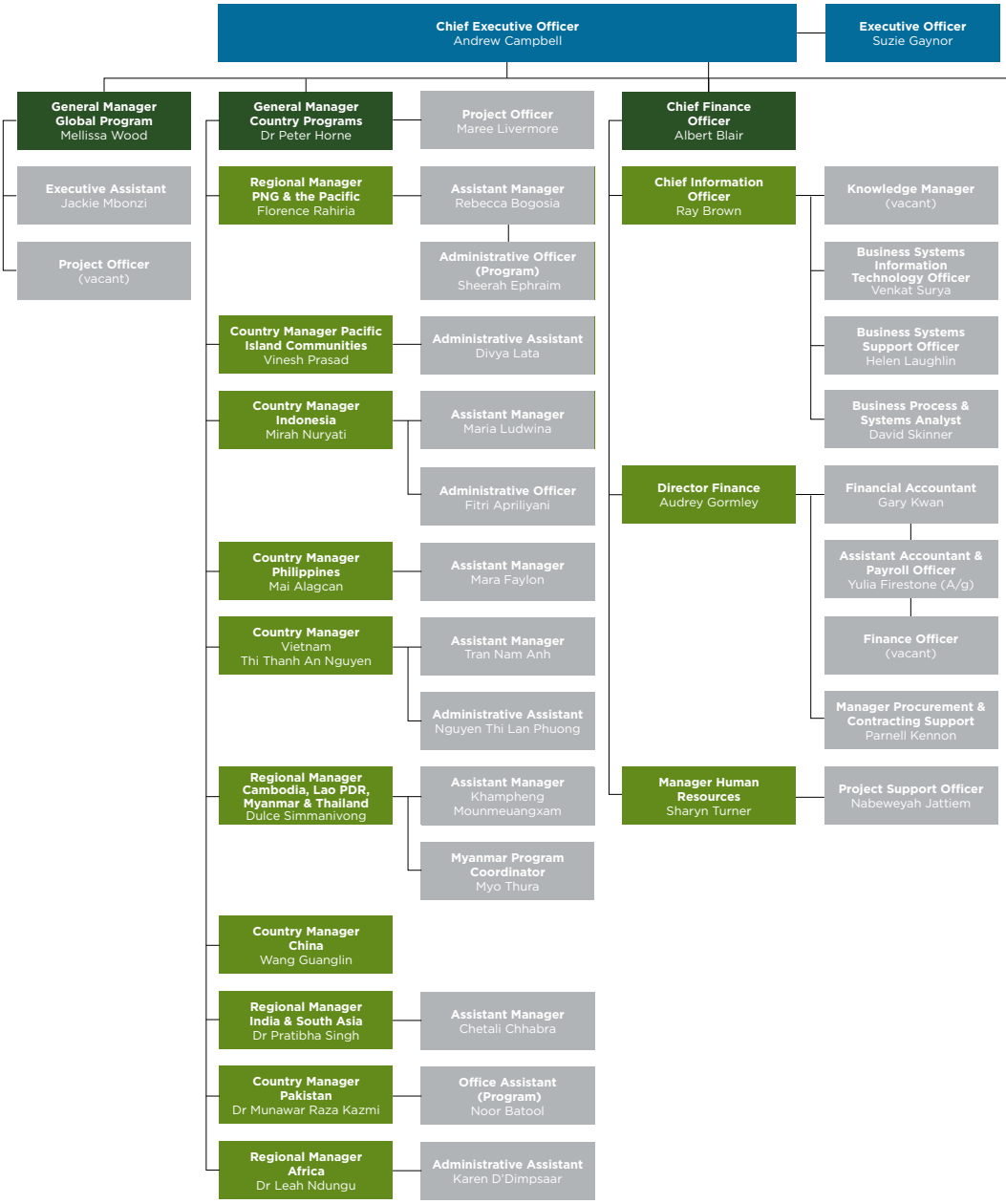
Classification structure

ACIAR employees as at 30 June 2018, covered by the ACIAR Enterprise Agreement 2015–2018 by broadband. Excludes SES (1 male, 2 female)

