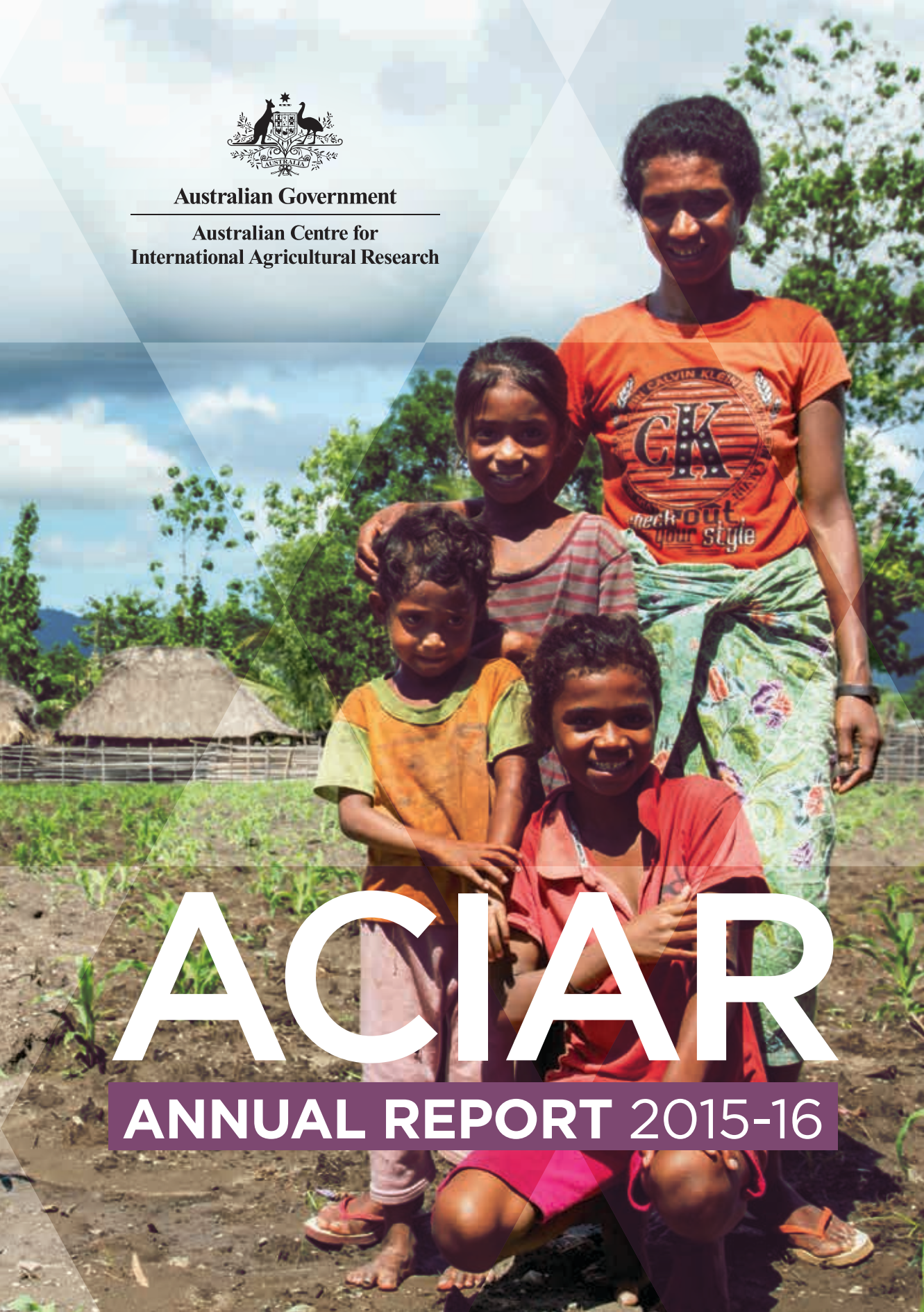
Australian Government
Australian Centre for
International Agricultural Research
ACIAR
ANNUAL REPORT 2015-16

Distribution

This report is available through the ACIAR website or by contacting ACIAR by email or by telephone or fax to request a hard copy.

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ACIAR Annual Report 2015–16

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Cover photo: These farming family members from Maliana, Bobonaro district, are happy to be growing Sele maize. Photo: Alexia Skok

Printing statistics

1,500 copies of this Annual Report have been printed and provided to key stakeholders.

LETTER OF TRANSMITTAL FROM CHIEF EXECUTIVE OFFICER

Australian Government

Australian Centre for International Agricultural Research

The Hon Julie Bishop
Minister for Foreign Affairs

October 2016

Dear Minister

ACIAR Annual Report 2015–16

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 2016.

As you are aware I started in my role as CEO of ACIAR on 1 August 2016. Consequently, this report is the final report of my predecessor Dr Nick Austin. I would like to put on record my appreciation of Dr Austin's leadership of ACIAR and the sterling contribution he made to international agricultural research in the region and globally.

This 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 the Centre'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

Andrew Campbell
Chief Executive Officer

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

CONTENTS

OVERVIEW

ABOUT ACIAR

The Australian Centre for International Agricultural Research (ACIAR) is the Australian Government's specialist agricultural research-for-development agency, within the aid program. ACIAR does not undertake research, but identifies opportunities and brokers partnerships to undertake international agricultural research and capacity building. These results contribute significantly to the aid program and achieving its goals. For 34 years ACIAR has facilitated agricultural research partnerships, and has brought together diverse but complementary groups and individuals to achieve a range of development outcomes for partner countries in the Indo-Pacific region.

The Centre demonstrates extensive experience in the management of research partnerships combined with technical knowledge in its theme areas of: crops, livestock, fisheries, natural resources, forestry, and socioeconomics and policy. ACIAR's projects are designed to produce specific research outputs and translate them into development outcomes such as improved food security, better nutrition, improved health, and increased prosperity. Economic returns on ACIAR investment have been shown to be at least 5:1, with estimates of returns on some projects as high as 60:1.

Australia is a world leader in research on a range of arid, semi-arid, temperate and tropical agricultural systems. ACIAR, through its partnerships, provides a bridge to extend this research expertise and its benefits to partner developing countries.

ACIAR's partnerships and their achievements support Australia's national interests in many different ways. Agricultural research for development is proven to be a highly effective route to the aid goals of enhanced prosperity and reduced poverty in partner developing countries, thus contributes directly to regional peace and security.

Economic prosperity in partner developing countries also has significant spillover benefits for Australia: stronger economies in the region offer new trade, investment and business opportunities for Australia.

Partnerships are built on strong people-to-people linkages, trust, transparency and mutual benefit, and are skilfully managed by a highly experienced and professional team. These partnerships 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, the CGIAR (formerly the Consultative Group on International Agricultural Research) 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.

Expenditure

The proportion of research expenditure by region in 2015–16 and an overview of ACIAR's administered expenditure over the last 3 years is shown in the following chart and table.

Research expenditure by region 2015–16

- PNG and Pacific island countries - 24.6%
- East Asia - 44.5%
- South and West Asia - 14.3%
- Eastern and Southern Africa- 16.6%

ACIAR administered expenditure

	2015–16 AOP budget ($)	2015–16 actual ($)	2014–15 actual ($)	2013–14 actual ($)
Research projects by region and selected countries				
Pacific	**15 780 000**	**16 848 971**	**12 501 570**	**12 736 112**
Pacific island countries	6 030 000	8 111 329	6 665 473	8 230 763
Papua New Guinea	9 750 000	8 737 642	5 836 097	4 505 349
East Asia	**37 040 000**	**30 456 731**	**34 134 677**	**32 494 665**
Cambodia	2 920 000	2 296 832	2 853 073	3 652 206
China	980 000	834 194	1 111 194	426 411
Indonesia	9 750 000	5 777 556	6 764 013	6 740 024
Lao PDR	5 360 000	5 091 675	5 437 978	5 005 075
Mongolia	200 000	195 420	0	0
Myanmar	4 870 000	3 621 284	3 260 963	2 337 079
Philippines	4 870 000	4 880 502	4 824 295	3 758 332
Thailand	290 000	260 652	281 134	219 821
Timor-Leste	3 410 000	3 595 970	4 608 377	5 492 194
Vietnam	4 390 000	3 902 646	4 993 650	4 863 523
South and West Asia	**12 610 000**	**9 744 992**	**13 089 669**	**11 201 571**
Afghanistan	3 400 000	3 229 596	3 438 078	2 102 034
Bangladesh	2 430 000	1 176 557	1 838 091	1 488 762
Bhutan	190 000	205 861	320 448	291 392
India	3 770 000	2 918 395	3 947 156	3 276 595
Nepal	1 070 000	1 155 980	1 414 084	904 195
Pakistan	1 750 000	1 058 603	2 131 812	3 138 593
Eastern and Southern Africa	**13 390 000**	**11 326 865**	**15 418 737**	**12 141 132**
Middle East and North Africa	**0**	**-65 000**	**933 144**	**4 088 963**
Total Research projects	**78 820 000**	**68 312 559**	**76 077 797**	**72 662 443**
Multilateral program	17 433 000	19 812 467	19 809 849	21 913 146
Building research capacity	6 429 000	8 081 649	8 230 961	7 278 600
Communicating research results	540 000	631 879	614 659	773 745
Measuring research impacts	560 000	392 006	502 870	341 145
Research program support	2 647 000	2 818 955	4 762 229	4 273 365
TOTAL	**106 429 000**	**100 049 515**	**109 998 365**	**107 242 444**

CHIEF EXECUTIVE OFFICER'S REVIEW

A new corporate plan

During the year, the Government released a new 5-year corporate plan for ACIAR. The plan articulated ACIAR's role in supporting the new aid policy. It also gave effect to the recommendations of the 2013 Independent Review of ACIAR, and took into consideration current progress towards Sustainable Development Goals (SDGs).

The plan set out ACIAR's distinct contribution to the global research effort. It described how ACIAR would, through international agricultural research partnerships, achieve more-productive and sustainable agricultural systems, for the benefit of developing countries and Australia.

It recognised the important role that women play in agriculture, and confirmed ACIAR's commitment to tackling gender inequality in the design, delivery and impact of projects.

The corporate plan identified the role of ACIAR in formulating programs and policies with respect to agricultural research for the following purposes:

- Identifying agricultural problems of developing countries
- Finding solutions to agricultural problems of developing countries
- Commissioning agricultural research by persons or institutions (whether the research is to be conducted in Australia or overseas) in accordance with such programs and policies
- Communicating to persons and institutions the results of such agricultural research
- Establishing and funding training schemes related to its research programs
- Conducting and funding development activities related to its research programs
- Funding international agricultural research centres.

Where we work

During 2015-16 ACIAR worked globally to monitor the development of the ASEAN (Association of Southeast Asian Nations) economic cooperation, which involves cooperation on cross-border issues that intersect with ACIAR's interests, such as: biosecurity; agrifood chains and food safety. ACIAR also engaged in the CGIAR's reform process and positively influenced its future directions.

ACIAR continued to concentrate its efforts in developing countries of Asia and the Pacific, engagement in high-payoff partnerships also took place in other regions in support of Australia's foreign policy objectives through bilateral (at least 70%) and multilateral (up to 30%) modalities. In line with the refocusing of the Australian aid program, ACIAR increased funding to the Pacific region, particularly Papua New Guinea (PNG).

Our largest region of investment continues to be East Asia. Partnerships with the Department of Foreign Affairs and Trade (DFAT) were developed to take advantage of emerging opportunities to construct agricultural programs in the region where ACIAR was able to extend its effectiveness by leveraging funding from DFAT via a series of Records of Understanding (ROU) to

extend our effectiveness. In Timor-Leste, for example, ACIAR worked with DFAT to identify ways of building on the successes of the transformative Seeds of Life to further increase the opportunity for economic growth and linkages with the private sector.

Our significant engagement in South and West Asia, and Eastern and Southern Africa continues to improve food security, and food system resilience, in regions where agriculture is a major part of economies and where Australia has much relevant expertise. ACIAR will continue to monitor the security situation in Afghanistan and plan future engagement accordingly.

The main new influence on development policy in 2015-16 was the production by DFAT's overseas missions of Aid Investment Plans (AIPs) for each of Australia's bilateral and regional aid programs.

Each AIP established the strategic framework for the provision of Official Development Assistance (ODA) to that country / region and the performance framework for monitoring implementation. These 3-5 year plans reflect a whole-of-government approach to implementation of Australia's aid program in-country and region. The AIPs provide some recognition of, and endorsement for, ACIAR's programs in-country and region. In most cases, the development of the AIPs has resulted in greater direct involvement of ACIAR with Heads of Mission (HOMs) with ACIAR's programs and partnerships.

Our strategy as both a valued donor and research partner, involves close working relations with national agricultural research systems (NARS) in the Indo-Pacific region. We work closely with, and fund, a range of international multilateral institutes and associations, including the Asia Pacific Association of Agricultural Research Institutions (APAARI), ASEAN, CABI (an intergovernmental, not-for-profit organisation), Food and Agricultural Organization (FAO), Pacific Community (SPC) and The World Vegetable Center (AVRDC). These partnerships extend our effectiveness and reduce some of the challenges our environment presents.

What we deliver

Our in-house multidisciplinary expertise is directed strategically to facilitate and coordinate collaboration between Australian partners, international agricultural research centres and developing-country partners in order to:

- Contribute to the broader Australian policy of helping to build regional prosperity, security and cooperation
- Enable Australian agriculture and science to share in the benefits of the activities supported by ACIAR
- Foster broad-based economic growth of our developing-country partners, and align this with environmental and social benefits
- Develop the human and institutional capacity of partners
- Bring additional resources into Australia's aid program via project co-funding agreements.

Through our partnerships in agricultural research for development, ACIAR has generated new knowledge and technologies, and built greater human capacity and capability. In this way our partnerships support better decision-making and deliver sustainable solutions. Selected achievements in 2013–14 are outlined below.

In northern Lombok, Indonesia, where cattle numbers had been dropping due to poor farmers selling their cattle for short-term income, the influence of ACIAR project findings is yielding rewards. Better feeding regimes have led to improved reproductive performance – many more cows have produced a healthy calf each year.

A profitable industry is now growing, giving villagers money for children's education, improvements to housing, and cash to buy more cattle.

In western Mindanao, Philippines, farmer livelihoods have noticeably improved through the widespread adoption of new enterprises such as tree nurseries, vegetables, cacao and coconut, and the uptake of new production and marketing technologies.

In Timor-Leste, a collaborative activity involving scientists from Indonesia has introduced better forages and tree legumes for smallholder cattle. Following on from successful implementation in similar dryland areas in Indonesia, the team established demonstration trials where farmers could see that the cattle thrive on the alternative fodder.

The 16-year Seeds of Life (SoL) project has had far-reaching effects throughout Timor-Leste, in areas where infant mortality and stunting is unfortunately still prevalent. Around 40,000 households benefited from adopting the improved varieties of staple crops introduced by the project.

In the south central coast of Vietnam, the infertile sandy soils are very prone to drought. Introduction of irrigation scheduling and application strategies demonstrated substantial improvements in water use efficiency, and led to marked increases in yield and quality of mango and peanuts in Binh Dinh province.

The northwest of Vietnam is one of its poorer regions and comprises many ethnic groups. Over the past decade, many forests have been cleared and the usual agricultural system results in very substantial soil erosion. A five-year project to introduce agroforestry has had substantial impacts in a short time. One farmer collaborator worked with researchers to establish an agroforestry trial involving late-fruiting longan, fodder grass and maize. He indicated that after only 3 years he is already earning more from the agroforestry system than from monocropping of maize, and he can see that the soil erosion has decreased significantly.

The introduction of Versatile Multicrop Planters (VMP) and conservation agriculture technologies in Bangladesh has led to higher crop yields and profit compared with the traditional system.

Demand for milk and meat in Pakistan is increasing rapidly, creating market opportunities for poor households, providing that the production and marketing constraints can be overcome. Through action research with women and men farmers in 56 villages and 12 schools, ACIAR-funded program evaluated 20 management improvements. Of these, seven were shown to have high potential to improve milk and meat productivity for smallholder farmers. The research found that with only simple changes in cow management, the weight gain of calves increased five-fold, reaching 350+ grams/day, and mortality was reduced to less than 5 percent. Milk productivity also increased by over 20 percent.

In Botswana, studies funded through the International Livestock Research Institute (ILRI, Kenya) identified the factors affecting profit efficiency among smallholder beef producers. The findings indicated that local cattle performed well as long as they are properly fed and husbanded. Further work targeted ways to improve nutrition, husbandry and health, and to develop the market value chain for beef.

Engaging the private sector

ACIAR has worked with other Australian Government funded programs to help Solomon Island producers improve the quality and quantity of their cocoa. Among other activities, we contributed research on solar driers and also linked growers to Australian bean-to-bar manufacturers.

By receiving prices that rewarded them for higher quality, producers were encouraged to put greater effort into producing a quality product.

One family's efforts were rewarded when their cocoa was judged a 'Cocoa of Excellence' in a competition organised by Bioversity International as part of a recent Salon du Chocolat in Paris. Their cocoa sample was one of only 17 to receive this accolade (from a field of 145 samples received from producers in 35 countries worldwide).

An ACIAR project is turning the stems of old, non-productive coconut palms in Pacific island countries into a high-value product — cocoveneer. This product has the potential to bring benefits along the supply chain – from coastal communities who own the plantations, to timber mills, furniture makers, retailers and exporters.

An Australian PhD student working through an ACIAR project developed a balsa wood acoustic interior lining that promotes material innovation, true sustainability and socially responsible use of balsa for non-structural interior wall-ceiling linings. This new product could generate new demand for balsa and enhance the livelihoods of smallholders in PNG.

Our forestry projects in Lao PDR and Vietnam have helped partner scientists and local wood processing industries to improve manufacturing processes and consider the development of innovative wood products.

Work in Laos led to good collaboration with private sector companies. A recent furniture design competition was a popular initiative, and the winners had the opportunity to travel to Australia and undertake a furniture design course at RMIT University in Melbourne.

High levels of interest in conservation agriculture in Bangladesh brought together 138 farmer associations to form the *Bangladesh Conservation Agriculture Farmers and Service Providers Association*.

Pakistan's nine million smallholder dairy farmers need reliable access to good quality green forage. The demand for seed from desirable varieties has skyrocketed, but the supply system can only meet about 20 percent of their needs. A project led by Charles Sturt University used a participatory approach to help farmers and their communities establish their own forage seed enterprises.

Reducing poverty

The outer atoll islands of Kiribati are very vulnerable to disruption of food supply, so an ACIAR soil health project teamed up with an International Fund for Agricultural Development (IFAD) project to increase the capacity of these communities to grow their own food. Composting methods and suitable varieties of sweetpotato and other vegetables were introduced, and the use of indigenous wild amaranthus has been refined and promoted.

A video arising from ACIAR's project focused on increasing vegetable production in PNG's Central Province for Port Moresby markets highlighted the potential contribution of the project work to poverty alleviation. It is part of efforts to develop coordinated, formalised supply chains from Central Province into supermarkets and hotels in the capital Port Moresby, as well as supply the huge influx of foreign workers in the resources boom.

Foot-and-mouth disease (FMD) is a major trade-limiting and production-limiting disease in South-East Asia and beyond. Our project work focuses on reducing the impact of FMD, enabling the growth of livestock markets and ultimately helping to alleviate rural poverty and improve food security in rural communities.

In Myanmar, the ACIAR project MYRice sought to improve rice productivity through introducing better agronomy, modern rice varieties and improving post-harvest management of rice for better quality.

The project also introduced rice farmers to pulse production during the dry season. Demonstrations of improved drying and storage of rice reduced yield losses by 10% and produced better quality grain for the market. Best practices post-harvest reduced physical losses by 10–13%.

The MYFish project in Myanmar led to the introduction of small, indigenous fish into carp poly-culture systems, assessment of fish yields in modified rice fields, and cost effective eel culture in homestead ponds.

The results show an average increase of 600 kg/ha/year or 40% in carp poly-culture systems, fish yields of 500 kg/ha/year in rice fields, and over 800 kg/ha/year or 40% for eel culture.

A project team in India and Bangladesh confirmed that unrecovered organic waste represents a vast river of resources that farmers could tap into. It concluded that the use of urban organic waste for livelihood improvement of rural and urban poor is worth further investigation and investment.

Empowering women and girls

Culturally appropriate lessons designed to train women in the skills of producing and marketing their crops have seen whole communities in PNG benefit. While intended to empower women, the training adopted a family team philosophy. One participant commented: 'After the training, my family sits together and discusses our goals. My husband and the children work with me and we always plan together. My husband and I work together as best friends and I am so happy (*mi hamamas tru*).'

It is customary in Cambodia for pigs to be raised by women, and the price for the meat of black-skinned traditional pigs is higher. An ACIAR project has trained the women in practices of penning pigs, and feeding and watering the penned pigs, to improve pig quality.

In Aceh, a soil management project has increased the research capacity of the University of Syiah Kuala and introduced soil organic amendments. The project has established 21 new women's farmer groups, involving 492 women growing vegetables for home consumption and sale.

In Nepal, as part of the Sustainable and Resilient Farming Systems Intensification Project (SRFSI) – a collaborative undertaking of 20 partners receiving funding through ACIAR – the project team developed a gender strategy to ensure its activities help to empower women through farming improvements, policy innovation and access to training.

In Tanzania and Zambia there has been a focus on village poultry production and women's crops. The work is taking place in poor remote areas with tough climates. In Tanzania, women have been trained as community vaccinators to protect chickens from the devastating Newcastle disease. Since the introduction of the vaccinators, local traders have reported an increase in the numbers of chickens for sale. Improvement in availability of chickens and eggs is also leading to better maternal and child health.