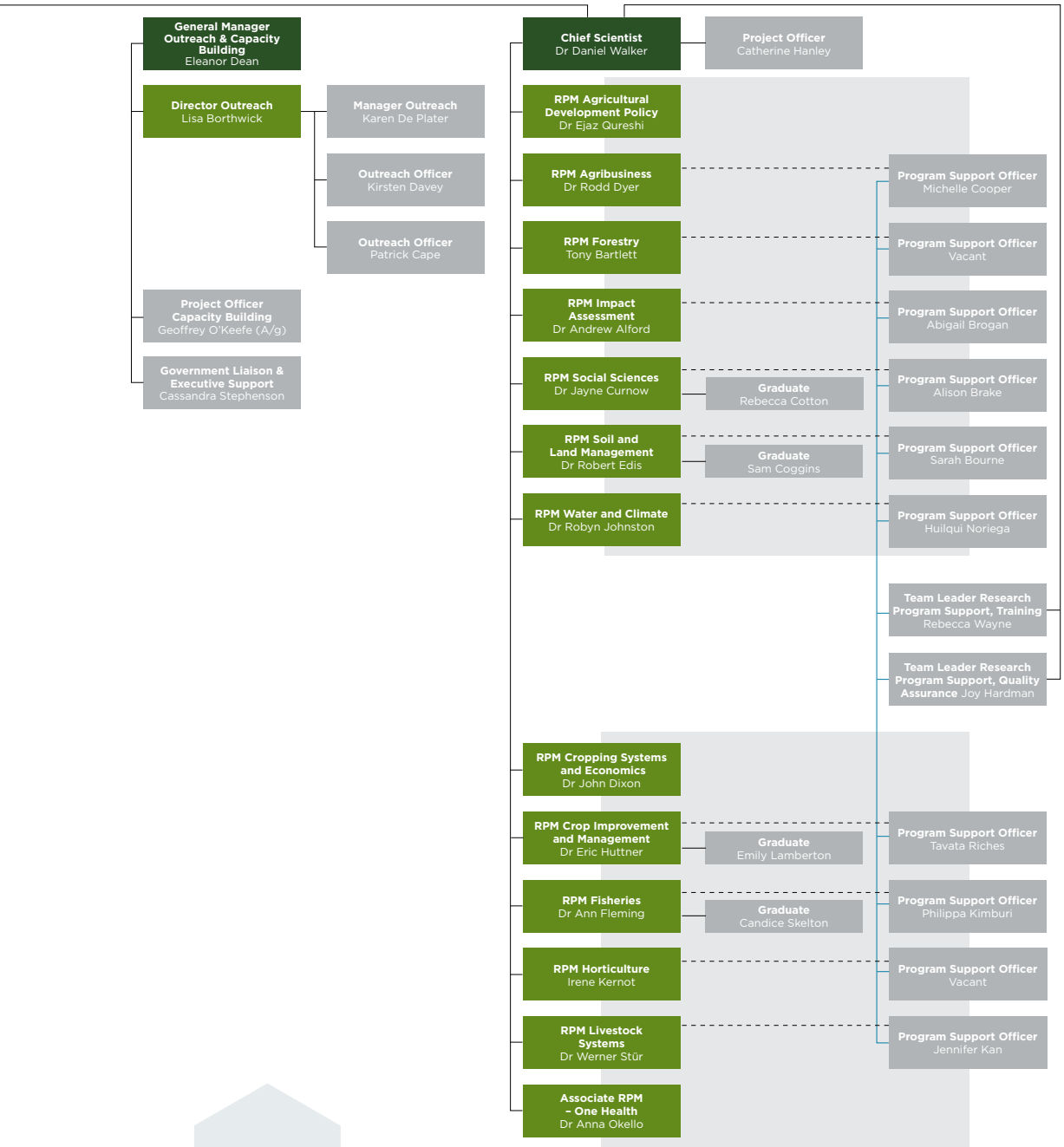
ACIAR broadband	APS classification	Salary range	No. employees by classification	Ongoing	Non-ongoing	Female	Male
Band 4	EL2	$125,618–$136,641	6	4	2	4	2
Band 3	EL1	$100,389–$105,592	5	4	1	3	2
Band 2	APS6	$79,115–$87,623	9	9	0	5	4
	APS5	$72,048–$74,889	13	10	3	13	0
	APS4	$65,132–$68,752	5	1	4	4	1
Band 1	APS3	—	No employees at this level				
	APS2	—	No employees at this level				
	APS1	—	No employees at this level				
Research Program Manager structure							
Band 4	EL2–RPM	$153,017–$176,338	12	0	12	4	8

Appendix 5.