Strategies to address climate change and environmental degradation

We commissioned studies aimed at creating more resilient and sustainable farming and market systems to address extreme events in the face of climate change and increasing weather variability.

Three projects under the Pacific Agribusiness Research for Development Initiative (PARDI) II agribusiness portfolio have climate adaptation dimensions, including components of research directed towards making tree crops more resilient in the face of cyclones and

other severe weather events. This research is equally applicable in Queensland and the Northern Territory.

Another ACIAR project researched the use of protective structures to shield commercial vegetable crops from excessive rainfall during tropical rainy seasons and reduce the disease problems that otherwise occur during adverse weather conditions. In the livestock sector, a study is underway to identify productivity and marketing options for smallholder cattle farmers in Vanuatu, in part to increase the resilience of these farmers to better cope with increased climate variability and shocks.

In the Philippines, a project has made excellent progress in developing the means to actively restore damaged coral communities and reef habitats using mass larval settlement. For the first time, a breeding population of reef corals has been successfully re-established on a degraded reef system using mass larval settlement.

Another research project in the Philippines helped to improve the exchange of information between the national weather agency PAGASA and key decision-makers involved in managing climate and weather risk for smallholders. The project is also developing climate-responsive strategies that farmers can adopt in the face of regular typhoons.

An ACIAR project with the International Rice Research Institute (IRRI) developed a better understanding of the implications of climate change for farming in the Mekong Delta, and developed several strategies to adapt rice-based systems to changes in water availability (drought and submergence) and salinity from sea-level rise. In plant breeding, the project developed high-yielding rice cultivars that are tolerant of single or combined stresses.

In India and elsewhere in the region, climatic and environmental stresses are putting extra burdens on small-farmer enterprises. A study explored the key factors that affect farmers' decisions whether to take up entrepreneurial ventures and enabled a better understanding of how climate change - related scarcity and shocks influence their decisions.

How we deliver

Measuring impact

Measuring the impact of ACIAR investments has been a key priority since our inception. ACIAR is now a world leader in evaluating the impact and return on investment in agricultural research.

Our Impact Assessment Program assists in refining priorities, learning lessons from past and current projects and fulfilling accountability obligations to the Minister, the Parliament and the wider Australian public.

We currently commission three types of finished-project assessments. The first are primarily **economic evaluations**, which are published in ACIAR's Impact Assessment Series. Assessments are undertaken by independent consultants with specialist expertise in measuring the impact of agricultural research by analysing economic return on investment (ROI) and assessing social and environmental impacts.

Our evaluation and investment has contributed to advances in economic evaluation methodologies, for example in measuring the impact of agricultural research on poverty, and the returns to capacity building and research in the area of natural resource management.

The return on investment of ACIAR research is determined by the extent to which research findings are adopted, underpinning the second type of finished-project evaluations: **adoption studies**.

The third type of finished-project evaluations is **impact pathway analyses**. Using an impact pathway framework as an evaluation tool involves tracing the pathway to change from research outputs (the results or findings), to outcomes (use of this

knowledge by the next and final users), to impact (the ultimate change in social, economic and/or environmental conditions that occurs with widespread adoption of new research findings).

We also work closely with international agricultural research centres, such as the International Food Policy Research Institute (IFPRI in Washington), to develop comprehensive, consistent research impact evaluation software.

A study undertaken in 2015–16 reviewed 27 Impact Assessment Series reports (covering 103 bilateral research projects published since 2005). The review confirmed that returns on ACIAR's bilateral agricultural investments are high. A few research areas stood out as having a particularly high return on investment– use of Australian trees in Indonesia, pig breeding in Vietnam, and grain storage in the Philippines.

In 2015–16, ACIAR published four books as part of our Impact Assessment Series. Made available on line and as print publications, the series covered two key areas of research: Smallholder ADOPT - designed to provide an understanding of the technology adoption process, as part of the wider processes of agricultural innovation; and cocoa production in Indonesia, PNG and the Pacific. These reports were:

- *Impact of private sector involvement in ACIAR projects: a framework and cocoa case studies (IAS90)*
- *Sustaining cocoa production: impact evaluation of cocoa projects in Indonesia and Papua New Guinea (IAS89)*
- *Development of the public release version of Smallholder ADOPT for developing countries (IAS91)*
- *ACIAR-funded crop-livestock projects, Tibet Autonomous region, PR China (IAS88).*

In addition to these titles, ACIAR published one Adoption report, *Adoption of ACIAR project outputs 2015* (AS012).

Building capacity

In 2015-16, we continued to invest in building individual and institutional capacity in our region. We believe this to be among our most important and influential long-term investments, complementing other Australian Government initiatives such as the New Colombo Plan. The John Allwright Fellowship Scheme awarded a further 23 postgraduate scholarships, while the John Dillon Fellowship program supported nine talented agricultural research managers to undertake leadership development training in Australia. In March, Minister Bishop awarded the 2016 John Dillon Fellowships to recipients from Cambodia, Indonesia, Myanmar, Pakistan, Papua New Guinea and Vietnam.

Increasing our visibility

We worked hard during 2015–16 to increase our visibility, both in Australia and overseas using social media approaches – including Twitter, Facebook and blogs – to reach new audiences in new ways. We also invested in, and worked closely with the Crawford Fund in their public awareness efforts.

In 2015–16, ACIAR made a number of submissions to parliamentary committees of inquiry including:

- Inquiry into the role of development partnerships in agriculture and agribusiness in promoting prosperity, reducing poverty and enhancing stability in the Indo-Pacific region
- Inquiry into the delivery and effectiveness of Australia's bilateral aid program in Papua New Guinea.

- Inquiry into the role of technology in increasing agricultural productivity in Australia
- Inquiring into any measures to further boost Australia's trade and investment performance. Including, but not limited to, barriers to trade; reduction of red tape and structural challenges; and opportunities for the Australian Community.

Staff and operations

In 2015–16 ACIAR saw a modest decline in its operating budget against a background of recalibration of the Australian Government's aid program and maintenance of the aid budget at existing levels. 2015–16 saw the appointment of Dr Jayne Curnow as Research Program Manager, Agricultural Systems Management.

2015–16 was the last year ACIAR operated under the guidance of Chief Executive Officer, Nick Austin, whose 7-year term ended on 31 July 2015. It was a time of change and opportunity.

Dr Austin's tenure at ACIAR saw substantial growth in Australian government investment through ACIAR, and continued growth in ACIAR's influence in our region, consistent with Australian ODA priorities. Nick also made an outstanding contribution to the reform of the CGIAR, including as Interim Director-General of the System Management Board following his departure from ACIAR. On behalf of all at ACIAR I wish Nick well in his future endeavours and look forward to on-going collaboration.

The year ahead

During the year ahead, ACIAR will continue to become more embedded in Australia's broader development efforts and more market-focused. ACIAR's work will continue to underpin the Australian Government's commitment to economic growth, poverty reduction and increased standards of living in developing nations in our region.

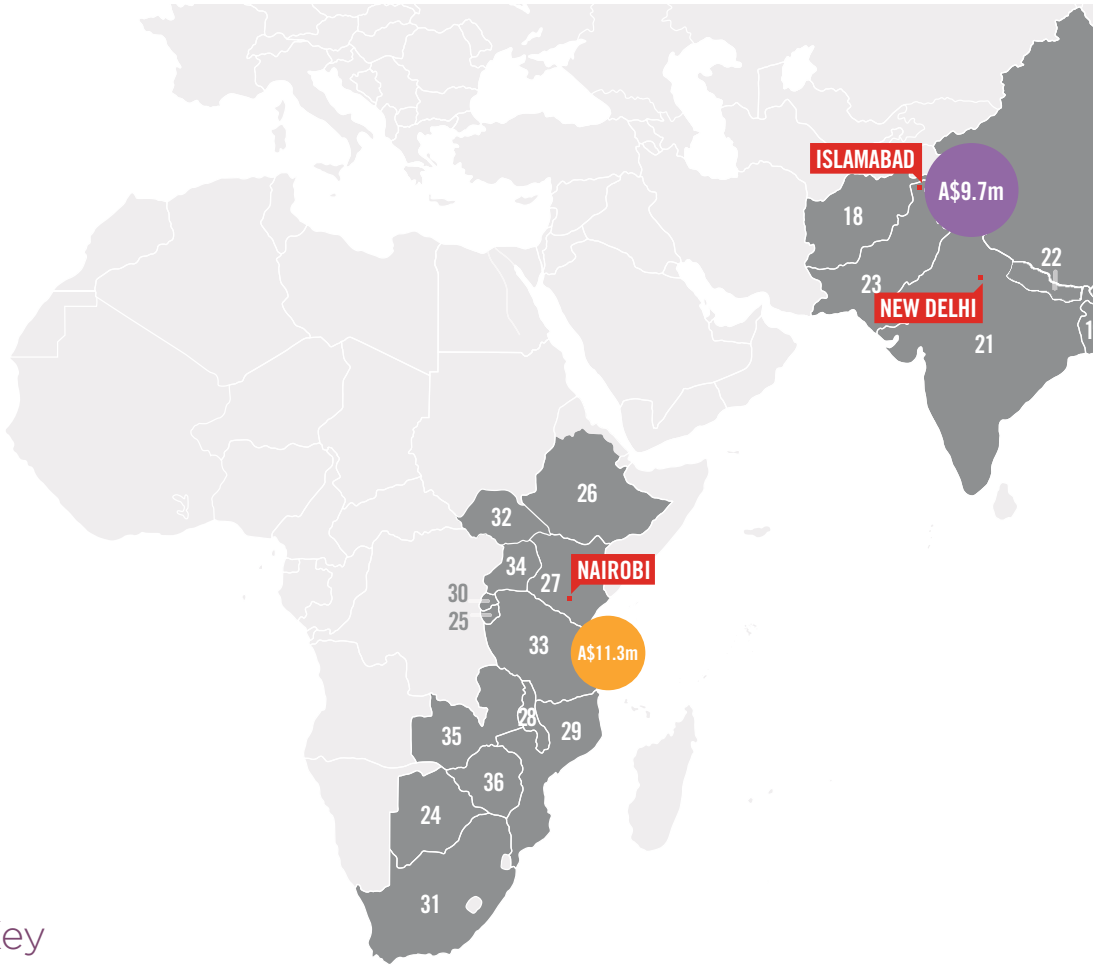
Guided by the Australian ODA framework, and informed by advice from the Commission, PAC and consultation with stakeholders, we will prepare a high-level 10 year strategy for ACIAR, to be launched by Minister Bishop in 2017.

As we look forward to consolidating and building on the work of the past year, I extend my thanks to the Commission, Policy Advisory Council, staff and project partners. All contributed significantly to the real difference ACIAR makes in partner countries and in Australia. I particularly record my appreciation for the work and wise counsel of outgoing Commissioner Dr Joanne Daly.

I look forward to working with the Policy Advisory Council and the Commission over the coming year.

Andrew Campbell
ACIAR Chief Executive Officer

2015–16 countries where ACIAR works, country offices (red rectangles) and size of programs for each region (circles)



Key

Pacific island countries
A$ 8.1 m

1 Fiji
2 Kiribati
4 Samoa
5 Solomon Islands
6 Tonga
7 Tuvalu
8 Vanuatu

3. Papua New Guinea
A$ 8.7 m

East Asia
A$ 24.7 m

9 Cambodia
10 China
12 Lao PDR
13 Myanmar
14 Philippines
15 Thailand
16 Timor-Leste
17 Vietnam

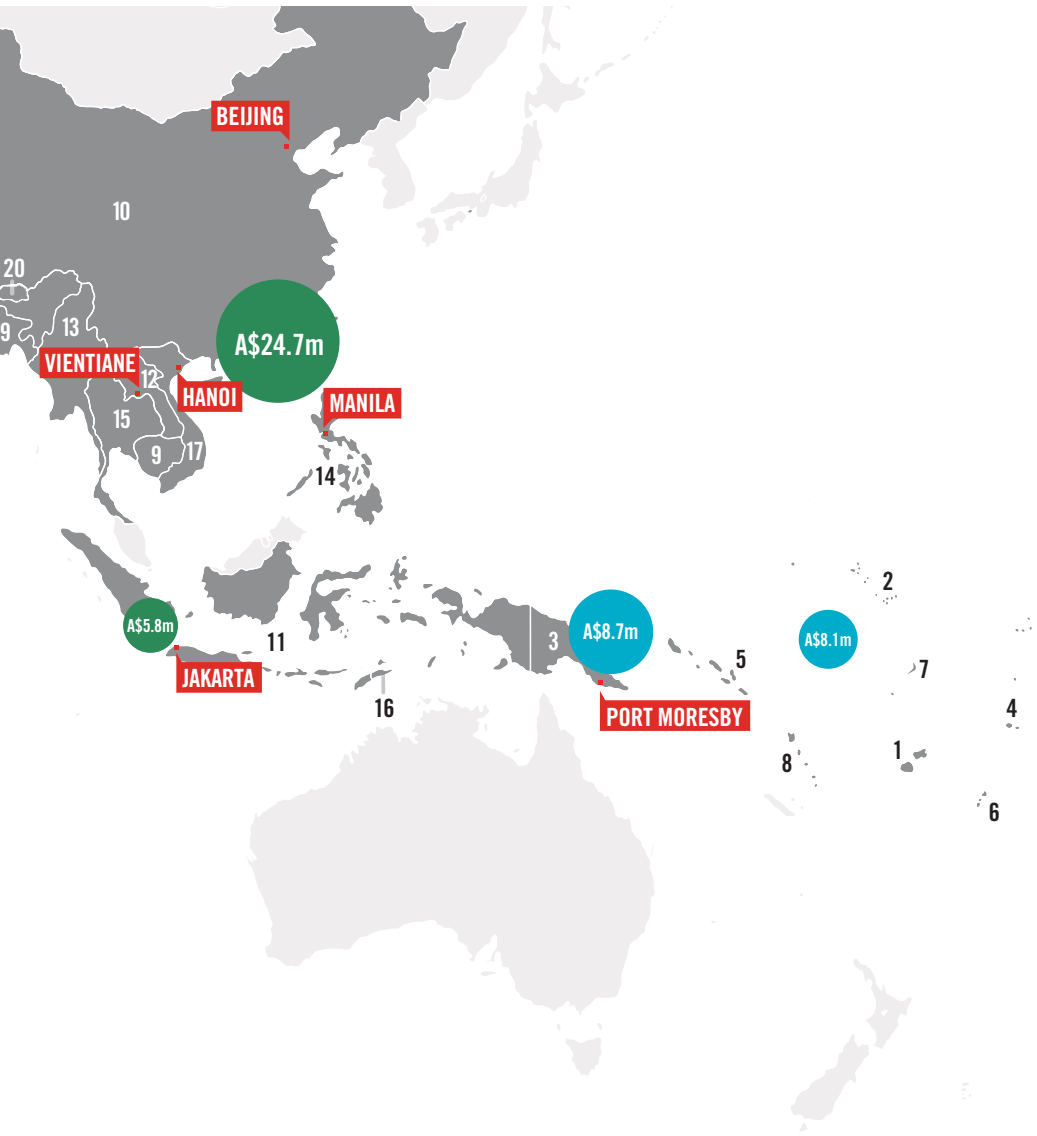
11 Indonesia
A$ 5.8 m

South and West Asia
A$ 9.7 m

18 Afghanistan
19 Bangladesh
20 Bhutan
21 India
22 Nepal
23 Pakistan

Eastern and Southern Africa
A$ 11.3 m

24 Botswana
25 Burundi
26 Ethiopia
27 Kenya
28 Malawi
29 Mozambique
30 Rwanda
31 South Africa
32 South Sudan
33 Tanzania
34 Uganda
35 Zambia
36 Zimbabwe


BEIJING
10
20
9
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VIENTIANE
12
HANOI
15
9
17
A$24.7m
MANILA
14
A$5.8m
11
JAKARTA
16
3
A$8.7m
PORT MORESBY
5
A$8.1m
2
7
4
1
8
6

THE YEAR IN REVIEW — REGIONAL AND PROGRAM ACHIEVEMENTS

PACIFIC

Pacific island countries

ACIAR's program in the Pacific island countries (PICs) embraces Fiji, Kiribati, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. It aims to improve food and nutritional security, develop integrated and sustainable agriculture, develop fisheries and forestry resources, and improve market integration in agriculture, fisheries and forestry products. ACIAR collaborates with regional organisations to bolster the limited research capacity of many countries. To improve sustainable change, ACIAR encourages innovative approaches that engage, empower and invest in women.

Papua New Guinea

Australian aid funding in Papua New Guinea (PNG) aligns with both the PNG and Australian Governments' priorities, and is increasingly assisting PNG to use its own resources to effectively deliver services and grow the economy. ACIAR's program is helping to secure improvements in food supply, food access and rural incomes for smallholders through increased productivity and enhanced access to markets and services. Major research topics focus on vegetables and starchy staples, export tree commodities such as timber, palm oil, coffee, cocoa and coconut products, village-based aquaculture and other fisheries. ACIAR also promotes equity for women, emphasising the health and welfare of them and their children, and recognising the need to increase their effectiveness in rural industries.

Pacific island countries

Highlights

- ACIAR commissioned studies to create more resilient and sustainable farming and market systems to address extreme events in the face of climate change and increasing weather variability.
- A soil health project in Fiji identified the causes of decline in taro yield and quality, and now has methods in place to reverse it.
- A Solomon Island cocoa producer won an award for producing a 'Cocoa of Excellence' at a recent Salon du Chocolat in Paris.

Regional overview

ACIAR's program in the PICs helps to transform the agricultural, fisheries and forestry systems in these countries from subsistence to sustainable income-generating activities. The program seeks to improve productivity and marketing, enhance food security and self-reliance, and reduce poverty. It has a special focus on women to amplify the central role they play in household food gardening, tree crop production, and in marketing of horticultural, tree crop and fisheries products.

ACIAR's program acknowledges the need to work with individual countries where there are marked differences in climate and soils, availability of natural resources, institutional capacity, infrastructure and potential for economic growth. At the same time there are many challenges in common that are best tacked through regional cooperation. Under Australia's new development policy, its aid program is supporting efforts to improve broad-based economic growth and enhance private-sector development.

In agriculture in 2015–16, ACIAR focused on adaptation to changes in climate, and identification and management of constraints to productivity and market engagement in both staple root and high-value crops and livestock. The program seeks to identify suitable markets and to develop new high-value horticultural crops (fruits, vegetables and ornamentals) and products derived from them for domestic, regional and international markets. Maintaining soil health as production systems are intensified is recognised across the region as a key to maintaining sustainability. The fisheries component addressed sustainable production from oceanic and inshore fisheries, development of alternatives through aquaculture, and increased economic returns through improved product quality and better market linkages. The forestry program promoted the development of value-adding forest industries, whereby landowners derive benefits from both timber and non-timber forest products. ACIAR increased its attention on the development and strengthening of integration between production systems and markets through more efficient and equitable value chains.

ACIAR works closely with other Australian agencies to develop complementary and jointly funded projects aimed at addressing national development priorities and regional issues. The ACIAR-funded PARDI II is seeking to identify new markets and opportunities for long-term pro-poor agribusiness development.

ACIAR maintained its strong emphasis on working with Pacific regional organisations such as Pacific Community (SPC), the University of the South Pacific (USP) and other donor agencies to ensure that R&D efforts target agreed national and regional priorities and link closely with regional extension and community development programs.

Research achievements

The Fiji island of Taveuni has been a major producer of export quality taro, however, the yield and quality has been in sharp decline. A soil health project identified the cause and, working closely with farmer groups in 2015–16, saw the adoption of rock phosphate, organic amendments and living mulch that reverse the decline through rebuilding soil fertility.

The outer atoll islands of Kiribati are very vulnerable to disruption of food supply, so an ACIAR soil health project has teamed up with an International Fund for Agricultural Development (IFAD) project to increase capacity of these communities to grow their own food. Composting methods and suitable varieties of sweetpotato and other vegetables were introduced, and the use of indigenous wild amaranthus was refined and promoted.

ACIAR worked with other Australian Government funded programs to help Solomon Island producers improve the quality and quantity of their cocoa. Among other activities, ACIAR contributed research on solar driers and also linked growers to Australian bean-to-bar manufacturers. By receiving prices that rewarded them for higher quality, one producer family, the Kebus, were encouraged to put greater effort into producing a quality product. Their efforts were rewarded when their cocoa was judged a ‘Cocoa of Excellence’ in a competition organised by Bioversity International as part of the recent Salon du Chocolat in Paris. Their cocoa sample was one of only 17 to receivedthis accolade, from a field of 145 samples received from producers in 35 countries worldwide.

The many benefits of agroforestry have been widely identified, yet the area under agroforestry in Fiji and Vanuatu has declined in recent decades. A recent ACIAR study reviewed policies, laws, land-use plans and management practices. It also identified promising agroforestry systems for presently unproductive land and analysed the likely financial performance of particular tree species and agroforestry systems. The study recommended strategies for promoting smallholder and community-based agroforestry on underutilised sloping land, to increase production of traditional food species – fruit trees, vegetables and root crops.

ACIAR commissioned studies to address the impacts of increasingly frequent and extreme weather events, longer term climate change and increasing weather variability. Three projects, under the Pacific Agribusiness Research for Development Initiative (PARDI II) agribusiness portfolio, have climate adaptation dimensions,

Cocoveneer, a Pacific product that could stimulate renewal of the coconut industry

Who knew you could peel a coconut palm? That's the technology underpinning an ACIAR project that is turning the stems of old, non-productive coconut palms into a high-value product—cocoveneer. This product has the potential to bring benefits along the supply chain – from coastal communities who own the plantations, to timber mills, furniture makers, retailers and exporters.

Old coconut trees are the legacy of the global copra trade, which peaked in the early 20th century. As the industry declined there was little incentive to replant, despite the best efforts of governments and development agencies to find new uses for coconut and provide seedlings.

Today many coastal plantations are characterised by row upon row of tall, spindly trees that produce very few nuts—these trees make up an estimated 120,000 hectares of precious coastal land across the Pacific. Members of Fiji's Department of Forestry had long searched for a way to add value to these old palms – now cocoveneer seems to have real potential.

In the development process the hard outside of coconut stems are peeled into uniform layers that can then be used to 'finish' products made of less attractive or softer woods. This hardness, along with its attractive appearance, makes cocoveneer a winner for flooring.

Project team members, including those from the Centre for Sustainable Architecture with Wood at the University of Tasmania, are addressing some of the challenges of producing the veneer. They acquired and satisfactorily trialled a lathe for peeling the coconut stems. The results stirred a great deal of interest from other commercial entities in Fiji.

Another challenge has been to find uses for the soft core material that remains after the veneer is removed. The project is experimenting with potential for packing material or turning it into biochar as a means of improving soils.

The ultimate aim of the project is to find export markets for the veneer. A survey in Australia gave promising indications, with positive feedback from designers and architects who like the colour and even grain of the cocoveneer. An attractive marketing angle is its 'green' image. The clearing of these old plantations will free up land for more sustainable and profitable uses, with a program to plant more productive palms and incorporate other fruits and food crops.

including components of research directed towards making tree crops more resilient in the face of cyclones and other severe weather events.

Another ACIAR project researched the use of protective structures to shield commercial vegetable crops from excessive rainfall during tropical rainy seasons and reduce the disease problems that otherwise occur during adverse weather conditions. In the livestock sector, a study commenced work to identify productivity and marketing options for smallholder cattle farmers in Vanuatu, in part to increase the resilience of these farmers to better cope with increased climate variability and shocks.

The next phase of the project commenced in 2015–16. It involved demonstration of the entire process from harvesting of trees to peeling trials by a commercial plywood manufacturer. Parallel composting trials are testing the residues. The work is continuing on Vanua Levu in Fiji. Project partners from Samoa and Solomon Islands, along with other interested groups from Fiji and overseas, were present to witness the results.

Project leader, Assoc. Professor Gregory Nolan from the Centre for Sustainable Architecture with Wood said: 'If we can build a successful cocoveneer industry in the Pacific islands there are potentially great benefits for all levels of the economy. And we'd have finally solved the senile coconut problem and provided an incentive for renewal – that would be quite a result!'

Producing coconut veneer on a spindle-less lathe. Photo: Tony Bartlett.

Papua New Guinea

Highlights

- A detailed assessment of the shark and ray fisheries of PNG has allowed the building of a database that is intended to create better management of fish stocks and conservation of endangered populations.
- A video from ACIAR's project seeking to increase vegetable production in Central Province for Port Moresby markets highlighted the potential contribution of the project work to poverty alleviation.
- A project to improve the PNG balsa value chain resulted in much greater knowledge about the proportion and variability of merchantable wood in balsa trees.
- Development of virus-free lines of locally favoured sweetpotato and refinement of tissue culture techniques set the scene for better yields.

Country overview

A stable and prosperous Papua New Guinea (PNG) is clearly in Australia's interest as it is our nearest neighbour. Australia's aid funding reflects this, and ACIAR's program is designed to help the country address its many challenges to agricultural development—including poorly developed infrastructure, weak market signals and services, new pest and disease threats, poor product quality, and pressure on land and renewable resources as a result of population increases and mining development.

ACIAR ensures that its research program is economically, culturally, socially and environmentally relevant to the smallholder farmers. In 2015–16 the program focused on the role of women in agriculture from a variety of perspectives, for example marketing access and constraints to uptake of new technologies. There is an emphasis on plantation crops, roots and other horticultural crops, forestry and fisheries. These include exported and domestically traded commodities that generate smallholder income and underpin improved food security and economic development.

A program of discrete but interrelated projects has been developed to encompass seven key priority research areas. An umbrella program comprising five impact-focused research for development (R4D) projects commenced in 2015–16, developed in partnership with PNG under a funding agreement between ACIAR and DFAT. These projects cross a range of commodities and involve multiple partners in both countries. Each project has a focus on impacts that contribute to the development goals agreed between the Australian and PNG governments. They target food supply, food access and incomes for smallholders through increased productivity and enhanced access to markets and services.

Research achievements

The PNG National Fisheries Authority (NFA) identified a need to develop better fisheries management practices, underpinned by an assessment of the shark and ray fisheries, to ensure economic sustainability, intergenerational equity, and to conserve cultural significance. An ACIAR project helped to identify species and will ultimately develop a guide to the shark and ray species of PNG. A detailed list of the PNG shark and ray species is near completion, and species, size composition and biological data from observers and artisanal surveys have been entered into a newly developed database.

Pond-based production of Genetically Improved Farmed Tilapia (GIFT) and European Carp is rapidly expanding in the rural areas of PNG. While undertaking the first aquaculture survey following the creation of Jiwaka Province (formerly part of Western Province), an ACIAR team recognised an opportunity to help resolve intransigent local difficulties. A video arising from ACIAR's

project, focused on increasing vegetable production in Central Province for Port Moresby markets, highlighted the potential contribution of the project work to poverty alleviation. It is part of efforts to develop coordinated, formalised supply chains from Central Province into supermarkets and hotels in the capital Port Moresby, as well as supply the huge influx of foreign workers in the resources boom. Another goal is to improve the role of women in the supply chains.

A project to improve the PNG balsa value chain to enhance smallholder livelihoods has resulted in much greater knowledge about the proportion and variability of merchantable wood in balsa trees and produced guidelines on the impacts of thinning on tree growth. As well, a farmer training manual was written in 2015–16 in pidgin language. An Australian PhD student working with the project has developed a balsa wood acoustic interior lining that promotes material innovation, true sustainability and socially responsible use of balsa for non-structural interior wall-ceiling linings. This new product could generate new demand for balsa and enhance the livelihoods of smallholders in PNG.

One of the major reasons for the decline in sweetpotato production in PNG has been infection with viruses. Although supplies of high-yielding virus-free varieties were available from Australia, consumers continued to favour the local PNG lines. Efforts to remove the viruses from the local sweetpotato varieties have finally been successful thanks to the painstaking effort of a scientist at the National Agricultural Research Institute of PNG (NARI). Support from ACIAR and the Crawford Fund helped develop the tissue culture system to produce many thousands of clean sweetpotato plantlets.

Educate the women, and the whole community benefits

In many rural communities in PNG, opportunities for women to benefit from their daily labour on household farms and gardens are needlessly limited by their lack of education. One person who understands and can help overcome these difficulties is Professor Barbara Pamphilon, Director of the Australian Institute for Sustainable Communities at the University of Canberra. In 2015–16 ACIAR recruited her to bring her expertise in adult education and community development to help these women.

'The status of education in PNG is changing,' Professor Pamphilon says. 'There is a real valuing of education and rural families are keen to see their children receive schooling. I found that the women were extremely keen to learn themselves; they just did not have access to opportunities.'

Professor Pamphilon developed a training package through the ACIAR project, designed to go out to the women rather than having them come to central towns. It is presented in ways that allowed women to learn 'how to learn' while also empowering them to act within the broader context of their own household, farms and communities.

'We worked with their strengths and assets,' she says. 'Using activities, worksheets and the like we put in place channels to access a greater network of expertise, like the resources available at PNG's National Agricultural Research Institute (NARI). But we capitalised on women's skill with informal learning and the abundance of local knowledge. In turn we learnt about the challenges faced by the women."

The lessons learned from the training activities led on to action research. For example, interactions at the village level revealed that many farmers were marketing the same kind of produce at the same time, causing prices to drop. This understanding led to training on seasonal planning, crop diversification and the introduction, with NARI's assistance, of new production capabilities.

Some villagers, both men and women, received extra training to become village community educators. They now roll out the training to their peers in a readily acceptable format. They will perpetuate the assistance to the village beyond the life of the project, and also become role models for more productive and gender-equitable ways to manage the family farm.

In targeting gains for women, Professor Pamphilon focused on gender equity, which recognises the strengths of both men and women, rather than solely on women's rights: 'We encouraged a family team philosophy and made gender inequality highly visible, showing how it limited the family's prospects,' she said. 'So it was important to include men – after all, social change can only occur when both women and men change.'

As one participant in Kwinkya in the Baiyer Valley, Western Highlands, put it: 'In the past our family never talked together. My husband never discussed plans or worked with me. I did things on my own. After the training, my family sits together and discusses our goals. My husband and the children work with me and we always plan together. My husband and I work together as best friends and I am so happy (mi hamamas tru).'

Educate the women, and the whole community benefits. Photo: Paul Jones.

EAST ASIA

Cambodia

Around 80 percent of Cambodia's people rely on agriculture for their livelihoods. Through 2015–16, ACIAR continued to support research to increase and secure the productivity of rice-based farming systems and associated postharvest systems. It also supports efforts to increase agricultural diversification (particularly into non-rice field and horticultural crops and ruminant livestock). A third aspect recognises the vulnerability of Cambodian agriculture, particularly rainfed cropping, to climate variability and change.

China

In 2015–16, ACIAR's program in China focused on strategic partnerships to improve the sustainability of agricultural production. Projects have been directed at policy and technical issues associated with better management of livestock, land and water resources in north-western China and crop-livestock systems in Tibet Autonomous Region (TAR). The need to raise farmers' incomes through increased productivity and marketability of produce is also covered in research design.

Indonesia

Agricultural research has an important role to play in addressing the main policy priorities for the Government of Indonesia. For over 30 years, ACIAR has supported research in the country and substantial benefits have flowed to farmers and the whole agricultural sector. ACIAR support in 2015–16 focused largely on some of the poorest regions of the country, notably the six provinces of eastern Indonesia and Aceh, but it also assisted the more developed provinces of Bali, Java and Sumatra. The ongoing program seeks alternative approaches to improve livelihoods; these involve issues of food and nutritional security through enhanced productivity and food quality, as well as developing improved market linkages for high-value products sourced from smallholder production systems.

Lao PDR

Food security remains central to agricultural development in Laos. The Government of Laos recently endorsed a new Agricultural Development Strategy 2025. It emphasises ensuring food and nutritional security and food safety, commercialisation of agricultural products with high-value addition, and the sustainable use and management of natural resources. Australia's support through ACIAR investment in agricultural research in 2015–16 played an increasingly important role as Laos works towards its goals in agricultural development, poverty reduction and inclusive economic growth.

Myanmar

ACIAR's program in Myanmar works through government research agencies, international organisations and NGOs. The main focus in Myanmar in 2015–16 was to secure improvements in food security and rural incomes for smallholders through increased production and enhanced access to markets and services. Projects targeted improvements to productivity in the crop, fisheries and livestock sectors through research and capacity building.

Philippines

ACIAR continues to support Philippine research for development (R4D) to improve market competitiveness of products from aquaculture, horticulture and livestock enterprises. A new priority implemented in 2015–16 aims to reduce the adverse effects of climate change on the rural poor. Underpinning these two priorities is the need to develop more effective extension processes and greater responsiveness to market opportunities, while better land and water resource management is also vital. The Philippines is currently one of the largest importers of rice. ACIAR has been a long-time supporter of global agricultural research heavyweight the International rice Research Institute (IRRI) based in Los Banos, Philippines.

Thailand

Thailand holds an important position in the Mekong region. As the country's economic and research capacities have increased, ACIAR's program in Thailand has seen more co-investment during 2015–16. ACIAR now partners with Thailand to support other countries in the region, with the focus on the poorest farming communities. There is ongoing effort to implement the results of earlier projects; these include regional biosecurity systems implementation and management of Mekong fisheries in a partnership across the region with Laos, Cambodia and Vietnam.

Timor-Leste

ACIAR's engagement with its partners in Timor-Leste in 2015–16 aligned to the TOMAK (To'os Ba Moris Diak, Farming for Prosperity) initiative, a new agricultural livelihood program by DFAT. This is builds on the foundation established by the SoL program and integrates with other Australian rural initiatives in the country. Research is focusing on greater productivity and market integration of cropping systems, increasing productivity and resilience of livestock, fisheries and horticulture, and raising individual and institutional capacity.

Vietnam

ACIAR's program in Vietnam supports technical, agribusiness and enabling policy research to enhance smallholder incomes from selected areas of high-value agriculture, aquaculture and forestry. The program in 2015–16 focused on three geographic regions—the Mekong Delta, the south-central coast and north-western highlands—where poverty persists and where there are threats to sustaining the agricultural natural resource base.

Cambodia

Highlights

- Development of a high-value chain to supply beef to high-end restaurants in Phnom Penh is helping to promote local production.
- Application of new techniques to raise pigs helped women produce better quality meat from desirable local black-skinned pigs and at the same time control pork tapeworm.
- A study of the economic value of fish in the Mekong Basin has helped to provide answers on how the welfare and livelihood value of fish can be increased for the benefit of protein-needy communities.

Country overview

Although Cambodia has made considerable progress in raising living standards it still remains one of the poorest countries in South-East Asia. Agriculture is a significant part of the Cambodian economy, with about 80% of Cambodia's population relying on agriculture for their livelihoods.

The predominance of rice-based farming systems on infertile, poorly structured soils means that Cambodia has rather low agricultural productivity on both a labour and a land area basis.

ACIAR's portfolio of projects in Cambodia is based on Australia's current Aid Investment Plan 2105–2018. It has three components, all of which are in line with both the agricultural and water priorities under the Cambodia's National Strategic Development Plan 2014–18. First it supports research to increase and secure the productivity of rice-based farming systems and associated post-harvest systems. The second supports applied research and development that underpins agricultural diversification, particularly into non-rice field and horticultural crops and ruminant livestock. A third component recognises the vulnerability of Cambodian agriculture, particularly rainfed cropping, to climate variability and change.

Research achievements

In Cambodia smallholders keep cattle and buffalo. A project is examining the value chains for beef suitable for high-end restaurants in Phnom Penh, thus helping to promote local production. During 2015–16 the villagers learnt about bio-security and the techniques of worming and vaccinating to limit the spread of disease. This involved training to perform regular processes,

Progressing foot-and-mouth disease control in South-East Asia

ACIAR has invested in foot-and-mouth disease (FMD) research for many years. Over the past 10 years this has focused on the Mekong Livestock Research team from the Faculty of Veterinary Science, University of Sydney, who have worked in Cambodia and Lao PDR. The team has collaborated with lead partners in the Department of Livestock and Fisheries in Laos and the Department of Animal Health and Production in Cambodia.

Foot-and-mouth disease is a major trade and production-limiting disease in South-East Asia and beyond. The ACIAR project focuses on reducing the impact of FMD, enabling the growth of livestock markets and ultimately helping to alleviate rural poverty and improve food security in rural communities.

FMD is considered Australia's biggest biosecurity risk. A recent Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) economic analysis concluded that a large outbreak of FMD in Australia could cost more than $50 billion dollars over 10 years. Reducing and eventually eliminating the risk of an incursion of FMD from South-East Asia is an important strategy to reducing the risk of such a catastrophe.

It is not unusual for Cambodian farmers to tell us that their cattle and buffalo are affected by FMD every other year. And this is no surprise, given the limited control of animal movements, low rates of vaccination, and limited understanding of livestock biosecurity. These are ideal conditions for the spread of one of the most infectious of all animal disease agents.

When cattle become infected, they often get vesicles (blisters) that rupture to form ulcers on their tongues, feet and teats. This makes eating, walking and feeding calves painful, and affected animals lose weight and some (generally a small percentage) die. If the animal survives, it takes many months to regain lost weight and females may not get in calf for an extended period. In rural villages, where farmers store their wealth as livestock assets, the loss of cattle weight and value means household savings are regularly compromised by FMD.

village demonstrations, and dissemination of information using CDs and videos produced locally.

It is customary in Cambodia for pigs to be raised by women, and the price for the meat of black-skinned traditional pigs is higher. An ACIAR project has trained women in the practices of penning pigs and feeding and watering the penned pigs to improve pig quality. As well, the pork tapeworm *Taenia solium* is prevalent and causes a human health problem. The project found that dosing both children and pigs brought the incidence of the tapeworm down to almost zero, and at the same time the incidence of diarrhoea went down.

Although a large proportion of animal protein in the diets of poor communities in Cambodia comes from freshwater fish, the relative role of fish resources in rural livelihoods has never been quantified. A project focusing on the economic value of fish in the Mekong Basin produced the first comprehensive description of the roles of fish in livelihoods in the Mekong. The results are providing a basis for policy amendments and development interventions, and also answering some questions about how the welfare and livelihood value of fish can be increased.

An ACIAR project 'Village-based biosecurity for livestock disease risk management in Cambodia' commenced in 2015–16. It involved a longitudinal study in 16 project villages. The research team is visiting these sites twice a year to survey smallholder farmers and record production and health measures from their cattle. Measures include weighing cattle (the scales are hidden under the straw), vaccinating for FMD and haemorrhagic septicaemia (an important bacterial disease of cattle and buffalo in the region), and recording their body condition score, reproductive status (whether they have calved) and other events, including if they have been affected by any diseases. The team is also carrying out extension activities to train farmers in improved biosecurity and animal husbandry, including the growing and feeding of forages. The information will be used to support 'scaling out' of interventions by government and donor organisations, and to inform policy development.

Cattle and buffalo in Cambodia are affected by foot-and-mouth disease every other year. ACIAR.

China

Highlights

- ACIAR project leader Professor David Kemp received a Friendship Award from the Chinese Government for achievements in grassland research.
- A new initiative in the Tibet Autonomous Region (TAR) seeks to improve livestock nutrition without reducing grain production or compromising the condition of pastoral areas.

Country overview

The ACIAR program in China targets strategic partners to work towards improving the sustainability of agricultural production. In view of the substantial human and financial resources now available within the Chinese national agricultural research system, and the strong mutual benefits to Australia, all ACIAR activities now require significant co-investment by the Chinese partners.

In 2015–16 research focused on policy and technical issues associated with better management of livestock, land and water resources in north-western China and crop-livestock systems in the TAR. To reach those most affected by poverty and land degradation, the program has increasingly targeted rainfed crop-livestock systems, with emphasis on working with Chinese partners to engage in joint regional and national level research initiatives.

Research achievements

China and Mongolia have over 520 million hectares of interconnected grasslands that support around 5 million pastoral households. But concerns over the condition of these grasslands and the livelihoods of herders have increased through time and are now a major issue. In an ACIAR project focusing on the grasslands of Inner Mongolia, researchers are seeking more efficient incentives for improved grassland and livestock management. The work will also facilitate linkages between China and Mongolia in the management of the entire grassland resource.

Many years of research into management of grasslands and livestock has led to recommendations on grazing tactics and stocking levels that significantly improve the condition of the grasslands. These outcomes now form part of China's national program. In 2015–16, project leader Professor David Kemp received a prestigious Friendship Award from the Chinese Government in recognition of the progress achieved through the work he has led since 2001.

Over the past 14 years ACIAR projects have broadly targeted the crop-livestock zone in the TAR of China, where the challenges of land degradation, access to water and poor agricultural practices result in low crop productivity and poor animal condition. The work led to some significant gains through better cropping to produce food and animal fodder. Overall success can be gauged in achieving higher milk production, more calves raised and fewer losses of cows as a result of poor nutrition. In 2015–16, ACIAR embarked on further research to develop profitable dairy and sheep meat production systems in TAR. The challenge is to improve livestock nutrition without reducing grain production or compromising the condition of pastoral areas.

Indonesia

Highlights

- In Aceh, as a result of the efforts to rebuild lowland agriculture after the Boxing Day tsunami of 2004, ACIAR projects have led to the establishment of 21 new women's farmer groups growing vegetables for home consumption and sale.
- Spiny lobster culture has the potential to become a significant industry in Java, Lombok and Sumbawa with the collected data revealing that the catch of lobster

seed is likely to exceed 50 million per year.

- A profitable cattle-raising industry is growing in northern Lombok, where better feeding regimes have led to improved reproductive performance, with many more cows producing a healthy calf each year.

Country overview

Strengthening agriculture, including the crop, livestock, forestry, marine fisheries and aquaculture subsectors, is critical for poverty reduction and equitable development across Indonesia. The geographic focus of the Indonesia program encompasses some of the poorest regions—including six provinces in eastern Indonesia—as well as the more-developed provinces of Java and Bali. The research program has the flexibility to address rural poverty through some alternate approaches. These include initiatives to address food and nutritional security through enhanced productivity and food quality, or to improve market linkages for high-value products sourced from smallholder production systems. In undertaking these initiatives, the program encourages better linkages between national and province-based research agencies.

Wherever opportunities exist, ACIAR seeks to implement its Indonesian research program as part of a whole-of-government approach, especially with DFAT and the Department of Agriculture and Water Resources.

ACIAR's medium-term research strategy (2012–16) focuses on: improving policies to underpin agribusiness development; strengthening livestock production and biosecurity systems; underpinning the development of competitive horticultural and field cropping systems; supporting profitable smallholder aquaculture systems; enhancing capture fisheries management; enhancing forestry products and services; and developing profitable agribusiness systems for eastern Indonesia.