Organisational structure at 30 June 2018



Positions and staff at 30 June 2018
RPM - Research Program Manager


General Manager Outreach & Capacity Building
Eleanor Dean
Director Outreach
Lisa Borthwick
Manager Outreach
Karen De Plater
Outreach Officer
Kirsten Davey
Outreach Officer
Patrick Cape
Project Officer Capacity Building
Geoffrey O'Keefe (A/g)
Government Liaison & Executive Support
Cassandra Stephenson
Chief Scientist
Dr Daniel Walker
Project Officer
Catherine Hanley
RPM Agricultural Development Policy
Dr Ejaz Qureshi
RPM Agribusiness
Dr Rodd Dyer
RPM Forestry
Tony Bartlett
RPM Impact Assessment
Dr Andrew Alford
RPM Social Sciences
Dr Jayne Curnow
Graduate
Rebecca Cotton
RPM Soil and Land Management
Dr Robert Edis
Graduate
Sam Coggins
RPM Water and Climate
Dr Robyn Johnston
Program Support Officer
Michelle Cooper
Program Support Officer
Vacant
Program Support Officer
Abigail Brogan
Program Support Officer
Alison Brake
Program Support Officer
Sarah Bourne
Program Support Officer
Huilqui Noriega
Team Leader Research Program Support, Training
Rebecca Wayne
Team Leader Research Program Support, Quality Assurance
Joy Hardman
RPM Cropping Systems and Economics
Dr John Dixon
RPM Crop Improvement and Management
Dr Eric Huttner
Graduate
Emily Lamberton
RPM Fisheries
Dr Ann Fleming
Graduate
Candice Skelton
RPM Horticulture
Irene Kernot
RPM Livestock Systems
Dr Werner Stür
Associate RPM – One Health
Dr Anna Okello
Program Support Officer
Tavata Riches
Program Support Officer
Philippa Kimburi
Program Support Officer
Vacant
Program Support Officer
Jennifer Kan

Appendix 6.

List of requirements

The table below contains a list of annual report requirements prepared in accordance with paragraph 17AJ(d) of the Public Governance, Performance and Accountability Rule 2014 (PGPA Rule). Page references for ACIAR's compliance with these requirements are provided in the right-hand column of the table.

PGPA Rule reference	Description	Requirement	Page
17AD(g)	Letter of transmittal		
17AI	A copy of the letter of transmittal signed and dated by accountable authority on date final text approved, with statement that the report has been prepared in accordance with section 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and any enabling legislation that specifies additional requirements in relation to the annual report	Mandatory	i
17AD(h)	Aids to access		
17AJ(a)	Table of contents	Mandatory	ii-iii
17AJ(b)	Alphabetical index	Mandatory	210
17AJ(c)	Abbreviations and acronyms	Mandatory	208
17AJ(d)	List of requirements	Mandatory	202
17AJ(e)	Details of contact officer	Mandatory	218
17AJ(f)	Entity's website address	Mandatory	218
17AJ(g)	Electronic address of report	Mandatory	218
17AD(a)	Review by accountable authority		
17AD(a)	A review by the accountable authority of the entity	Mandatory	8-14
17AD(b)	Overview of the entity		
17AE(1)(a)(i)	A description of the role and functions of the entity	Mandatory	3
17AE(1)(a)(ii)	A description of the organisational structure of the entity	Mandatory	200-201
17AE(1)(a)(iii)	A description of the outcomes and programs administered by the entity	Mandatory	98-99
17AE(1)(a)(iv)	A description of the purposes of the entity as included in corporate plan	Mandatory	100
17AE(1)(b)	An outline of the structure of the portfolio of the entity	Portfolio departments — mandatory	n.a.

17AE(2)	Where the outcomes and programs administered by the entity differ from any Portfolio Budget Statements, Portfolio Additional Estimates Statements or other portfolio estimates statements that were prepared for the entity for the period, include details of variation and reasons for change	If applicable, mandatory	n.a.
17AD(c)	Report on the performance of the entity		
	Annual performance statement		
17AD(c)(i)16F	Annual performance statement in accordance with paragraph 39(1)(b) and section 16F of the Rule	Mandatory	100-106
17AD(c)(ii)	Report on financial performance		
17AF(1)(a)	A discussion and analysis of the entity's financial performance	Mandatory	107-109
17AF(1)(b)	A table summarising the total resources and total payments of the entity	Mandatory	108
17AF(2)	If there may be significant changes in the financial results during or after the previous or current reporting period, information on those changes, including: the cause of any operating loss of the entity; how the entity has responded to the loss and the actions that have been taken in relation to the loss; and any matter or circumstances that it can reasonably be anticipated will have a significant impact on the entity's future operation or financial results	If applicable, mandatory	n.a.
17AD(d)	Management and accountability		
	Corporate governance		
17AG(2)(a)	Information on compliance with section 10 of the PGPA Rule (fraud systems)	Mandatory	124-126
17AG(2)(b)(i)	A certification by accountable authority that fraud risk assessments and fraud control plans have been prepared	Mandatory	126
17AG(2)(b)(ii)	A certification by accountable authority that the entity has in place appropriate mechanisms for preventing, detecting incidents of, investigating or otherwise dealing with, and recording or reporting fraud	Mandatory	126
17AG(2)(b)(iii)	A certification by accountable authority that all reasonable measures have been taken to deal appropriately with fraud relating to the entity	Mandatory	126
17AG(2)(c)	An outline of structures and processes in place for the entity to implement principles and objectives of corporate governance	Mandatory	112-122
17AG(2)(d)–(e)	A statement of significant issues reported to Minister under paragraph 19(1)(e) of the PGPA Act that relate to noncompliance with finance law and action taken to remedy noncompliance	If applicable, mandatory	n.a.
	External scrutiny		
17AG(3)	Information on the most significant developments in external scrutiny and the entity's response to the scrutiny	Mandatory	123