Research achievements

In Aceh, earlier ACIAR projects assisted rebuilding the lowland agricultural systems after the Boxing Day tsunami of 2004. The irrigated lowlands have largely recovered, and ACIAR is now supporting work on improving dryland agriculture. A soil management project undertaken in 2015–16 has increased the research capacity of the University of Syiah Kuala, and introduced soil organic amendments. The project also has established 21 new womens' farmer groups involving 492 women, growing vegetables for home consumption and sale.

There is a strong opportunity in Indonesia for the establishment of Spiny lobster farming, providing several challenges can be met. A new project seeking to expand the industry has collected data revealing that the catch of lobster seed is likely to exceed 50 million per year, primarily from coastal villages along the southern coastline of Java, Lombok and Sumbawa. This reinforces the suggestion that a significant grow-out industry can be established.

Brackishwater aquaculture is an important livelihood activity in the coastal areas of South Sulawesi and Aceh provinces. Farmers struggle to produce adequate yields of shrimp due to regular outbreaks of viral diseases. A trial of Tilapia farming in both provinces in 2015–16 demonstrated profitability similar to that of shrimp culture. Socio-economic evaluations also identified that farmers preferred Tilapia farming to another alternative, milkfish, because of a shorter production cycle required to produce Tilapia and its higher sale price.

In northern Lombok where cattle numbers had been dropping due to poor farmers selling their cattle for short-term income, the influence of ACIAR project findings is starting to yield rewards. Better feeding regimes implemented in 2015–16 led to improved reproductive performance, with many more cows producing a healthy calf each year. A profitable industry is now growing, giving villagers money for children's education,

improvements to housing, and cash to buy more cattle.

Lao PDR

Highlights

- Communities involved in the construction of a fishway to help fish recolonise wetland habitat worked together with provincial and district authorities and the World Wide Fund (WWF) for Nature to develop a community co-management strategy for the resource.
- A project helping local wood processing industries to improve manufacturing processes and develop innovative wood products conducted a furniture design competition that gave the winners the opportunity to travel to Australia and undertake a furniture design course at RMIT University in Melbourne.

Country overview

Australia's support through ACIAR's program in Laos is increasingly important as Laos works towards its goals in agriculture development, poverty reduction and inclusive economic growth. ACIAR reviews its medium-term research strategy with Laos every 4–5 years through consultations with key research coordinating agencies, universities, farmer organisations and private sector stakeholders. The current strategy was established in June 2012.

ACIAR's priorities in Laos include: 1) efficient and sustainable forestry industries, including non-timber products with suitable climate change resilience; 2) innovative livestock systems that allow for intensification and land-use requirements while raising animal health and biosecurity levels; 3) fisheries research on infrastructure which facilitates fish to pass weirs and other barriers, as part of the overall program of habitat restoration and protection of fish migration routes; 4) improved institutional training and communications frameworks that enable smallholders to adopt and adapt new technologies, and enhance the capacity development of researchers and educators; 5) more cost-effective and sustainable production systems through the application of mechanisation, diversification and intensification in rice-based farming systems, together with enhanced crop quality, quarantine standards and value-adding for domestic and export markets; 6) improved natural resource management that benefits livelihoods and food security, through delivering land-use options to smallholders, with attention to both water and nutrient management with climate change adaptation.

Research achievements

Building on recent research that developed criteria required for successful migration of Lower Mekong fish species, a number of permanent fish ladders were constructed to help fish recolonise wetland habitat. The six villages surrounding Pak Peung Wetland became involved in fishway construction, an activity that unified all villages. The communities worked together in 2015–16 with the Pak San district, WWF and provincial offices to develop a community co-management strategy to ensure that the benefits are equally shared.

Researchers from the Queensland Department of Agriculture and Fisheries (DAF) are engaged in ACIAR forestry projects in Laos and Vietnam, providing help to partner scientists and local wood processing industries to improve manufacturing processes and consider the development of innovative wood products. Work in Laos has led to good collaboration with private sector companies. A furniture design competition in 2015–16 was a popular initiative, and the winners had the opportunity to travel to Australia and undertake a furniture design course at RMIT University in Melbourne.

A 2015–16 ACIAR-funded case study of the Nam Ngum River Basin highlighted mounting pressures on land, forest and water, induced by rapid population growth and expansion of resource-based development including hydropower, mining and plantations. It revealed not only rapidly changing environmental conditions but also changes in social conditions of people's lives. Infrastructure development such as roads improved the connectivity of rural communities with urban centres. Some households were capitalising on new market opportunities to commercially expand their agricultural activities, moving away from subsistence rice production in the uplands and the lowlands to cash crop and livestock production. Other households continued to suffer from poverty and poor health.

Myanmar

Highlights

- MYRice project demonstrations of improved drying and storage of rice reduced yield losses by 10% and produced better quality grain for the market, while best practices post-harvest reduced physical losses by 10–13%.
- New activities introduced by the Department of Fisheries through collaboration in the MYFish project resulted in immediate substantial increasses in productivity of small-scale aquaculture enterprises.

Country overview

Australia is providing support to activities in Myanmar that target immediate needs of the rural poor, to improve their livelihoods through better health, education, and food security. The main focus of ACIAR's program is to secure improvements in food security and rural incomes for smallholders through increased production and enhanced access to markets and services.

ACIAR's program works through government research agencies, international organisations and NGOs. Working with agencies with a longstanding presence on the ground has proved an effective and accountable means of delivering assistance. Promising results have been achieved in a multilateral ACIAR project led by the University of New England and involving the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) on improving the productivity of legumes in the central dry zone of Myanmar. The current program is based on the achievements of the research in this project, together with scoping missions to identify research gaps and needs.

Research achievements

The ACIAR project 'MYRice' sought to improve rice productivity through introducing better agronomy and modern rice varieties, and to improve post-harvest management of rice for better quality. The project also introduced rice farmers to pulse production during the dry season. In the 2015 wet season, 3507 kg of seed of six monsoon rice varieties were distributed to 142 farmers in Maubin and Daik Oo townships, and in the 2014–15 and 2015–16 dry seasons, 3087 kg of four summer rice varieties were distributed to 94 farmers (five female). As well, 4640 kg of seed of four green gram varieties and 1568 kg of seed of two black gram varieties were distributed to 158 farmers. Demonstrations of improved drying and storage of rice reduced yield losses by 10% and produced better quality grain for the market. Best practices post-harvest reduced physical losses by 10–13%. The project participants were also closely involved in developing Myanmar's rice strategy.

Fisheries development in Myanmar faces three clear constraints: the lack of a comprehensive information base on fisheries; the lack of proven management approaches and technologies; and, the limited technical capacity to implement fisheries projects. The MYFish project, supported by WorldFish, aimed to address these challenges and supported the emergence of small-scale aquaculture as an alternative source of fish for poorer households, as well as contributing to a better understanding of fishery management.

MYFish is housed within the Department of Fisheries as part of the strategy to build capacity. The work has led to the introduction of small indigenous fish into carp poly-culture systems, assessment of fish yields in modified rice fields, and cost-effective eel culture in homestead ponds. The results showed an average increase of 600 kg/ha/year or 40% in carp poly-culture systems; fish yields of 500 kg/ha/year in rice fields, and over 800 kg/ha/year or 40% for eel culture.

Land use evaluation in the Central Dry Zone of Myanmar

The Central Dry Zone (CDZ) of Myanmar is an area characterised by a short monsoon rainfall season followed by eight months of dry and low productivity soils – mostly hilly to gently undulating terrain with sandy soils and only a few areas of more productive clays in the valleys. The soils lack organic matter, are infertile and are generally acidic. This combined with low rainfall means that farming in the area is relatively unproductive and risky.

In 2015–16 ACIAR commenced a project on land use evaluation in the CDZ. It started with a pilot area in Pyawbwe township, about a two-hour drive north of Nay Pi Taw, the capital of Myanmar. The aim of the project is to better understand the variation and hence the constraints and opportunities of different soils and map these in detail. The project will then develop land-use planning guidelines with land management authorities and farmers and share those with government agencies and NGOs operating in the region.

Discussions with farmers revealed that they were aware of the different types of soils and their varied fertility. Farmers preferred to put fertiliser on their poor soils to boost yield rather than on their good soils. The project will investigate whether this intuitive approach is the best use of limited resources.

Irrigation with shallow groundwater has become increasingly common due to the low rainfall in recent years and the farmers' need to boost income. The groundwater is often saline and alkaline, leading to soil problems such as slaking and hard setting, and affecting the germination and growth of some crops like coriander.

Many of the soils are sandy and have low organic matter. This means their capacity to hold water and nutrients is low, and any fertiliser will be easily leached out. Also the soils are vulnerable to water absorption problems due to surface compaction, and on sloping land are also vulnerable to erosion. These problems have been exacerbated over time by tillage practices that destroy soil structure and organic matter.

In the CDZ very little fertiliser is used – often only farmyard manure is applied at low rates, however soil erosion is taking away topsoil and nutrients. This erosion is within the fields and is also leading to the formation of gullies in the landscape. The project will use modern terrain analysis techniques together with stratified random sampling to characterise the soils in the CDZ. Discussions with farmers in the field will help assess the constraints of various soils, and how they can be practically (affordably) addressed.

Land use evaluation in the Central Dry Zone of Myanmar. Photo: ACIAR.

Philippines

Highlights

- For the first time, scientists successfully re-established a breeding population of reef corals on a degraded reef system using mass larval settlement.
- Over 50 percent of pig mortalities in the Philippines are due to respiratory illness; researchers discovered that the wrong strain of pathogen was being targeted, and identification of the correct strain will help to gain more effective disease control.
- In western Mindanao, farmer livelihoods have noticeably improved through widespread adoption of new enterprises such as tree nurseries, vegetables, cacao and coconut, and uptake of new production and marketing technologies.

Country overview

The mountainous nature of the Philippines means there is relatively little new land suitable for expanding rice areas, and productivity growth in existing areas in recent years has been low. In addition, the population continues to grow at more than 2 percent per year. The Philippines is a net importer of rice, and while production of rice remains a dominant national priority, there is increasing pressure in the country to diversify and produce a range of other food, livestock and fisheries products, on increasingly marginal land in the uplands.

ACIAR support focuses on increasing productivity, marketability and international competitiveness of Philippine agricultural products, and a new priority from 2015–16 aimed at decreasing the adverse effects of climate change on the rural poor. Underpinning this improved competitiveness is the need to enhance agricultural productivity through more effective extension processes and greater responsiveness to market opportunities.

The lead priorities for the Philippines under ACIAR's medium-term research strategy (2012–16), endorsed in February 2016 are: increasing the market competitiveness of Philippine horticultural products; competitive and sustainable fisheries and aquaculture production; land and water resource management for profitable and sustainable agriculture; improving returns from low-input animal production systems; mitigating the adverse impacts of climate change on the rural poor; improving agricultural technology uptake by poor indigenous households in the southern Philippines, through understanding and remedying adoption constraints and extension. Undertaking the program involves engagement with a wide range of local 'next-user' partners (such as local government units, NGOs, commercial agribusiness companies and farmer community groups).

Research achievements

Coral communities and reef health are declining rapidly in most reef regions globally and particularly in southeast Asia where reefs are degraded or threatened. An ACIAR project is making excellent progress in developing the means to actively restore damaged coral communities and reef habitats using mass larval settlement. Major coral spawning periods were discovered enabling millions of coral larvae to be reared using low-cost methods. Monitoring of larval restoration outcomes reported in 2015–16 showed that degraded reefs demonstrated extraordinarily high survival and growth of juvenile Acropora branching corals, with 100% survival of colonies developing from settled larvae from age nine months to three years. Most colonies grew large enough within three years to become sexually reproductive and more than a million larvae were successfully reared from these spawning corals. This is the first time that a breeding population of reef corals has been successfully re-established on a degraded reef system using mass larval settlement.

In order to manage sloping land in the southern Philippines profitably and sustainably, watershed evaluation methodologies and participatory land-use planning have been devised and introduced in 2015–16 using rapid soil analysis techniques. The Philippines Bureau of Soil and Water Management is making use of these approaches to guide selection of the most appropriate land-use options.

Pigs are a vital farm animal in the Philippines. There are around 20 million sows, and 80–90 percent are owned by smallholders. Respiratory diseases are a chronic problem, causing about 50% of all pig mortalities in the Philippines. These diseases can usually be combatted through vaccination, but it is vital to target exactly the right strain of the disease organism. Research on pigs in the Philippines found that the vaccines did not have the correct specificity for the particular strain found there, and so vaccinations had been virtually useless. Identification of the correct strain will help to gain more effective disease control.

Smallholder farmers in the Philippines have always been vulnerable to extreme weather events and year-to-year climate variability. The Philippines Government developed disaster risk reduction and climate change adaptation strategies, however there are challenges in implementing these strategies in regions where farming takes place on coastal flood plains and erodible hillsides. Research in the ACIAR-funded project has helped to improve the exchange of information between the national weather agency PAGASA and key decision-makers involved in managing climate and weather risk for smallholders. The project's focus in 2015–16 was on developing climate-responsive strategies that farmers can adopt in the face of regular typhoons.

Improving the methods and impacts of agricultural extension in Western Mindanao

Years of ACIAR work in the Philippines has highlighted particular community-based extension methods that can rapidly enhance agricultural livelihoods. Extension methods involve farmer education to enable the application of scientific research and new knowledge to agricultural practice.

In 2015–16, these methods were put to the test in western Mindanao, which has long been a centre of conflict. Recent research had explored how conflict affects extension delivery, how improved extension methods could best be applied, and what agricultural livelihood improvements result from improved extension. These issues were assessed from social, technical and economic perspectives, at the farm and institutional (extension agency) level.

The extension model was applied at six case study sites. Studies of farmer nurseries showed that income was increased by 10–20% with a positive return on investment of 69–225%. Similar figures were indicated for vegetable enterprises. The impact is such that at one site, the previously widespread environmentally destructive practice of charcoal production – the former mainstay of farmer livelihoods – has almost completely ceased.

The four farmer groups created or facilitated by the project at the three initial case study sites were significantly strengthened through leadership training, strategic planning, and registration with the Department of Labour and Employment (DOLE). The strength of the groups was highlighted by the finding that all 31 members of one group, who participated and graduated from a Farmers Field School (FFS) on vegetables, went on to adopt a range of prescribed technical innovations. The farmer groups played an essential role in enabling farmers to access material inputs and technical services from the Philippine Coconut Authority (PCA), resources only available to farmer groups of 50 members or more.

Thailand

Highlights

- A regional project to build research capacity, diagnostic frameworks and organisational structures required the identification and management of plant health issues in Lao PDR, Cambodia and Thailand.

Country overview

In line with the Memorandum of Understanding signed in July 2007, ACIAR continues to foster opportunities for partnering with Thailand to support other countries in the region. Emphasis is placed on improving regional research programs, with particular attention to Cambodia, Lao PDR, Myanmar and Vietnam.

ACIAR's current program focuses on three issues: implementation of the results of earlier projects, with relevance to the poorest farming communities; implementing Mekong regional biosecurity systems; and regional partnership with Lao PDR, Cambodia and Vietnam to manage Mekong fisheries.

Australia and Thailand are active participants in a range of International Agricultural Research Centres (IARCs) and other multilateral research and assistance agencies, a number of which are located in Thailand. These centres will continue to provide a suitable platform to address wider regional research initiatives with both Australian and Thai involvement.

At all six case study sites, farmer livelihoods were noticeably improved through widespread adoption of new enterprises such as tree nurseries, vegetables, cacao and coconut, and uptake of new production and marketing technologies such as plastic mulch, trellising, water harvesting, drip irrigation, seed and budwood propagation, market exposure and village stalls.

Social capital studies identified growing trust between farmers as a result of project activities. Significantly, trust has grown between Muslim and Christian farmers and between indigenous and non-indigenous groups, confirming that the project process has potential for reducing tension and conflict across religious, cultural and ethnic barriers. The studies also identified the strong participation of women in project activities and confirmed the positive role women play in communication and negotiation when working to improve peace.

Marcelino Patindol, a farmer from Claveria in Northern Mindanao, is strongly involved in Landcare in the Philippines and sees it as a 'means to protect and care for the land. It is about protecting the land from erosion.' Photo: ACIAR.

Research achievements

Currently there is limited or no biosecurity system operating in Cambodia or Lao PDR, largely due to lack of local expertise, physical resources, organisational processes and communication networks. A strong capability in research and diagnostics is central to preventing incursions of exotic pests, and to also satisfying the sanitary and phytosanitary (SPS) conditions required in free-trade negotiations. An ACIAR-funded project is building research capacity, diagnostic frameworks and organisational structures required to identify and manage plant health issues in Lao PDR, Cambodia and Thailand. The project team has identified research tasks specific to each partner country, conducted training workshops on taxonomy and molecular biology, and engaged with scientists in diagnostic networks. This opportunity to focus on major vector-borne viruses and whitefly transmission, and to identify and prioritise country-specific pests and diseases took great steps forward in 2015–16. A central feature of the project is the development of a remote microscopy diagnostic network. A survey system based on Smartphone technologies is also being established – to improve the reporting, tracking and alerting of plant pests and diseases, and to engage rural communities in plant health networks.

Timor-Leste

Highlights

- Trials to control bruchid insect pests in stored mungbeans using a newly developed silica-based product showed that the mungbeans are protected from damage for up to eight months.
- A farmer told her story to the TimorAg 2016 conference, confirming that large benefits had come from the improved varieties of staple crops selected and tested in the Seeds of Life program.

Country overview

Australia is the largest development partner for Timor-Leste. ACIAR's research agenda supports the Timor-Leste Government's Strategic Development Plan 2011–30 through the following strategies: improving smallholder and community livelihoods through improved varieties of staple crops and legumes; improving productivity and resilience of livestock, fisheries and horticultural systems; improving individual and institutional R&D capacity in the Ministry of Agriculture and Fisheries and the University of Timor Lorosa'e.

Opportunities for ACIAR assistance in Timor-Leste lie in the food crops sector, where yields are low by regional standards. It is critical to make available improved varieties with higher yields than local varieties. Increasing the production and acceptability of legumes would also contribute to improving the poor nutrition of many Timorese, especially women and children.

Livestock production is almost totally managed by individual households, very few of which are specialist livestock raisers. Pigs and poultry survive largely by scavenging, while grazing animals rely on native pastures, crop margins and crop stubbles. Traditional management systems and poor market access mean that farmers rear too many animals for the available feed, resulting in low quality, unproductive animals.

Australia's longest running agricultural aid project in Timor-Leste comes to an end

The TimorAg2016 Conference held in Timor-Leste in April 2016 was a great celebration of the conclusion of the 16-year Seeds of Life (SoL) project. The theme for the conference was 'food security in Timor-Leste through crop production' and discussions were held around factors affecting crop production in Timor-Leste and the success technical advances have made to improving productivity. In collaboration with the DFAT and the Ministry of Agriculture and Fisheries of Timor-Leste (MAF), ACIAR played a key role in the SoL project, which worked towards a sustainable national seed system for Timor-Leste. The project improved food security through the introduction, testing and initial distribution to farmers of improved germplasm of the major food crops: sweetpotato; maize; cassava; peanuts, and irrigated rice.

The project received germplasm from various centres within the CGIAR: maize lines from CIMMYT, peanut lines from ICRISAT, sweetpotato from CIP, irrigated rice from IRRI, cassava from CIAT. After extensive trials and selections, the most promising material became available for on-farm demonstrations and trials to evaluate under farmers' field conditions.

The selected varieties were then multiplied by farms on contract for further distribution. Up to the end of SoL in mid-2016 the 19 varieties released had between 24 and 131 percent higher yields than commonly used local food crop varieties. These varieties not only produce more, they give farmers more choice over the types of crops they grow to eat or sell. MAF and its development partners have established the National Seed System so that sufficient quantities of high quality planting materials are produced each year.

While Timor-Leste is well endowed with marine fisheries resources, the country needs a coherent policy framework and fisheries investment strategy, as well as help to protect its fish stocks against illegal fishing by foreign fleets, and better integration of freshwater aquaculture with agriculture.

ACIAR is engaging with its partners in Timor-Leste to align its project investments as much as possible with TOMAK, the new agricultural livelihood investment by the Department of Foreign Affairs and Trade.

Research achievements

The Plant Biosecurity CRC (PBCRC) made a breakthrough discovery that certain silica products commercially manufactured to a high degree of purity have a high potential to control insect pests. Timor-Leste was selected as part of product development and ACIAR supported a first phase assessment of the potential of the new product to protect mungbeans from bruchid damage. Bruchids are small beetles (usually less than 1 cm long) that are key agricultural pests and capable of seriously damaging seeds. The trial in 2015–16 found that mungbeans were protected for up to 8 months. With no added protection, bruchids damaged 50% of the mungbeans within 3.5 months of storage.

A collaborative activity involving scientists from Indonesia and Timor-Leste seeks to introduce better forages and tree legumes for smallholder cattle. Following on from successful implementation in similar dryland areas in Indonesia, in 2015–16 the team established demonstration trials so that farmers could see that the cattle thrive on the alternative fodder. Farmers engaged in the trials were encouraged to establish tree legumes on their land. It is hoped that the benefits will soon become apparent and whole communities will seek to adopt tree legume-based feeding systems.

The story of local farmer Francisca Pinto exemplifies the progress made through the project. Francisca became involved with the SoL project in 2009, initially as an on-farm-demonstration-trial (OFDT) farmer testing sweetpotato and cassava varieties. She then became a Timor-Leste Ministry of Agriculture and Fisheries (MAF) contract grower of certified seed and is now an active member of a commercial seed producer group named 'Unidade Sameklot'.

Francisca spoke to TimorAg2016 conference participants about the direct impacts the project has had on her family and her life. They now have enough food to eat and enough corn to last them the whole year, sometimes they can't even sell it all! She and her family no longer get sick for no reason, and she has been able to fix up her house and cover the cost of education for her five children. She is also able to cover the cost of cultural ceremonies, which can be very expensive. She is just one of the 40,000 households who now benefit from growing the improved varieties.

Francisca in her Ai-Luka 2 production plots in Maliana. Photo: Felixberto Ximenes.

Vietnam

Highlights

- An ACIAR project with IRRI developed a better understanding of the implications of climate change for farming in the Mekong Delta.
- On the south central coast, use of new irrigation scheduling and application strategies demonstrated substantial improvements in water use efficiency, and led to marked increases in yield and quality of mango and peanuts.
- Oyster production continued to grow with increased community involvement and expansion of the processing and marketing sector.

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 persists and there are threats to sustaining the agricultural natural resource base. These are also opportunities to employ Australian agricultural technical skills to assist in development.

Over the next two decades, a relatively high percentage of Vietnam's population will continue to be in rural areas, and issues of rural poverty and structural adjustment will remain at the top of the policy agenda. Productivity on a land or labour basis is still low. The small scale of production on individual farms, fragmented land holdings and increases in input costs are significant problems, and also conceal huge potential. Ethnic minority groups and those in remote regions are particularly affected and the Vietnamese Government is providing greater focus on programs to assist these groups.

ACIAR's projects link with programs of DFAT and other donors working in these regions. These projects are increasingly multidisciplinary, and there is a growing focus on linking central research institutes with provincially based research and extension departments. ACIAR recognises the following key areas as medium-term research priorities: ensuring rice-based farming systems in the Mekong Delta build resilience to the negative impacts of climate change; optimising resource management for profitable and sustainable agricultural production in south-central coastal Vietnam; poverty reduction through market engagement for smallholder farmers in the north-western highlands; development of high-value plantation forestry products; developing higher-value aquaculture industries; and providing advice on climate-related impact and adaptation policy for future agriculture.

Research achievements

An ACIAR project with IRRI developed a better understanding of the implications of climate change for farming in the Mekong Delta, and developed several strategies to adapt rice-based systems to changes in water availability (drought and submergence) and salinity from sea-level rise. In plant breeding, the project developed high-yielding rice cultivars that are tolerant of single or combined stresses. Through participatory varietal selection with farmers, promising rice lines were identified and submitted for varietal release by the Vietnamese seed system. Traits include short growth duration, tolerance of submergence during the seedling stage, salinity-tolerance, and higher yield. These research outputs are contributing to the design of major investments in the Mekong Delta, such as the US$387 million World Bank Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project.

In the south central coast, the infertile sandy soils are very prone to drought. Use of irrigation scheduling and application strategies demonstrated substantial improvements in water use efficiency, and led to marked increases in the yield and quality of mango and peanuts in Binh Dinh province. This technology is being adopted as best management for mango by the provincial government agricultural extension agency: better scheduling and drip irrigation increased the yield of mango by approximately 26–32%, water saving increased by 86–90% and net profit by 42%.

Oyster production continues to grow in Vietnam, community involvement is increasing and the processing and marketing sector is expanding. Farming is spread across 28 provinces and production has been estimated to have reached 15,000 tonnes/year. Questions regarding the identity of species under production have been resolved through molecular technology developed by an ACIAR-funded project, that the species is the Portuguese oyster, *Crassostrea angulata*. The team identified broodstock populations and quantified their genetic variability to permit the establishment of a breeding program.

Achieving impact with agroforestry in North Western Vietnam

In the north-west of Vietnam, one of Vietnam's poorer regions comprising many ethnic groups, large areas of steep land are farmed to grow hybrid maize. Over the past decade many forests have been cleared and the current agricultural system results in substantial soil erosion. ACIAR is funding a five-year agroforestry project managed by the World Agroforestry Centre, and in 2015–16 reviewed its achievements to date.

The review found that collaborative research on the introduction of various agroforestry systems has led to substantial impacts in a relatively short period. For example, at Sonh Thinh in Văn Chấn District, a farmer collaborator, Mr Tien, has worked with researchers to establish an agroforestry trial involving late-fruiting longan, fodder grass and maize. Mr Tien indicated that after only 3 years he is already earning more from the agroforestry system than from mono-cropping of maize and he can see that the soil erosion has decreased significantly. He cuts the fodder grass every 45 days on a rotational basis and this increased availability of fodder has meant that he now has three cattle, whereas he only had one at the start of the trial. The grafted longans have some fruit on them in their third year and he expects that next year his income will increase significantly from the sale of fruit.

The overall yield of maize in the agroforestry system is not significantly different from the yield obtained in a mono-cropping system. As a result of this research collaboration, the Department of Agriculture and Regional Development in Yen Bai Province has introduced a scheme where they provide VND 1 million ($A59) per hectare for farmers to establish agroforestry systems. The reductions in soil loss are significant, from 36 tonnes per hectare in mono-cropping maize to 20 tonnes per hectare in the agroforestry system. The project scientists have estimated that the resulting reduction in loss of nitrogen, phosphorus and potassium is equivalent to a saving of US$250 per year for the farmer.

In another example Mr Bang, a farmer collaborator at Co Noi in Mai Son District, is trialling a complex agroforestry system involving plum trees (200 per hectare), coffee (2000 per hectare), soy beans, fodder grass and teak (300 per hectare). He indicated that by the second year he was earning VND 57 million per hectare compared to VND 20–24 million per hectare from mono-cropping maize, even without returns from the fruit or timber trees. The farmer also commented that with hybrid maize he had to purchase seed each year whereas with the agroforestry system he only needed inputs in the first year.

At the high elevation village of Toa Tinh in Tuần Giáo District, the farming households suffer significant losses of cattle during periods of snow. In March 2016 more than 10 cattle died during a significant snow event. Project staff from the Forest Science Centre of North Western Vietnam have been working with local farmer collaborators to introduce a fodder grass and Son Tra (the H'Mong apple) agroforestry system. The trials are utilising grafted Son Tra trees taken from 30 superior clones identified by the project. The farmers are very enthusiastic about this agroforestry system because the Son Tra has begun fruiting at age 2.5 years and they had sufficient fodder for their cattle to ensure that they did not die during snow storms.

Other communities also involved in the trials have shown significant benefits already. Overall, the future looks very bright for the expansion of agroforestry in north-western Vietnam, and ACIAR is currently working on the design of the second phase of this project.

Achieving impact with agroforestry in North Western Vietnam. Photo: Sally Ingleton.

SOUTH AND WEST ASIA

Afghanistan

ACIAR's collaboration with Afghanistan provides support to increase wheat and maize production. Activities include on-farm participatory testing of imported germplasm to identify better-adapted improved cultivars, and undertaking local multiplication and distribution of selected cultivars.

Bangladesh

The primary focus of ACIAR's program in Bangladesh is on eradicating extreme poverty through improved productivity of food grain crops and includes strong emphases on: conservation agriculture, farm mechanisation, saline land management and adaptation to climate change, with significant effort directed to rice-wheat and rice-maize systems. A second focus is on 'Rabi' (winter season) crops such as pulses.

Bhutan

In Bhutan, ACIAR has contributed to develop vaccines to Newcastle disease in village chickens, and other projects have helped manage fruit fly damage and footrot in ruminants. A major initiative to improve citrus production through pest and disease management is ongoing.

India

Collaboration with India includes projects to better manage water to improve livelihoods in the more marginal rain-fed areas of central India, and to develop policy to assist India with the implications of its transition from a highly regulated economy to a more open market economy. ACIAR adopted a regional approach to its work with India that involves neighbouring countries with shared issues and opportunities.

Nepal

The focus of ACIAR's collaboration with Nepal is to address poor farm productivity and help build capacity in agricultural institutions to improve the livelihoods of the rural poor. ACIAR recognises the different challenges presented in the lowland Terai rice-wheat farming systems compared with the mixed crop-livestock-tree farming systems of the hill and mountain areas.

Pakistan

ACIAR's long-term focus in Pakistan is to help increase livelihoods for the poor in rural areas by enhancing agricultural productivity and expanding their revenue streams. Projects implemented include water management practices, adding value to raw agricultural products and opening up access to markets for those goods.

Afghanistan

Highlights

- At the request of the Afghanistan Government, researchers tested and characterised the wheat genebank of locally-grown varieties.
- Farmer groups profited from the introduction of new varieties suited to their conditions and from training in how to tend and manage them.

Country overview

ACIAR's collaboration with Afghanistan started in 2002 and has focused support on wheat and maize production. Activity in Afghanistan continues through collaboration with CIMMYT and ICARDA. The operating environment is complex as a result of poor security and political uncertainty, which limits access by Australian scientists and hinders donor capacity for long-term planning. Strong efforts are underway to collaborate and coordinate with other implementing partners, including government and non-government organisations, grower and industry groups, and donor organisations.

Principal objectives were to import seed of suitable cultivars, establish on-farm participatory testing of imported germplasm for the identification of better adapted improved cultivars, and undertake local multiplication and distribution of selected cultivars. Particular attention has been paid to capacity building, improving rust resistance in wheat and promoting improved crop management, together with provision of improved cultivars of both wheat and maize.

From 2015–16, the country program had a new focus on crop and livestock intensification and better water management. The researchers fostered linkages between the improvement of wheat varieties and agronomy, the development of forages for small ruminants, and community-based watershed management.

Research achievements

In the quest for more sustainable wheat and maize production, the Australian-sponsored research continued to test and release suitable higher yielding varieties. In addition, the wheat genebank of locally-grown varieties has been tested and characterised following a request of the Afghanistan Government.

ACIAR funded an adaptive research project through ICARDA (with collaboration from ICRISAT) that sought to improve wheat-based farming systems by enhancing conservation practices, introducing new varieties suited to the environment, and demonstrating more efficient use of natural resources. Prior efforts in training and capacity building resulted in an effective team within the Ministry of Agriculture, Irrigation and Livestock to assist with the project activities. Five provinces were identified to evaluate dryland crop varieties. At the project site of Saiaad, an area has been terraced and more than 30,000 pistachio seedlings planted. In 2015–16, about 550 farmers/community members including 210 women received training making and maintaining terraces, tending and maintaining nurseries, and cultivating atriplex (salt bush). They also received training in the use of solar-powered water distribution installed to irrigate the plants during the hot summer months. As well, they learnt to record weather parameters from the weather station, to use sub-surface irrigation and to adopt good agricultural practices on growing mungbean, pistachio and atriplex.

Bangladesh

Highlights

- ACIAR sponsored the establishment of the International Mungbean Improvement Network, which, under the guidance of AVRDC, trialled large numbers of mungbean lines in countries including Bangladesh.
- High levels of interest in conservation agriculture in Bangladesh brought together 138 farmer associations in 2015–16 to form the *Bangladesh Conservation Agriculture Farmers and Service Providers Association*.

Country overview

ACIAR's focus in Bangladesh in the past has been on food grain crops, and its strategy addresses one of the country's key development challenges—food availability within the context of increasing climate-change vulnerability. Research activities are strongly related to agricultural food production. Bangladesh also faces the problem of inadequate nutrition, which is not limited to food availability but derives from multiple factors including: gendered consumption practices, international market variations and effectiveness of government structures.

With re-emerging concerns about Bangladesh's ability to maintain food security in the light of its high vulnerability to the impacts of climate change, ACIAR's emphasis has shifted towards a farming systems approach, supporting 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.

Working with ACIAR provides Bangladesh with the opportunity to also engage in a range of mutual interests with other countries in South Asia. For example, the effects of seasonal climate variability and climate change negatively impact low-lying areas and rainfed cropping systems in Bangladesh; Bangladesh is one of four partner countries involved in ACIAR's climate-change adaptation initiative.

Research achievements

A project to introduce short duration pulses into rice-based cropping systems in western Bangladesh is reaching its conclusion. In 2015–16 the project team distributed information to farmers about intensifying cropping with pulses in the dry season, growing lentils as a relay crop (where seed is broadcast into the rice crop two weeks before it is harvested). There was a good uptake of this relay process, and strong interest in growing vegetable peas as a short-duration crop between the main crops. A further advance was the introduction of a pilot lentil processing facility.

Mungbean is an important food and cash crop in Bangladesh and other rice-based systems of South and South East Asia. Under the auspices of the World Vegetable Center (AVRDC), ACIAR sponsored the establishment of the International Mungbean Improvement Network, collaborating with India, and Myanmar. Trials of large numbers of lines of mungbean derived from the AVRDC genebank commenced in 2015–16. Results are being collated and analysed collectively by the countries involved. All breeders are gaining access to more lines, and the Network has attracted interest in other countries. This marks the start of an expansion to bring other countries on board.

Another project sought to accelerate the adoption of conservation agriculture (CA) for selected soils, crops and cropping systems in Bangladesh, especially in rainfed areas and those with supplementary irrigation. Agriculture can benefit from cost-saving crop production technologies and sustainable resource management. One particular aspect of the project is the demonstration and acceptance of greater mechanisation of farming with the introduction of minimum tillage planters (read more in the box). Since July 2015, the project organised 28 farmer focus group discussion events, field days, farmer exchange visits, seminars, and travelling seminars. More than 1300 agricultural researchers and extension providers, machinery manufacturers and dealers, policy planners, financing organisations and donors participated in these events. The project signed Letters of Agreement with 138 Farmer Associations involving 7801 farmers (16 percent women) that work in nine north-north-west districts of Bangladesh to disseminate CA technologies and safe use of herbicides. These associations have now established the *Bangladesh Conservation Agriculture Farmers and Service Providers Association*.

Mr Rana rewarded from investment in a VMP

The nation-wide spread of two-wheel tractors and the development of the Versatile Multi-crop Planter (VMP), which is able to sow many crops, has provided a platform for implementing conservation agriculture (CA) that decreases crop production costs and improves the fertility of soils, while maintaining or improving yield. After Mr Rashed Rana saw the ACIAR-developed VMP in operation he decided to buy one for his 22-year old business, which provides tillage services with a two-wheel tractor at Kathalbaria village under Durgapur upazila in Rajshahi district.

He attended a meeting organised by the ACIAR project to learn more about VMP. With his own savings, money borrowed from relatives, and a loan from an NGO (BRAC) he accumulated Tk. 30,000, and purchased a VMP from Hoque Corporation with 50% price support from the project. After receiving three days training on VMP operation, repair, maintenance; and safe use of herbicide he gathered the farmers of his own village together and explained about the benefit of VMP planting and of CA.

Mr Rana started his VMP planting service business in mid-November 2015 and served about 160 farmers (41 ha) planting wheat, maize, mungbean, mustard, and preparing a field for unpuddled rice transplanting. Within a single season, he turned a net profit of Tk. 60,000 (A$1 091), paid back the loan, constructed a shed for his two-wheel tractor and VMP, and bought a milking cow.

VMP planting and CA technologies adopted by the farmers of his village produced higher crop yields and profit compared with their traditional system. And the demand for VMP is increasing. Mr Rana's success has motivated another farmer in his village to buy a VMP next year.

Rashed Rana operating his larger size VMP. Photo: Enamul Haque.

Bhutan

Highlights

- Bhutanese horticulture personnel and farmers learnt better management practices for the citrus industry, such as grafting, pruning, more targeted nutrition, irrigation application, and pest and disease control.

Country overview

ACIAR's strategy is to work closely with the Bhutanese Government, local industry and other donors to ensure that planned activities are appropriate, consistent with the most recent government 5-year plan and complementary to the work of other donor agencies.

Citrus is Bhutan's largest horticultural export industry. A major initiative to improve citrus production through improved planting material and integrated crop management saw three trial demonstration sites established in 2015–16. Work in other projects is focused on crop irrigation management, integrated crop management of vegetables (particularly chilli) and development of contract farming crops (e.g. walnut, grapes, asparagus, pomegranate).

The Bhutanese Government has identified crop irrigation management, integrated crop management of horticultural crops, and dairy sector development as priorities for future collaboration.

Research achievements

In 2015–16, a project to improve citrus production continued addressing some of the key issues identified in earlier projects. The overall impact of this project will be to provide Bhutan with a clean healthy source of citrus germplasm that can be used to produce grafted trees, which should form the basis of an improved citrus industry. Through capacity building activities, both Bhutanese horticulture personnel and farmers learnt better management practices such as grafting, pruning, more targeted nutrition, irrigation application and environmentally acceptable control methods for the key pests and diseases.

India

Highlights

- An ACIAR study highlighted potential strategies to help water-stressed farmers and communities build resilience to the challenges they confront through environmental variability and climatic uncertainty.
- A survey found that subsiding agricultural inputs encourages over-use and inadvertently promotes high greenhouse gas emission production activities and the wasteful use of energy.
- Organic urban waste was quantified as a potential rich source of composted material for agriculture.

Country overview

Australia and India face many similar agricultural and natural resource management problems and research challenges. ACIAR has supported a program of collaborative agricultural research with India since 1983. The large and well-developed national agricultural research system led by the Indian Council of Agricultural Research (ICAR) is a cornerstone of ACIAR's program, and has great potential to underpin cooperative activities in the region, such as the Rice-Wheat Consortium.

ACIAR's strategy for 2011–16 focused on joint partnerships with increasing co-investment by ICAR and other partners. Research themes reflect strong common interests and point to areas with potential for positive impacts at both field and national levels in both India and Australia.

ACIAR's research activities have been increasingly linked to the food security problems of other South Asian countries

and thus have a growing regional character, including the programs delivered in conjunction with CGIAR, state agricultural universities, NGOs, and autonomous and private-sector institutions active in the region. ACIAR will continue to work with India in a regional approach involving neighbouring countries with shared issues and opportunities.

Research achievements

In India, and elsewhere in the region, climatic and environmental stresses are putting extra burdens on small-farmer enterprises. An ACIAR study explored the key factors that affect farmers' decisions whether to take up entrepreneurial ventures and sought to understand how climate-change-related scarcity and shocks influence their decisions. Working in three water stressed districts in the states of Bihar and West Bengal, the project team devised a survey of households and businesses in rural towns and areas. They found that even as water scarcity in farming pushes households to seek alternative livelihood avenues, it also makes it harder for them to take up enterprises. This was confirmed through the finding that those who face significant water scarcity in the kharif season are less likely to start an enterprise. High water scarcity can adversely affect the capability of farmers to accumulate the significant capital needed for starting enterprises. The team concluded in 2015–16 that the focus on agriculture should not just be for improving crop incomes but also for allowing households to accumulate enough savings to be able to venture into more profitable livelihood options.

ACIAR has had a long-term commitment to helping India modernise its agricultural policy. In a recent project, collaborators sought to quantify the benefits from reforming India's agricultural subsidies, with benefits in the form of changed and more efficient production patterns and reductions in agriculture's greenhouse gas (GHG) emissions. In 2015–16, the project, in assessing the influence of policy settings on agricultural emissions, found that the Indian Government had been providing agricultural subsidies on inputs including seeds, fertilisers, power and water to meet its policy objectives. However, lower prices for these inputs had encouraged over-use and reduced efficiency, inadvertently encouraging high GHG emission production activities and the use of energy-intensive inputs. As well as these significant findings, the work substantially contributed to the opening of a high-level policy dialogue around how a subsidy reform pathway might be structured.

A project team explored the potential for diverting Indian (and Bangladeshi) urban organic waste into compost. Presently only a tiny fraction is composted, although successful working models do exist. The team found that while there is considerable scope for recycled organics in agriculture, a number of challenges would need to be overcome. They listed low quality of compost produced by waste processors, lack of enforcement of quality standards, and supply chain issues such as volume, transport and storage. However they recognised that unrecovered organic waste represents a vast river of resources that could be tapped into by farmers. The Study concluded in 2015–16 that the use of urban organic waste for livelihood improvement of rural and urban poor is worth further investigation and investment.

Nepal

Highlights

- An ACIAR project focused on gender equity to help women farmers heading households on drought-prone lands of the eastern Gangetic Plains.
- Ongoing assistance to restore community forestry and agroforestry village sites following the Nepal earthquakes of 2015.

Country overview

Agriculture in Nepal faces a variety of interdependent challenges that limit the improvement of farm household livelihoods, including - degrading resources, underdeveloped agricultural institutions and policies, and lack of productive technologies and mechanisation. These challenges take different shapes 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.

Research achievements

In the drought-prone lands of the eastern Gangetic Plains there has been a steady rise in the number of women-headed households. But there has been minimal recognition of the growing significance of women in this role. As part of the Sustainable and Resilient Farming Systems Intensification project – a collaborative undertaking of 20 partners receiving funding through ACIAR – in 2015–16 the project team drew up a gender strategy to ensure its activities help to empower women through farming improvements, policy innovation and access to training. The ideal is not to just include women but to actively target their needs through project activities. These efforts will help the women farmers in Nepal who have virtually no opportunity to reduce the drudgery of crop preparation through mechanised assistance.

The two major earthquakes that struck Nepal in April and May 2015 are widely regarded as the worst natural disasters there since 1934. Only one of the six ACIAR community forestry project sites was relatively unaffected. In 2015–16, the project team conducted an assessment of earthquake impact in the project sites and considered any adaptations that the project could support to facilitate a disaster response. For example, as timber is urgently needed for reconstruction efforts, activities facilitating the flow of timber from community forests and private farms could be given priority. ACIAR continues to give assistance to restoration of the project sites.

Working together for a better model of farming

The Eastern Gangetic Plains, which include the Nepal Terai, Bihar and West Bengal regions, is one of the most densely populated and poverty-stricken belts in South Asia. A project is improving the livelihoods for women, marginal and tenant farmers in the region through improved dry season irrigated agriculture.