17AG(3)(a)	Information on judicial decisions and decisions of administrative tribunals and by the Australian Information Commissioner that may have a significant effect on the operations of the entity	If applicable, mandatory	n.a.
17AG(3)(b)	Information on any reports on operations of the entity by the Auditor- General (other than the report under section 43 of the PGPA Act), a parliamentary committee or the Commonwealth Ombudsman	If applicable, mandatory	n.a.
17AG(3)(c)	Information on any capability reviews on the entity that were released during the period	If applicable, mandatory	n.a.
	Management of human resources		
17AG(4)(a)	An assessment of the entity's effectiveness in managing and developing employees to achieve entity objectives	Mandatory	127-130
17AG(4)(b)	Statistics on the entity's APS employees on an ongoing and non- ongoing basis, including statistics on: » staffing classification level » full-time employees » part-time employees » gender » staff location » employees who identify as Indigenous.	Mandatory	128
17AG(4)(c)	Information on any enterprise agreements, individual flexibility arrangements, Australian workplace agreements, common law contracts and determinations under subsection 24(1) of the *Public Service Act 1999*	Mandatory	129
17AG(4)(c)(i)	Information on the number of SES and non-SES employees covered by agreements, etc. identified in paragraph 17AG(4)(c)	Mandatory	129
17AG(4)(c)(ii)	The salary ranges available for APS employees by classification level	Mandatory	199
17AG(4)(c)(iii)	A description of non-salary benefits provided to employees	Mandatory	128
17AG(4)(d)(i)	Information on the number of employees at each classification level who received performance pay	If applicable, mandatory	199
17AG(4)(d)(ii)	Information on aggregate amounts of performance pay at each classification level	If applicable, mandatory	128
17AG(4)(d)(iii)	Information on the average amount of performance payment, and range of such payments, at each classification level	If applicable, mandatory	129
17AG(4)(d)(iv)	Information on aggregate amount of performance payments	If applicable, mandatory	129
	Asset management		
17AG(5)	An assessment of effectiveness of asset management where asset management is a significant part of the entity's activities	If applicable, mandatory	n.a.
	Purchasing		
17AG(6)	An assessment of entity performance against the *Commonwealth Procurement Rules*	Mandatory	130-132

	Consultants		
17AG(7)(a)	A summary statement detailing the number of new contracts engaging consultants entered into during the period; the total actual expenditure on all new consultancy contracts entered into during the period (inclusive of GST); the number of ongoing consultancy contracts that were entered into during a previous reporting period; and the total actual expenditure in the reporting year on the ongoing consultancy contracts (inclusive of GST)	Mandatory	131
17AG(7)(b)	A statement that 'During [reporting period], [specified number] new consultancy contracts were entered into involving total actual expenditure of $[specified million]. In addition, [specified number] ongoing consultancy contracts were active during the period, involving total actual expenditure of $[specified million].'	Mandatory	131
17AG(7)(c)	A summary of the policies and procedures for selecting and engaging consultants and the main categories of purposes for which consultants were selected and engaged	Mandatory	131
17AG(7)(d)	A statement that 'Annual reports contain information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available on the AusTender website.'	Mandatory	131
	Australian National Audit Office access clause		
17AG(8)	If an entity entered into a contract with a value of more than $100,000 (inclusive of GST) and the contract did not provide the Auditor-General with access to the contractor's premises, the report must include the name of the contractor, purpose and value of the contract, and the reason why a clause allowing access was not included in the contract	If applicable, mandatory	n.a.
	Exempt contracts		
17AG(9)	If an entity entered into a contract or there is a standing offer with a value greater than $10,000 (inclusive of GST) which has been exempted from being published on AusTender because it would disclose exempt matters under the FOI Act, the annual report must include a statement that the contract or standing offer has been exempted, and the value of the contract or standing offer, to the extent that doing so does not disclose the exempt matters	If applicable, mandatory	n.a.
	Small business		
17AG(10)(a)	A statement that '[Name of entity] supports small business participation in the Commonwealth Government procurement market. Small and medium-sized enterprise and small enterprise participation statistics are available on the Department of Finance's website.'	Mandatory	132
17AG(10)(b)	An outline of the ways in which the procurement practices of the entity support small and medium-sized enterprises	Mandatory	132
17AG(10)(c)	If the entity is considered by the department administered by the Finance Minister as material in nature—a statement that '[Name of entity] recognises the importance of ensuring that small businesses are paid on time. The results of the survey of Australian Government payments to small business are available on the Treasury's website.'	If applicable, mandatory	132