Kanakpatti is a village in Khoksar Prabaha in the Saptari District of Nepal. The community has different ethnic groups, including a Dalit group who have no agricultural land and traditionally have depended on labour wages and firewood collection. A farmer group has formed within the Dalit community called the 'Gadhi Mai farmer group'; it comprises eight members – five men and three women. The group has leased 0.42 hectares of land and in 2015–16 its members were trained in crop production, water management and capacity/leadership development. They recently visited a project site in Madhubani, India where they 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 was installed, satisfying year-round irrigation. The farmers built furrows to improve irrigation efficiency, and installed flat hose pipe to deliver water efficiently to each plot. Additionally, a small solar pump was installed and irrigates 0.15 ha. The farmer group is producing vegetable crops throughout the year on previously barren land, and each member is contributing to a saving and credit scheme.

The local project team continues to work with the group to continue their training, with the aim of improving agriculture and water management practices and supporting 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. These farmers are also being supported to grow high-value crops that could maximise their income and reduce their dependency on traditional occupations.

Women sort through wheat in rural Nepal. Photo: Conor Ashleigh.

Pakistan

Highlights

- Superior management of new pest- and disease-free lines of mango raise the prospect of increased yields and quality.
- Farmers learnt to grow their own forages, and research demonstrated very significant seed yields of fodder legumes from more effective pollination by bees.
- Development of a new line of mandarin extends the harvest season. These desirable trees are being raised and supplied through rapid budwood propagation.

Country overview

Pakistan is at the heart of a regional market with a large population, diverse resources and untapped potential for trade. However, the country faces a considerable number of development challenges. One challenge is the increasing pressure on availability of water resources for irrigation, due to competing demands for urban and industrial uses. Often the water available is saline, largely because of poor irrigation management practices combined with poor drainage and soil management. High-value horticultural crops such as citrus and mangoes for both domestic and export markets are an important source of farm income; however, crop management practices are often suboptimal and losses along the value chain are high. Cereal productivity is lower than in equivalent environments elsewhere in South Asia, and there is also unrealised potential for smallholder diversification. Pakistan is one of the world's largest milk producers, with slightly less than half of that production from dairy cattle. Unit animal production is very low, although genetic potential is quite good.

ACIAR's strategy in Pakistan is to work closely with the Pakistan Government, Australian agencies, other donor partners, NGOs and the Pakistani private sector – providing research, development and technical capacity building, technical support and carefully targeted interventions to underpin Pakistan's development programs. Poverty reduction, linking smallholders to markets and gender equality are major issues for development programs in Pakistan, and are key considerations for the ACIAR strategy. Australia is well placed to assist Pakistan in addressing irrigation, drainage and salinity management in major cropping systems, and this is an important focus of the program.

A new co-investment strategy, adopted in 2015–16, between ACIAR and DFAT, the Agriculture Value Chain Collaborative Research Program (AVCCR), closely aligns with the previous two phases of the Australia-Pakistan Agriculture Sector Linkages Program (ASLP). AVCCR is intended to focus more strongly on collaboration and research in selected agricultural value chains. The rural poor, particularly women, will significantly benefit from improvements in these strategic value chains. AVCCR will continue to involve private sector engagement in new and innovative partnerships and collaborations.

Research achievements

Mango producers in Pakistan had to contend with a range of pests and diseases that adversely affected the trees' productivity. Researchers found that the problems started in the nursery and were compounded by neglectful or inappropriate management of most orchards. A concerted effort in 2015–16 resulted in the establishment of well-managed, dedicated mango nurseries. Almost all the young trees raised in the nurseries survived planting into the field, sent down a strong root system and quickly started to bear good quality fruit.

Pakistan's nine million smallholder dairy farmers need reliable access to good quality green forage. The demand for seed from desirable varieties has skyrocketed, but the supply system can only meet

about 20 percent of their needs. A project led by Charles Sturt University used a participatory approach to help farmers and their communities establish their own forage seed enterprises. Output of clover seed has been augmented by the introduction of honey bees, whose numbers have declined through the overuse of neonicotinoid pesticides. Results from a John Allwright Fellowship PhD study demonstrated significantly increased seed yields from more effective pollination by bees under a netting system. The seed yield of desirable berseem clover increased 113 percent – an indication of the shortage of bees naturally present in the field trial environment.

Pakistan is an important global producer of citrus, particularly the high-yielding hybrid mandarin known as Kinnow. ACIAR funding facilitated a project that identified the key issues affecting the income earning potential of citrus orchards. As a result, the project introduced new lines of mandarin that extend the harvest season. In addition, the trees benefit from more efficient furrow irrigation, and a trial showed the advantages of a quality payment system for fruit. The project taught the techniques of vegetative multiplying through budwood to produce large numbers of healthy plants of lines desirable to growers. Women, in particular, have gained from learning more about the skills of budding and propagating high-quality citrus trees.

Extreme temperatures in summer frequently challenge vegetable growers in Pakistan. An ACIAR project screened genetic resources of okra and tomato from around the world, looking for lines that exhibit high levels of heat tolerance. Trials identified one particular line of tomato that kept fruiting despite the extreme heat at all four testing sites. The researchers hope to incorporate the heat-resistant qualities into local breeding programs, and overcome less desirable qualities such as the small size of the tomatoes from this line.

Milking more profits for farmers in Pakistan

Pakistan is the fifth largest producer of milk in the world, and that production comes from 9 million smallholder dairy farms. Typically, a household will own 2–4 dairy cattle and each of those might produce around 5 litres of milk per day (compared with 20 litres/day for cows in Australia). Male calves from these farms are usually left to fend for themselves, with very high mortality. Demand for milk and meat in Pakistan is increasing rapidly, creating market opportunities for poor households if production and marketing constraints can be overcome.

In October 2015 a dairy research and development program under the Australian-funded Agriculture Sector Linkages Program showcased the significant improvements in dairy production and marketing that are possible in Pakistan. Through action research with women and men farmers in 56 villages and 12 schools, the program evaluated 20 management improvements. Of these, seven were shown to have high potential to improve milk and meat productivity for smallholder farmers. The research found that with only simple changes in cow management, the weight gain of calves increased five-fold, reaching 350+ grams/day, and mortality was reduced to less than 5 percent. Milk productivity also increased by over 20 percent.

An event in Lahore was held to engage farmers and used innovative approaches such as drama, films and exhibition booths. It showcased the methodologies, impacts and knowledge generated by the research project. Groups of participants rotated through the booths, chatting with researchers and farmers about different approaches to empowering women, raising milk production and accessing markets, calf rearing, village-based fodder seed enterprises and the process of developing extension materials.

Milking more profits for farmers in Pakistan. Photo: ACIAR.

EASTERN AND SOUTHERN AFRICA

ACIAR-supported research in Africa tackles both technological and market/policy challenges covering soil, water, crops, horticulture, livestock, trees and aquaculture. It also recognises the important role of decision making in production and value chains. This broad systems approach integrates production management, improved varieties and breeds, input, policy and market chains (with agribusiness a dominant actor).

Highlights

- In Ethiopia in 2015–16, two-wheeled tractors were introduced and substantially reduced the time of field preparation from 100 hours per hectare to less than 10, and also increased yields by an average 60 percent.
- Since the introduction of community vaccinators to vaccinate chickens against Newcastle disease in Tanzania, local traders have reported in an increase in numbers of chickens for sale.
- The introduction of the Chameleon water sensor to farmer irrigators in Zimbabwe has led to more equitable distribution of water and, in turn, brought greater harmony to the village.

Regional overview

The region encompassing eastern and southern Africa is the most food-insecure in the world, with approximately one in four people suffering from chronic hunger. Low food crop productivity, rising food prices, increasing fuel costs, climate change and deteriorating agricultural research capacity have worsened food and nutrition security outcomes.

ACIAR's focus countries in the region are Botswana, Burundi, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, South Africa, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe. ACIAR research currently addresses the following aspects of sustainable agricultural development and food security knowledge: water management in rainfed and irrigated systems; improvement of food crops; cropping systems resilience and management, including conservation agriculture; ruminant and poultry disease management, and production; fisheries management; agroforestry systems; and grain, livestock and forestry value chains, especially improved smallholder access to input and produce markets.

Building on Australia's expertise in dryland farming systems management, ACIAR's projects involve: livestock and cropping systems for disadvantaged farmers in Botswana, South Africa and Zimbabwe; maize-legume intensification in Malawi and Mozambique; and water security in South Africa, Zimbabwe and Mozambique.

Botswana, Rwanda, Uganda and South Sudan are benefiting from organised spillovers of the results of sustainable intensification research. ACIAR is aligning its work in the region with the Australian Aid Investment Plan's Objective 2, to 'enhance agriculture's contribution to sustainable and inclusive economic growth and food security'.

Research achievements

In Botswana, studies funded through ILRI identified the factors affecting profit efficiency among smallholder beef producers. The findings indicated that local cattle perform well as long as they are properly fed and husbanded. Work in 2015–16 targeted ways to improve nutrition, husbandry and health and to develop the market value chain for beef. Future research is proposed for goat productivity and production, to help the poorest people who can't raise cattle. Goat meat is more highly desired than beef, and illegal trade in beasts is spreading disease.

In Ethiopia, a project partnership between the Ethiopian Institute of Agricultural Research (EIAR) and CIMMYT tested the use of two-wheeled tractors (2WTs) for direct seeding of wheat. ACIAR supported the work through the Farm Power and Conservation Agriculture for Sustainable Intensification (FACASI) project, and the United States Agency for International Development (USAID) supported the project through the Africa Research in Sustainable Intensification for the Next Generation (RISING) project. During the last growing season in 2015, the technology was tested on-station and in several farmers' fields in five highland sites across the country. The research team found that the technology reduced the time needed to establish a wheat crop by a factor of more than 10 (from about 100 hours per hectare to less than 10) using only 10 to 15 litres of fuel per hectare. In addition, yield was consistently higher – about 60%, on average – than when using the traditional crop establishment method.

In Tanzania and Zambia in 2015–16 there was a focus on village poultry production and women's crops. The work took place in poor remote areas with a tough climate. In Tanzania, women were trained as community vaccinators to protect chickens from the devastating Newcastle disease. Since the introduction of the vaccinators, local traders reported an increase in the numbers of chickens for sale. Improvement in availability of chickens and eggs is also leading to better maternal and child health. In Zambia, the project team is gathering a large data set of information about the secondary crops that are grown in villages that could be incorporated into a poultry-crop model suited to women's activities. For the first time, the identity of locally grown village crops are known to researchers, and their growth needs and nutritional characteristics can be analysed.

Surprising but gratifying outcomes from an irrigation project

It wasn't exactly what the project team had in mind when they rolled out the water sensor known as the Chameleon to small-scale farmers across Southern Africa. The tool was intended to help farmers know how much water is available in the soil so they can manage irrigation and improve yield. But when reports emerged that in Zimbabwe the Chameleon was resolving conflicts between farmers, the project team was puzzled.

Sitting in a tiny hut in Kiwere, a group of happy farmers declared that since the Chameleon came into the scheme, conflict among farmers had reduced and there is more harmony in the scheme. The issue, in this communal setting, was that irrigation times are allocated to farmers depending on their location in the scheme. In the past, farmers who had already irrigated often felt a need to divert water into their plots during the times that others should be irrigating because they were unsure whether their irrigation was sufficient. This often caused conflicts and tension among farmers.

But now with the Chameleon, farmers see that soils are sufficiently wet after irrigation and there is no need to brawl for more water. Moreover, because farmers are beginning to skip irrigations, they are able to use the saved time to attend to other family needs. Irrigation could take up to eight hours of hard labour, so the saved time and labour when irrigation is skipped is a precious new resource.

One farmer observed that after the introduction of the Chameleon, his wife now has more time to take care of the family and children. Another farmer proudly announced that because he skipped irrigation he used the saved time to fetch water for his wife for household chores. One woman observed a reduction of tension in the home because, with the improved yield and income as a result of better management of irrigation, school fees can be paid and the house repaired.

These results were not those originally envisaged by the project team from introducing the Chameleon, but they provide a good example of the complex impact of apparently simple interventions.

Suprising but gratifying outcomes from an irrigation prokect. Photo: Evan Christen.

IN THE NATIONAL INTEREST

Research that also benefits Australia

Overview

ACIAR's primary role and mission are to help developing countries reduce poverty and achieve sustainable development through international agricultural research partnerships. Projects funded by the Centre address problems of interest and benefit to developing countries and Australia, in fields in which Australia, or international agricultural research centres, have comparative advantage. From the outset, ACIAR has focused on supporting collaborative research where Australian scientists and their developing-country counterparts work together on mutual problems in agriculture, forestry and fisheries.

The intersection of mutual problems and Australia's comparative advantage results in some projects delivering benefits to both partner countries and Australia. Many of these benefits relate to capacity building, creating opportunities for Australian scientists.

Independent analyses have shown that, as well as returns to partner countries from the research being very high, Australia also benefits substantially from the research.

Research achievements

An economic analysis released in October 2015 by ABARES concluded that FMD is Australia's biggest biosecurity risk, and that a large outbreak of FMD in Australia could cost more that $50 billion over 10 years. Just to Australia's north, in South East Asia, FMD is a major production- and trade-limiting disease. Ongoing research into FMD in that region, supported by ACIAR, has the primary focus of reducing and eliminating the disease, but it is also an important strategy in reducing the risk of a FMD catastrophe in Australia.

A project to actively restore damaged coral reef habitats has re-established a breeding population of reef corals on a degraded reef system in the Philippines using newly designed mass rearing and settlement enclosures. These results, presented at international scientific conferences, are now influencing the design and development of new projects on restoring degraded coral reefs in other parts of the world. This work has obviously profound implications for future work in restoration of the Great Barrier Reef.

Building on the success of earlier ACIAR programs, the oyster industry in Vietnam continues to grow and expand. In complementary studies in Australia, the development of improved molecular tools for the assessment of genetic diversity in Sydney rock oysters led to significant changes in the Sydney rock oyster breeding program. An archive of flat oyster samples collected from across NSW was processed and provided a greater insight into reproductive behaviour in the species, while routine monitoring of pipi populations discovered a previously unknown parasite (fish blood fluke) in the gonad, prompting work to quantify the prevalence of the parasite and gain an understanding of its potential impact on pipi ecology.

Australian research on capsicum root system improvement narrowed the suite of elite rootstocks to about 3–4 lines that infer greater productivity of capsicum crops. Further studies on these rootstocks in glasshouse conditions, grown in soil and solution culture, indicated that the beneficial effect of these elite rootstocks is related to field stress tolerance.

Australian research has shown that different forms of nitrogen (ammonium, nitrate and urea) have differential effects on crop growth that appears to be species related. The researchers found that yield reductions from the less effective forms of nitrogen can be in the order of 15 percent, and importantly, also reduce vegetable product quality. Researchers are now working to identify the mechanism responsible. The nitrate form, though more expensive than most ammonium fertilisers, provides higher yield responses – an important outcome for vegetable farmers in Australia and partner countries.

New partnership approach to developing durable engineered wood products in PNG and Australia

A project initiated in 2015–16 is presenting the opportunity for a new approach to research in developing countries. The project team and PNG authorities are working directly with private sector businesses to develop engineered wood products, improving the capacity, skills and knowledge within this important industry.

In addition, the team is working directly with a cluster of Australian processors on development of new durable engineered wood products. The overall aim of the project is to work with the private sector to accelerate the development of novel engineered wood products in both PNG and Australia.

From the outset, the project has also focused on the role of women in the timber industries of PNG and Australia. In particular, it is examining the potential for an expanded engineered wood products sector to create greater employment opportunities and other benefits for women. The project is building on momentum from previous research efforts by providing research, expert technical support and training in the development of more sophisticated processes and prototype products.

GLOBAL PROGRAM

ACIAR's key global research partner is the CGIAR, a global partnership of fifteen international research centres dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources and ecosystem services. Its research is carried out in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector.

ACIAR's global program provides Australian government funding to the CGIAR (approximately 30% of ACIAR's research budget) and to other non-CGIAR international agricultural research centres (IARCs). The non-CGIAR IARCs funded by ACIAR include CABI, the World Vegetable Center (AVRDC), the Asia Pacific Association of Agricultural Research Institutions (APAARI), and the Pacific Community (SPC).

ACIAR's global program also provides contributions, including reporting, to various multilateral bodies including the G20, UN Food and Agriculture Organisation (UN FAO), World Trade Organisation (WTO) and the UN Sustainable Development Goals (SDGs).

Highlights

- In 2016 CGIAR adopted a new charter, including a new governance structure and six-year, integrated research portfolio, intended to ensure its unique contributions of delivering climate-smart, nutrition-sensitive and pro-poor agricultural innovations will continue to address global food security, human health and climate challenges.
- In the Trees for Food Security Project in Eastern Africa, collaborative modelling work was undertaken to incorporate tree-crop interactions into CSIRO's next generation version of APSIM (APSIM X) modelling platform.
- WorldFish working with the MYFish project in Myanmar, seeking to identify strategies that increase the welfare and livelihood value of fish.
- The World Agroforestry Centre (ICRAF) made significant strides in developing agroforestry to improve the livelihoods and food and nutrition security of small-holder farmers in north-western Vietnam, Ethiopia, Uganda, Burundi and Rwanda.

Overview

With food demand set to rise by at least 20 percent globally over the next 15 years, international agricultural research for development is critical for meeting the global food security, human health and climate challenges, by delivering new agricultural technologies that are climate-smart, nutrition-sensitive and pro-poor.

ACIAR's strategic contributions to the CGIAR contributed to the development of the new Strategy and Results Framework 2016-2030 (SRF, see http://www.cgiar.org/our-strategy/) that underpins a USD1 billion/year science and technology program for delivering global public goods to actively address these challenges.

The CGIAR reform process was initiated in 2008, and 2015-16 saw a new CGIAR, with a more effective governance structure implemented from July 2016. ACIAR actively participated in the reform activities through its membership on the Fund Council and subsequent System Council, Donors and Centres Working Group and Fund Effectiveness Working Group. The new CGIAR System Council approved a new six-year targeted research portfolio to boost poor farmer incomes, food availability and resilience in the face of climate change,

comprised of 11 CGIAR Research Programs (CRPs) and three research Platforms to start in January 2017.

ACIAR ensured the quality of Australia's contributions to CGIAR by leading a coordinated Australian engagement, primarily through the CGIAR Australian Leadership Group (CALG) comprised of Australian CGIAR Board Chairs and members and the International Agricultural Coordination Group (IACG) represented by DAWR, DFAT, CSIRO, Austrade and ACIAR.

As a significant donor, ACIAR has a seat on the new System Council, is a member of various Working Groups, and participates in and supports activities of the Independent Science and Partnership Council (ISPC), including participation at the 2016 Science Forum, and Independent Evaluation Arrangement (IEA).

Achievements

In addition to providing core funding to the CRPs, ACIAR also supports over 30 multilateral projects led by CGIAR centres. These projects contribute to the CRP research and to delivering outcomes under the CGIAR SRF, and are documented throughout the country reports.

Australia invested substantially in the SIMLESA project, led by CIMMYT, to improve cereal and legume productivity and introduce conservation agriculture to a number of countries in Africa.

The World Agroforestry Centre (ICRAF) successfully developed and trialled agroforestry practices to improve the livelihoods of small-farmers in north-western Vietnam well as the east African countries of Ethiopia, Uganda, Rwanda and Burundi.

In the Trees for Food Security Project in Eastern Africa, collaborative modelling work incorporated tree-crop interactions into the next generation of the CSIRO's modelling platform, APSIM X, modelling tree-crop agroforestry systems. The model includes data for wheat, maize and potato crops and *Gliricidia* and *Grevillea* trees. For the first time there will be a widely accepted model that can predict the impacts of agroforestry systems at the landscape level, an issue that has previously limited the funding of large scale agroforestry programs through donors such as the Bill and Melinda Gates Foundation.

The Eastern Gangetic Plains pass through India, Bangladesh and Nepal. CIMMYT leads a project seeking to determine whether farm management practices based on conservation agriculture and the efficient use of water resources would provide a basis for increasing smallholder crop productivity and resilience.

In Asia, WorldFish is working with organisations in many countries to assess the relative contribution of fisheries to human welfare, with a focus on poor and vulnerable social groups. The MYFish project in Myanmar supports small-scale aquaculture as an alternative source of fish for poorer households.

In eastern Africa, the AVRDC has successfully developed 'Best Practice Hubs' to demonstrate crop trials, post-harvest handling techniques and other interventions for improving nutrition and livelihoods through vegetable farming in peri-urban areas. These hubs serve as an educational base for vegetable farmers (including many young farmers). They also attracted traders, breeders and the wider public, and provided training in home economics aspects, to increase indigenous vegetable consumption.

Making a difference in a year

The Trees for Food Security project is the largest and one of the most successful projects in the ACIAR forestry program. It has activities in four countries in East Africa: Ethiopia, Rwanda, Uganda and Burundi.

The project generated some substantial scientific, social and economic impacts, including the development of the tree-crop interaction model for the Agricultural Production Systems Simulator (APSIM) innovation platform and interactions with over 23,000 farmers to date.

In the Karago Rural Resource Centre, located in the high altitude sub-humid zone in the Gishwati region of Rwanda, 36 women and 37 men are involved in training and nursery facilities. To date, six train the trainer courses have been conducted and 142 farmers and extension staff have been trained. The nursery produced 145,000 seedlings in 2015, worth RWF 4.36 million (AUD $8000). This included 24,000 tree tomato seedlings (an initiative following the mid-term review).

One of the women involved in the Karago RRC, Ms Mukarugwiza Clemence, has established 100 tree tomatoes and has able to harvest 15-20kg of tamarillos from each plant, which sell for RWF 500/kg. She proudly tells all that she has used the earnings from the first year to establish a bank account and take out health insurance for her family.

In Uganda, a seedling nursery, managed by a local women's group – the Elgon Trust Women Group –raised 12,000 seedlings for the 2016 planting season. Ms Mesuya Caroline, who manages the nursery, says that the 18 women in the group use the funds they raise from the nursery to pay for school fees for their children. They have established different prices for different seedlings (including grafted fruit trees) and don't have any problem selling all the seedlings they produce.

Elgon Trust women's group nursery members. Photo: Tony Bartlett.

BUILDING RESEARCH CAPACITY

Overview

Building capacity in our partner countries' agricultural research institutes by providing discipline-specific and broader training opportunities is one of ACIAR's key priorities. ACIAR maintained the number of its postgraduate awards (known as the John Allwright Fellowships), with co-funding from DFAT. These fellowships, along with the John Dillon Fellowships, now come under the Australia Awards program. Australia Awards not only develop skills and knowledge but also build enduring people-to-people links between Australia, our regional neighbours and the broader international community.

Specialised training activities provided through postgraduate and research management fellowships are the focus of ACIAR's training program. A small number of short courses that target specific cross-program issues are also included.

Research capacity of partner country institutions is enhanced through targeting individuals involved in ACIAR projects. These projects are managed by individual research programs, and Fellows receive on-the-job training and may visit Australia for a specific training course. Australian specialists also visit partner countries to present technical training programs.

The ACIAR training program includes the following:

- postgraduate training, through the John Allwright Fellowship, are for postgraduate study in Australia associated with specific ACIAR projects
- support for small in-country research projects, or travel to an international conference to present results of postgraduate research, for Fellowship returnees
- training in research management (John Dillon Memorial Fellowships)
- events funding: provision of financial assistance to organisations or individuals wishing to conduct or attend an event that directly benefits international agricultural research. The aim is to develop the knowledge, skills and capacity required to achieve the mandate of ACIAR and build productive partnerships to benefit the effectiveness of international agricultural research. ACIAR places a high priority on the dissemination and communication of knowledge gained from the financial assistance.

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. Thus 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.

Fellows may be able to spend up to half their research project period on fieldwork in their home country. This enables them to ensure that their postgraduate research

work is relevant to the project and their home country's needs. It also allows them to maintain their professional and personal networks.

The size of this fellowship scheme has increased significantly over recent years, in recognition of the capacity-building benefits provided to partner countries and the impact on regional relationships. During 2015–16 there were 105 active fellowships at Australian universities.

Returnee small project awards

Grants up to $10 000 are available for John Allwright Fellows, in-country, once they have completed their postgraduate studies and returned home to relevant employment. The grants provide for a postgraduate activity that continues the research done within an ACIAR project, or is related to it. These awards are primarily aimed at developing projects in the returnee's institution, and may catalyse longer-term support. Five were awarded in 2015–16.

John Dillon Memorial Fellowships

The John Dillon Fellowships provide an opportunity for outstanding mid-career agricultural scientists and economists to further develop their careers in Australia. The fellowship program aims to develop the leadership skills of Fellows from ACIAR partner countries in agricultural research management, agricultural policy and/or extension technologies through exposure to Australian agriculture across a range of best practice organisations. Since the program's inception in 2002, ACIAR has awarded 114 Fellowships. A group of 10 Fellows (from Cambodia, Indonesia, Myanmar, Pakistan, Papua New Guinea, Vietnam) visited Australia for a 5–6-week period in February–March 2016. The Minister for Foreign Affairs and Trade, the Hon. Julie Bishop presented each visiting Fellow with a plaque at Parliament House, Canberra. This was a highlight of the visit, and the Fellows also appreciated the networking opportunity and cooperation from all host organisations.

John Allwright and John Dillon Alumni Association

The Alumni Association of ACIAR maintains linkages with all those who have received support through the John Allwright or John Dillon Fellowship programs. Alumni stay involved with ACIAR through various activities, such as playing key roles in ACIAR's partner organisations and projects, or in delivering ACIAR-sponsored training courses and impact assessment activities in partner countries. All Alumni members also receive copies of ACIAR technical publications and newsletters.

Australian Volunteers for International Development

ACIAR has successfully assigned almost 90 Youth Ambassadors in the former Australian Youth Ambassadors for Development scheme since 2000. This scheme gives young Australians the opportunity to spend 3–12 months in a partner country assisting with a development activity. During 2015–16 Youth Ambassadors and Volunteers were associated with ACIAR projects in Bangladesh, Indonesia, Kenya, Papua New Guinea, Lao PDR, Timor-Leste, Solomon Islands and Vietnam.

Crawford Fund fellowships, training courses and master classes

The Crawford Fund is a non-profit non-government organisation that works to raise awareness of the benefits to Australia and developing countries from international agricultural research, commissions studies on research policy and practice, and arranges specialist training activities for developing country scientists.
See https://www.crawfordfund.org/

Total funding to the Crawford Fund for 2015–16 included an Australian Government allocation (through ACIAR) of $934 000 and $16 500 from ACIAR for joint training activities and $49 610 to support Researchers in Agriculture for International Development (RAID).

In 2015–16, the Crawford Fund conducted short training activities associated with ACIAR projects, as well as two Master Classes, one in Vietnam on Agribusiness Research Methods and the second in Australia for researchers from developing countries on Adaptation to Drought.

Support was also provided to developing-country scientists for short-term placements in Australia for technical training. The Crawford Fund sponsored activities in 2015–16 for scientists directly associated with ACIAR projects.

COMMUNICATING RESEARCH RESULTS

Overview

ACIAR has a responsibility to communicate and promote the results of the research and agricultural aid for development work that we support on behalf of the Australian Government. We have some great stories to tell; stories that illustrate and make tangible what we do and why; stories that share the impacts and outcomes of project partnerships, define our identity as an agency, galvanise support, promote discussion, and create opportunity; stories that need to be told in ways that suite our audience.

The ACIAR Communications and Stakeholder Engagement (C&SE) team is responsible for a matrix of communications activities and employs a range of methods to communicate with key stakeholders and the general public. The team's focus includes scientific and corporate publications (print and online), government and corporate relations, events, stakeholder engagement, media engagement (including monitoring), and social media. The production and publication of our flagship magazine, Partners in research for development, is also an important aspect of the C&SE team's work.

Throughout 2015–16, ACIAR was actively involved in a number of conferences, workshops, seminars and capacity building events that benefit the agency, our stakeholders and help to communicate scientific and development aid achievements. C&SE contributes to this by hosting and coordinating events, producing and distributing communications materials, publicity and media coordination, and providing logistical support.

Capacity building in all its forms is a high priority for ACIAR. One of the roles undertaken by the C&SE team is to support ACIAR's John Dillon Fellows (JD) and John Allwright Fellows (JAF). In addition to providing the JDs and JAFs with communications support while in Australia, the C&SE team worked closely with DFAT to establish the Global Alumni https://globalalumni.gov.au/, a hub that brings together alumni from across Australian Government portfolios, including the John Dillon and John Allright Fellows.

ACIAR's website http://aciar.gov.au is the primary tool for sharing information on projects and outcomes. It is also the hub for the agency's extensive online and print publishing program. Free digital downloads of all ACIAR publications and an online ordering system for print copies are available on the website. In 2015–16 ACIAR published 27 scientific and corporate titles, 35 Final Reports, three issues of Partners magazine and a number of small publications (reports, factsheets and information briefs).

The website is also a vital point of engagement for our official social media channels (Facebook, Twitter, Blogspot, Youtube and Instagram), allowing us to link research, program and project content with a variety of social media activities, drawing audiences to the website as the "one source of truth" for information related to ACIAR.

In 2015 -16 it become increasingly apparent that our digital infrastructure was in need of an upgrade so that the agency could continue to provide high level communications into the future. Based on stakeholder mapping and a review of

engagement needs conducted by Sefton and Associates in 2015, and an extensive 'discovery' workshop to identify our online requirements undertaken with digital engagement specialist Acquia in 2016, as well as ongoing consultation within the agency, a commitment was made to improve ACIAR's online presence. Key to this commitment was a website upgrade.

The ACIAR website sits at the heart of our digital infrastructure and content creation capability. ACIAR requires a dynamic, responsive and flexible digital communications platform; one that enables us to engage a broad cross-section of stakeholders ranging from subsistence farmers in the developing world through to government ministers and business leaders. With this in mind, considerable work has been undertaken to assess and update our strategies, policies, procedures and staffing arrangements to best support a strong digital focus.

ACIAR Social media channels

https://www.facebook.com/ACIARAustralia/

https://twitter.com/ACIARAustralia

http://aciarblog.blogspot.com.au/

https://www.youtube.com/user/ACIARprojects/videos

https://www.instagram.com/aciaraustralia/

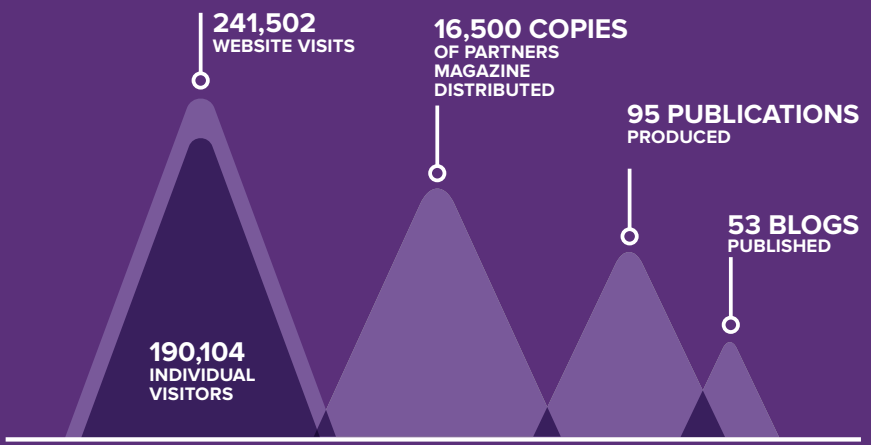
Subscribe to our RSS feeds. Get alerts on the latest news and publications as they're released.

SOCIAL MEDIA

303 TWEETS

842 NEW TWITTER FOLLOWERS

875 NEW FACEBOOK FOLLOWERS



340 PROJECTS

MEASURING RESEARCH IMPACTS

Overview

The Impact Assessment Program measures the difference ACIAR's investment makes to research capabilities and the economic wellbeing of our target groups in our partner countries and Australia. The results are used to support the Centre's public accountability, to improve project development and implementation and to provide valuable input into setting priorities for future activities. The Impact Assessment Program helps ACIAR to improve the accuracy of the information used in assessing research impacts and the effectiveness of the methodology used to quantify investment returns.

The Impact Assessment Program commissions three types of assessments on finished projects:

- Economic evaluations, published in ACIAR's Impact Assessment Series (IAS), an in-depth analysis of the adoption and impact of research outputs in our partner countries and Australia. Quantitative estimates of the investment returns are provided, as well as qualitative assessment of social and environmental impacts
- Adoption studies of finished-project evaluations, usually undertaken by the Australian project leader 3–4 years after the project's completion. These provide ACIAR, and our partner organisations, with a greater understanding of the pathways to change, and why adoption has or has not occurred
- 'Impact pathway analysis' provides an in-depth understanding of the contextual environment, the key stakeholders, pathway linkages, the changes that have occurred, and actions that could be undertaken within the project or program to increase the likelihood of the ultimate goals being reached.

The knowledge gained from these evaluations is also shared through ACIAR-funded and -delivered training courses on research evaluation.

Achievements

In 2015–16 assessments from the Impact Assessment Program included an assessment of private sector involvement in ACIAR projects; the impact of cocoa projects in Indonesia and Papua New Guinea; the development of the Smallholder ADOPT tool; and re-examination of past investments and impact assessments of forestry and fisheries in Vietnam a review and evaluation of capacity building in a selection of projects in Vietnam (in press). Four Impact Assessment Series reports and an Adoption Study of ACIAR project outputs for 2015 were published (see Appendix 5), with another in press.

Impact assessments

Sustaining cocoa production: impact evaluation of cocoa projects in Indonesia and PNG

Between 2009 and 2015, ACIAR funded a series of projects designed to improve the livelihoods of smallholder cocoa producers in Indonesia and Papua New Guinea (PNG). Before then, production in Indonesia had been maintained only through increasing the area planted with cocoa. For future production, it was important to examine how to increase yields rather than to continually expand the planting area. Thus, the projects in Indonesia addressed declining yields, tree ageing, and pest problems that had arisen in recent decades. The ACIAR research was one part of a large and ongoing effort in the country, and frequently involved a partnership or close association with private sector organisations.

In contrast, the projects in PNG focused on controlling cocoa pod borer (CPB) moth—known throughout Asia as a major pest of cocoa trees. CPB was discovered on East New Britain in 2006. Initial attempts to eradicate the moth, through large-scale destruction of trees, were not successful, and CPB became established throughout PNG. This created great uncertainty and distress among cocoa farmers, leading many to abandon their cocoa plots.

The integrated pest and disease management techniques developed through the ACIAR projects have been successful in controlling CPB, and dissemination of the techniques to farmers has led to dramatically increased confidence in growing cocoa. In addition, development of the techniques has created an opportunity to introduce improved practices that lead to healthier plants and higher yields.

The suite of on-farm techniques to improve yields includes techniques that require different levels of effort, and farmers can choose those that are most appropriate for them. In addition, the research teams have tested new methods for farm extension. Already, our model farmers have achieved substantial increases in yield, and adoption has now extended beyond the original project areas.

The impact assessment reported here has attempted to attribute benefits to the ACIAR-funded projects. As always, there are some limitations to this attribution. The overall benefits of the projects depend crucially on the adoption profile and actual achievement of yield gains in both countries. While most of this adoption will take place in the future—and thus the impact analysis outcomes are associated with some uncertainty—it is gratifying to learn that the real project expenditure in the two countries of just under $12 million may produce total benefits of $58.4 million—a benefit:cost ratio of 5 to 1.

Impact of private sector involvement in ACIAR projects: a framework and cocoa case studies

ACIAR has a strong imperative to build up its engagement with the private sector, based on the positive experience of recent projects. ACIAR can offer the private sector strong partnerships built on trust, transparency, complementarity and mutual benefit. Such partnerships enable greater innovation in research for development and, as a result, direct and indirect benefits to the economies of developing countries and Australia. In return, the private sector can open up pathways to greater scale and impact; provide access to value chain knowledge, technologies and innovation capacity; leverage opportunities for private sector investment; and give access to markets.

This report provided a general framework for thinking about the impact of private sector involvement in the research and development activities funded by ACIAR.

It comprised a review of recent literature pertaining to the subject and a case study of some ACIAR cocoa projects that involved considerable private sector participation.

The findings from the cocoa case study were overwhelmingly positive, with all parties concerned expressing strong satisfaction with the research process and outcomes achieved. But ACIAR recognises the inherent challenge in ensuring that the positive cocoa experience can be is replicated across other projects.

ACIAR will continue to assess private sector engagement and capacity constraints in agricultural R4D, and consider how to incorporate this engagement with the private sector into existing planning and project cycles. In every instance, these are undertaken with the need to maximise spillover benefits to smallholders in mind.

Development of the public release version of Smallholder ADOPT for developing countries

The lack of adoption of new technologies and improved varieties in many developing countries is a significant obstacle to advancement in these countries' agricultural productivity. Recognising this, ACIAR pioneered the development of innovative approaches to better understand the adoption process, and to find ways to break down barriers to uptake of new technologies and varieties. To improve adoption rates, ACIAR engaged with a wider field of stakeholders, including businesses and non-government organisations, when designing projects and implementing their outcomes. In taking this work forward, ACIAR research program managers and project staff have studied ADOPT, a tool originally designed for Australian agriculture, and adapted it to study smallholder scenarios in developing countries.

ADOPT was developed as an aid to project planning and implementation. It lists the well-known socioeconomic factors influencing producer decisions, and seeks to quantify the relative chance of new techniques and products being successfully adopted. ACIAR successfully tested ADOPT with potential end users, and from this work created a developing country version: Smallholder ADOPT.

This report documents the development of Smallholder ADOPT, which started with a review of literature that gathered significant data on the factors influencing adoption in developing country settings. The development process was then progressed through a survey with users of the pilot version of Smallholder ADOPT, followed by workshops held in Ethiopia, Laos, India and PNG.

Smallholder ADOPT remains most suitable for introducing agricultural technologies that are capable of being conceptualised by users. These can include new crops, new varieties, new chemicals (fertiliser, herbicides, pesticides etc) and new equipment. In some situations, they can also include practice changes.

Smallholder ADOPT can be used for a range of purposes by research teams, for example:

- during the project design phase as an ex-ante impact predicting tool
- during project implementation
- during project evaluation or ex-post monitoring
- to provide implementation examples to discuss options with stakeholders, and
- as a tool to explore the systems that underpin innovation.

Adoption of ACIAR project outputs 2015

This adoption studies review, undertaken in 2015, summarised the adoption results for seven ACIAR projects completed around 2010–11. The projects involved six individual partner countries – China, India, the Philippines, South Africa, Indonesia and Vietnam. The project topics were varied and comprised: two food- and crop-related projects—wheat in India and beef in South Africa; two plantation forestry projects—teak in Indonesia, and eucalypt plantations in China and Vietnam; two major land-use change projects in China; and a landcare systems project in the Philippines. These projects produced a balance of technology, policy and knowledge outputs. In addition, most of the projects had explicit or secondary objectives to improve the capacity for research and development in partner countries. Capacity development included both formal (university-level degrees), and on-the-job and informal training. Training ranged from advanced topics, such as choice modelling and the use of reverse auctions, to improvements in extension skills and traditional laboratory training.

The six adoption studies covering the seven projects indicated medium to high levels of adoption of the project results, although in some cases adoption by final users was limited. In each case, the adoption studies' findings provided some useful lessons and observations including:

Timeliness in policy research – in a land-use change project in China, the ability to respond rapidly to an emerging policy question was essential to the success of the project. Although it is difficult to plan for this in advance, flexibility in establishing the project proved crucial.

Time for dissemination of new ideas – although responding quickly to an emerging policy is important, it can also create a tension if the project policy analysis involves techniques and approaches that are unfamiliar in the host country.

Philosophical issues in policy projects – a land-use change project in China highlighted the importance of broader philosophical issues in policy deliberations. The involvement of the general public view on environmental issues (through the application of choice modelling) was seen as innovative in the Chinese context. So too was surveying, and including, individual households in broad policy decision-making. These features of the research project marked departures from the classical 'command and control' policymaking that is typical in China. Described by the Chinese collaborators as the 'market approach', the 'bottom-up approach' or even a focus on 'democratic processes', these elements of the research were a significant breakaway from conventional (Chinese) research and policy thinking. Although the Chinese collaborators welcomed the opportunity to develop their methodological skills, this change in the fundamental approach to research and policy appears to have left the most lasting impression from the project. The subsequent shift towards recognition of the importance of households in the ongoing success of policy may also have profound impacts.

Farmer-to-farmer exchange visits and farmer facilitators – Farmer-to-farmer exchange visits and farmer facilitators proved to be very effective in the landcare project in the Philippines. There is a trade-off, however, in that exchange visits can be expensive and time-consuming. In general, farmer facilitators may require some form of compensation, although many are happy to volunteer their services in exchange for information.

Measuring, monitoring and evaluation – Lack of attention to measuring, monitoring and evaluation following the completion of ACIAR-funded projects has limited the ability to demonstrate benefits to the broader industry and governments.

Understanding household constraints –The South African beef project found that understanding the motives, attitudes and constraints of the household is at least as important as the technologies offered to the smallholder. This understanding was used as the basis for subsequent ACIAR-funded projects concerned with 'adoption science'.

Thinking about appropriate technologies – The eucalypt project was established under the presumption that wood sawing in the partner countries would follow Australian lines—that is, adaptation of milling of large-diameter native forest logs to smaller-diameter plantation logs. In hindsight, project participants considered that it might have been better to focus the research on Chinese and Vietnamese value chains, which were already developing technologies for smaller diameter logs.

Participatory action approach – The teak project in Indonesia found that the participatory approach, where research and capacity-building aspects of the projects were combined, was particularly effective in increasing adoption.

Capacity building in evaluation and impact assessment

As part of ACIAR's commitment to building partner-country capacities in agricultural research and research management, a training workshop for APPARI member organisations on impact assessment and planning, monitoring and evaluation was designed and conducted at the Malaysia Agriculture Research and Development Institute (MARDI) and was supported by APPARI.

The aim of the evaluation training course was to provide participants with a shared understanding of frameworks and processes for developing and implementing project evaluation. This evaluation workshop had a strong focus on evaluation within the project life-cycle, rather than on economic impact assessment. The framework and tools presented are designed to assist project teams in project design and implementation.