	Financial statements		
17AD(e)	Inclusion of the annual financial statements in accordance with subsection 43(4) of the PGPA Act	Mandatory	138-175
17AD(f)	Other mandatory information		
17AH(1)(a)(i)	If the entity conducted advertising campaigns, a statement that 'During [reporting period], the [name of entity] conducted the following advertising campaigns: [name of advertising campaigns undertaken]. Further information on those advertising campaigns is available at [address of entity's website] and in the reports on Australian Government advertising prepared by the Department of Finance. Those reports are available on the Department of Finance's website.'	If applicable, mandatory	n.a.
17AH(1)(a)(ii)	If the entity did not conduct advertising campaigns, a statement to that effect	If applicable, mandatory	132
17AH(1)(b)	A statement that 'Information on grants awarded by [name of entity] during [reporting period] is available at [address of entity's website].'	If applicable, mandatory	n.a.
17AH(1)(c)	Outline of mechanisms of disability reporting, including reference to website for further information	Mandatory	130
17AH(1)(d)	A reference to the website where the entity's Information Publication Scheme statement pursuant to Part II of FOI Act can be found	Mandatory	132
17AH(1)(e)	Correction of material errors in previous annual report	If applicable, mandatory	n.a.
17AH(2)	Information required by other legislation	Mandatory	n.a.

PART 7
References

Abbreviations and acronyms

AAUN	Australia Africa Universities Network
AC	Companion of the Order of Australia
ACIAR	Australian Centre for International Agricultural Research
ACAIR Act	*Australian Centre for International Agricultural Research Act 1982*
AfricaRice	Africa Rice Center
AOP	Annual Operational Plan (of ACIAR)
APAARI	Asia–Pacific Association of Agricultural Research Institutions
APS	Australian Public Service
ASEAN	Association of Southeast Asian Nations
BPBAP	Balai Perikanan Budidaya Air Payau
CABI	Centre for Agriculture and Biosciences International
CEO	Chief Executive Officer
CGIAR	formerly the Consultative Group on International Agricultural Research
CIAT	International Centre for Tropical Agriculture
CIFOR	Center for International Forestry Research
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
COGENT	Global Coconut Genetic Resources Network
Commission	Commission for International Agricultural Research
Council	Policy Advisory Council
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
CultiAF	Cultivate Africa's Future
DFAT	Department of Foreign Affairs and Trade (Australia)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
FAO	Food and Agriculture Organization (of the United Nations)
FARA	Forum for Agricultural Research in Africa
FOI Act	*Freedom of Information Act 1982*
FTE	full-time equivalent (staff)
G20	The Group of Twenty — an international forum for global economic cooperation comprising 20 members: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and the European Union

GFAR	Global Forum on Agricultural Research
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDPES	Individual Development and Performance Evaluation Scheme (ACIAR)
IDRC	Canada's International Development Research Centre
IFPRI	International Food Policy Research Institute (USA)
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IRRI	International Rice Research Institute (Philippines)
IWMI	International Water Management Institute
MACS	Meeting of the Agricultural Chief Scientists
NESB	non-English speaking background
No.	number
OAM	Medal of the Order of Australia
OECD	Organisation for Economic Co-operation and Development
PARDI	Pacific Agribusiness Research for Development Initiative II
PEO	Principal Executive Officer
PGPA Act	*Public Governance, Performance and Accountability Act 2013*
PNG	Papua New Guinea
R&D	Research and development
RPM	Research Program Manager
SDIP	Sustainable Development Investment Portfolio
SES	Senior Executive Service (of APS)
SIMLESA	Sustainable intensification of maize–legume cropping systems for food security in eastern and southern Africa
SPC	The Pacific Community (formerly the South Pacific Commission)
TADEP	Transformative Agriculture Enterprise Development Program
TOMAK	Farming for Prosperity Program in Timor-Leste
WHEAT	CIMMYT wheat research program
WorldFish	CGIAR Research Program Fish

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