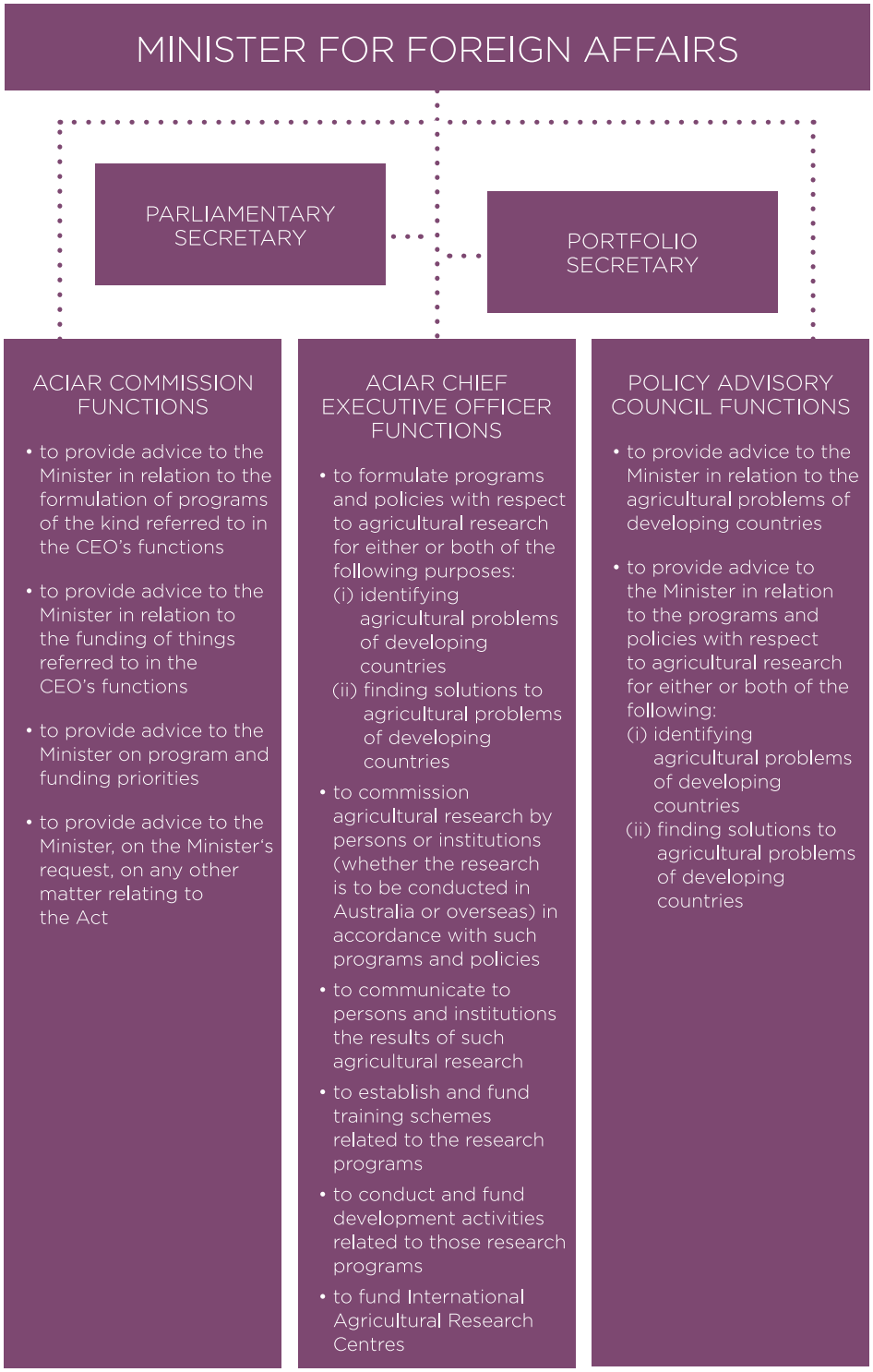
A total of 30 participants from 18 countries attended the training. The participants represented a range of skills and responsibilities within the APPARI partner organisations and were selected by their respective institutions to attend.

Shorter training and information sessions on impact assessment and impact pathways were also provided to researchers and project leaders throughout the year.


animal
fantasy

CORPORATE GOVERNANCE

ACIAR'S GOVERNANCE FRAMEWORK



Chief Executive Officer

The office and role of the Chief Executive Officer (CEO) is established in Sections 4A and 5 of the *Australian Centre for International Agricultural Research Act 1982* (ACIAR Act). The CEO manages the affairs of the Centre and its staff, subject to, and in accordance with, any directions given by the Minister under Section 5. Specifically, the CEO's functions are to:

a. 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. 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. communicate to persons and institutions the results of such agricultural research

d. establish and fund training schemes related to the research programs referred to above

e. conduct and fund development activities related to those research programs

f. fund international agricultural research centres.

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. The Tribunal has 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.

The CEO holds responsibilities as Head of Agency as set out in Part 7 of the *Financial Management and Accountability Act 1997* (FMA Act) and Part 9 of the *Public Service Act 1999*, respectively. The CEO is not subject to direction by the Commission in relation to the performance of functions or exercise of powers under these Acts.

Dr Nick Austin was the CEO during the 2015–16 financial year. Dr Austin commenced a 5-year term on 31 July 2009 and was reappointed in 2014. Dr Austin was succeeded as CEO on 1 August 2016 by Professor Andrew Campbell.

ACIAR's 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. The Agency Head is also responsible for managing the agency with direct accountability to the Australian Government.

CEO remuneration

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 2016 consisted of:

- base salary of $247 681
- superannuation with an employer contribution of 10.25% of base salary
- other allowances.

ACIAR Commission

The Commission for International Agricultural Research, established in Section 7 of the ACIAR Act provides strategic advice to the Minister on ACIAR's operations. The functions of the Commission, as set out at Section 9 of the ACIAR Act, are to provide advice to the Minister:

- in relation to the formulation of programs of the kind referred to in the CEO's functions
- in relation to the funding of things referred to in the CEO's functions
- on program and funding priorities
- on the Minister's request, on any other matter relating to the Act.

Commission composition

Under Section 8 of the ACIAR Act, the Commission consists of a Chair and six other Commissioners. Details of Members of the Commission follow.

Commission meetings

The Commission met four times during the 2015–16 financial year:

Meeting	Date	Location
32th meeting	15-18 September 2015	Canberra, Wagga Wagga, Albury and Shepparton
33rd meeting	1-2 December 2015	Canberra
34th meeting	28 February – 4 March 2016	Islamabad, Multan, Faisbad, Lahore—Pakistan
35th meeting	23-24 June 2016	Canberra

Commission members as at 30 June 2016

Mr Don Heatley OAM Part-time Chair

Mr Heatley is a fifth generation north Queensland cattle farmer with two stations and 8,000 head of cattle on the lower Burdekin River. The family business has fine-tuned its production systems over the time of Mr Heatley's management to produce beef for highly specialised markets in Korea, Japan and the United States, giving him a strong understanding of international agribusiness value chains. Mr Heatley is a passionate and committed advocate for both promotion of Australian agribusiness interests overseas and investing in the strengthening of domestic agribusinesses in developing countries. He has more than 30 years' experience promoting the Australian beef industry internationally, including through roles on state livestock councils, the Cattle Council of Australia and as Chair of Meat and Livestock Australia. Mr Heatley has taken a strong personal interest in provision of research and development support to domestic beef industries throughout Southeast Asia and the Middle East. He has travelled extensively throughout these regions representing the Australian beef industry to regional governments and industry.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 4

Mr John Cook Part-time Commissioner

Mr Cook has more than 20 years' experience in the food and agribusiness industries with Kellogg's, Burns Philp, Berri Limited, Australian Pork Limited and Golden Circle. He is a Principal Project Consultant with Business for Millennium Development, an independent Australian based not-for-profit organisation that encourages and facilitates inclusive business activities that contribute to the Millennium Development Goals. He has held a variety of senior management positions across Asia. Mr Cook has been a Member of the Agri-Food Council of Australia, a Trustee and Director of the Australian Food Foundation, an Executive Committee Member of the Grocery Manufacturers of Australia and a Councillor of the NSW Chamber of Manufacturers. He has been a Director of the Australian Food and Grocery Council and a Member of the Victorian Food Industry Consultation Group. From 2000-2003, Mr Cook undertook a three-year term as a non-executive director of the Melbourne Markets Authority, a role which led to his serving as the Executive Chairman of the food industry's e-commerce initiative Fresh Chain Limited.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 3

Ms Lucinda Corrigan Part-time Commissioner

Ms Corrigan is a Director of Rennylea, a leading beef genetics business, running 3,000 head of cattle across five properties in the Murray Valley of NSW. Rennylea supplies genetic products to commercial producers across Australia and to international markets. Ms Corrigan has skills and experience in research and development, genetics, natural resource management, communications, marketing and advocacy, and for 20 years has served as a non-executive director on agrifood industry bodies and innovation companies. During the last decade she has been a director of four cooperative research centres (CRCs) and was Deputy Chairman of the Future Farm Industries CRC, retiring in December 2011. She is Chair of the advisory committee of the Graham Centre for Agricultural Innovation, a partnership between Charles Sturt University and the NSW Department of Primary Industries, which provides multi-disciplinary and integrated research to increase the profitability of the grain and livestock industries. In the Holbrook community, she is convenor of the local beef group's activities. She is a Fellow of the Australian Institute of Company Directors and the Australian Rural Leadership Foundation. She has also received several awards: Agribusiness Leader for Women in Australian Agribusiness; NAB Agribusiness Primary Producer of the Year and the Helen Newton Turner Medal for contribution to Animal Breeding and Genetics.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 4

Dr Tony Gregson Part-time Commissioner

Dr Gregson is a grain grower from Victoria's Wimmera region with an extensive science and corporate research management background. He currently chairs Plant Health Australia and formerly chaired the Board of Trustees for Bioversity International, which provides scientific evidence of the role that on-farm and wild agricultural and forest biodiversity can play in a more nutritious, resilient, productive and adaptable food and agricultural system. He is an Adjunct Professor in Environmental Management at the University of Ballarat and a Fellow of the Australian Academy of Technological Sciences and Engineering, Chairman of the University of Melbourne, School of Botany Foundation and a director

of Rural Industries Skills Training based in Hamilton, Victoria. He is a former chairman of two CRCs, a former inaugural member of the CSIRO and Grains Research and Development Corporation Boards, and a former member of the International Maize and Wheat Improvement Centre, the Australian Nuclear Science and Technology Organisation, and the Rural Finance Corporation of Victoria Boards.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 4

Ms Catherine Marriott Part-time Commissioner

A passionate advocate for Australian agriculture, Ms Marriott is the Managing Director of Influential Women, an organisation that builds the confidence and capacity of women from rural and regional areas. She is currently running a pilot program on behalf of the Department of Agriculture and Food WA, setting up an Australian Indonesian Women in Agriculture Alliance and mentoring program. She spent six years working in Indonesia for Meat and Livestock Australia. In 2012, Ms Marriott was honoured with the Rural Industries Research and Development Corporation's Rural Women's Award for Western Australia.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 3

Professor Sandra Harding Part-time Commissioner

Professor Sandra Harding is the Vice Chancellor and President of James Cook University, an appointment she has held since 2007. In her role, she is responsible for ensuring clear and effective leadership and management of the University across campuses in Townsville, Cairns and Singapore.

Professor Harding 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.

Appointed 4 August 2014 to 30 June 2017
Meetings attended: 0.5

Dr Joanne Daly Commissioner

Dr Joanne Daly is a Fellow with CSIRO in the areas of agriculture and national research collections. Her immediate past role was as Group Executive, Agribusiness (2007-2010) on the CSIRO Executive. Her earlier career was as a senior researcher in agricultural sciences, particularly genetics and evolution. She has been on a range of advisory committees, and boards in Australia in agriculture, food, biosecurity and digital platforms. She has chaired GBIF, an international inter-governmental body in biodiversity informatics that aimed to make global biodiversity data freely available on-line. She is a Fellow of the Australian Academy of Technological Sciences and Engineering and was awarded the Public Service Medal in 2002 for her work on national research priorities.

Appointed: October 2009 to 29 October 2015
Meetings attended: 1

Dr Joanne Daley— term as Commissioner concluded on 29 October 2015.

Commission performance

Major milestones for the Commission during 2015–16 included:

- Endorsement of ACIAR's Annual Operational Plan 2016-17.

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. A Commissioner who has an interest in a matter being considered by the Commission must not be present during any deliberation by the Commission on the matter and must not take part in any decision of the Commission with respect to the matter. The disclosure and the nature of the interest are recorded in the Commission meeting minutes, which are available for consideration by the Centre's auditors.

Ministerial directions

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 2015–16 there were no directions given.

Commission costs

The direct cost of Commission operations during 2015–16 was $141 146 including fees, travel and other meeting expenses. The CEO's salary and other management costs are not included. The comparative figure for 2014–15 for the Commission was $128 740.

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 $941 and $706 respectively as at 30 June 2016.

Policy Advisory Council

The Policy Advisory Council is established under Section 17 of the ACIAR Act and provides advice to the Minister for Foreign Affairs on strategic aspects of national and regional development. The Council's functions are to provide advice to the Minister regarding:

- agricultural problems of developing countries
- programs and policies with respect to agricultural research for either or both of the following purposes:
  - identifying agricultural problems of developing countries
  - finding solutions to agricultural problems of developing countries.

The Council's role utilises partner countries' stakeholder knowledge to provide a valuable overview for advising the Minister, the Commission and the Centre 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.

Council composition

The Council's membership is limited to 13, comprising a President, the Secretary of the Department of Foreign Affairs and Trade or his nominee, and no less than nine, nor more than 11 other members appointed by the Minister. Predominantly, members are appointed from stakeholder organisations in partner countries to bring a range of agricultural and development experience. Under the ACIAR Act, the Minister is required to ensure that a substantial number of the 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.

Council meeting

Each year the Council holds a meeting in Australia over several days to discuss areas related to its role and functions. During 2015–16 the Council met in Canberra on 14–15 September 2015, followed by site visits 16–18 September 2015.

On Monday 14 September, the Council conducted its annual meeting. On Tuesday 15 September the Council participated in a roundtable discussion with ACIAR's senior managers, followed by a joint meeting with the Commission and then a meeting with the Minister for Foreign Affairs, the Hon Julie Bishop MP, and Ambassadors and High Commissioners at Parliament House. The program for this meeting also included meetings and field visits with Australian research providers and stakeholders in Wagga Wagga and Albury in New South Wales and Sheparton and Bundoora, Victoria during 16-18 September 2016.

At its meeting the Council gave priority consideration to:

- the role of Australia's aid policy and performance framework
- Australia's economic diplomacy agenda
- ACIAR's strategic plan
- ACIAR's engagement with the private sector.

Council membership (as at 30 June 2016)

Member	Term of appointment
Professor Kym Anderson AC	President Appointed President 1 October 2014 – 30 September 2017
Nominee of the Secretary, Department of Foreign Affairs and Trade Canberra AUSTRALIAN CAPITAL TERRITORY	Ex-officio member
Dr Subanna Ayyappan Director General Indian Council of Agricultural Research Department of Agricultural Research and Education New Delhi INDIA	Appointed member 19 July 2010 – 18 July 2013 5 August 2013 – 4 August 2016
Sir Brown Bai KBE CSM CBE Managing Director Tola Investments Limited Gordons PAPUA NEW GUINEA	Appointed member 7 March 2005 – 6 March 2008 15 May 2008 – 14 May 2011 22 August 2011 – 21 August 2014 22 August 2014 – 21 August 2017
Mr Xaypladeth Choulamany Director General Department of Agriculture Vientiane LAO PDR	Appointed member 22 August 2014 – 21 August 2017
Dr Leah Buendia Director, Policy Coordination and Monitoring Division Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development Los Baños THE PHILIPPINES	Appointed member 22 August 2014 – 21 August 2017
Dr M Syakir Director General Indonesian Agency for Agricultural Research and Development Jakarta INDONESIA	Appointed member 3 August 2015 – 2 August 2018
Dr Jia Jingdun Director General China Rural Technology Development Centre Ministry of Science and Technology Beijing PEOPLE'S REPUBLIC OF CHINA	Appointed member 10 March 2003 – 9 March 2006 10 March 2006 – 9 March 2009 18 September 2009 – 17 September 2011 17 April 2013 – 16 April 2016
Dr Ouk Makara Director Cambodian Agricultural Research and Development Institute Phnom Penh CAMBODIA	Appointed member 17 April 2013 – 16 April 2016

Member	Term of appointment
Dr Nguyen Van Bo President Emeritus Vietnam Academy of Agricultural Sciences Hanoi VIETNAM	Appointed member 1 March 2004 – 28 February 2007 1 May 2007 – 30 April 2010 19 July 2010 – 18 July 2013 5 August 2013 – 4 August 2016
The Hon. Professor Ruth Oniang'o SS DSM Founder Rural Outreach Program Editor-In-Chief African Journal of Food, Agriculture, Nutrition and Development Nairobi KENYA	Appointed member 7 July 2010 – 6 July 2013 5 August 2013 – 4 August 2016
Dr Colin Tukuitonga Pacific Community (SPC) Noumea NEW CALEDONIA	Appointed member 3 August 2015 – 3 August 2018
Dr Iftikhar Ahmad Chairman Pakistan Agricultural Research Council Islamabad PAKISTAN	Appointed member 22 August 2014 – 21 August 2017 Tragically passed away 3 June 2016

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, the Centre has the power to do all things it considers appropriate for the performance of its statutory functions.

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)*, the *Financial Management and Accountability ACT 1997* (FMA Act) and subordinate Rules, and from the *Public Service Act 1999* in the case of staffing.

The Centre 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 the 'Financial Statements' section of this report. The financial statements have been audited by the Australian National Audit Office.

Insurances

Primary corporate insurance for the Centre 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 2015–16 was $35 082 (excluding GST). The premium paid for 2014–15 was $28 891 (excluding GST).

Liability and professional indemnity insurances were not invoked in 2015–16.

Risk management and business continuity planning

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

Audit Committee

ACIAR's 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 Chief Executive Officer on ACIAR's financial and performance reporting responsibilities, risk oversight and management, and system of internal control.

Four Audit Committee meetings were held in 2015–16. Audit Committee membership and attendance during the year were as follows:

Member		Meetings eligible to attend	Meetings attended
Ms Anthea Tinney	Chair/External Member (appointed 12 September 2013)	4	4
Ms Christine Quick	External Member (appointed 30 June 2015)	4	3
Dr Eric Huttner	ACIAR, Research Program Manager (appointed 24 July 2015)	4	4
Mr Albert Blair	ACIAR, Chief Finance Officer (ex-officio, commenced 23 May, 2010)	4	4

Each committee meeting was supported by advisers from ACIAR's external auditors (Australian National Audit Office), internal auditors (Ernst & Young) and relevant agency staff with secretariat support provided by the ACIAR finance team.

Internal audit

Internal audit forms an important part of ACIAR's governance framework, providing an integral contribution to governance, risk management and control. In 2015–16, internal audit activity consisted of reviews of ACIAR's risk management, procurement and key financial processes.

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

Countering fraud

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 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 follows.

Australian Government
Australian Centre for International Agricultural Research

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ACIAR House, 38 Thynne Street
Fern Hill Park, Bruce ACT 2617
T (61 2) 6217 0500
F (61 2) 6217 0501
E aciar@aciar.gov.au
ABN 34 864 955 427

12 September 2016

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 2015-16, 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.

Andrew Campbell
Chief Executive Officer

Chief Finance Officer's review

ACIAR's operations are split between administered and departmental 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 (programme delivery).

The Agency's departmental and administered activities are segregated in the financial statements.

Departmental activity

The net operating result for 2015–16 was a surplus of $0.224 million (2014–15: deficit $0.240 million). Excluding depreciation and amortisation and other asset write-downs, the surplus was $0.518 million (2014–15: zero). The surplus corresponds with self-funded expenditure on improving ACIAR's business systems which was capitalised during the year.

Revenue included a direct appropriation of $9.657 million (2014–15: $9.802 million) supplemented by other income of $1.905 million (2014–15: $1.428 million). Other income is mostly fees derived for the management of research monies received under separate agreements or records of understanding with external parties.

The main components of departmental expenditure $11.338 million (2014–15: $11.470 million) were staff costs $7.781 million, operating expenses (e.g. property expenses, travel, IT, communications, etc.) $3.224 million, and depreciation, amortisation and other asset write-downs of $0.333 million.

Administered activity

Total administered funds appropriated to ACIAR for 2015–16 was $81.629 million (2014–15: $86.289 million). The 2015–16 appropriated funds were fully utilised. ACIAR received an additional $12.411 million (2014–15: $21.331 million) under separate agreements or records of understanding with external parties.

Total programme expenditure for 2015–16 was $100.050 million (2014–15: $109.999 million). This included $18.579 million (2014–15: $23.811 million) expenditure of monies received under separate agreements or records of understanding with external parties (mainly DFAT).

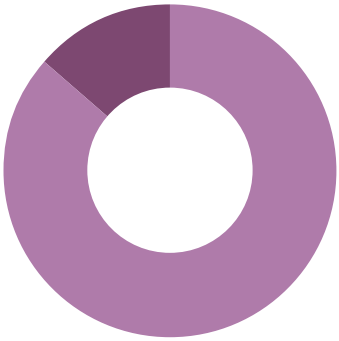
The following pie charts present a summary picture of total departmental and administered revenue and expenditure for 2015–16 compared with 2014–15. Administered revenue included in appropriation revenue is the non-lapsing portion of the total available administered appropriations as approved by government.

Accounting policies

ACIAR complies with relevant accounting standards and legislative reporting requirements.

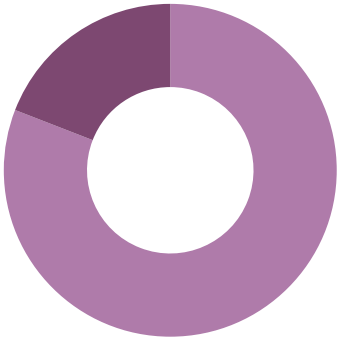
ACIAR revenue and expenditure

ACIAR revenue 2015–16



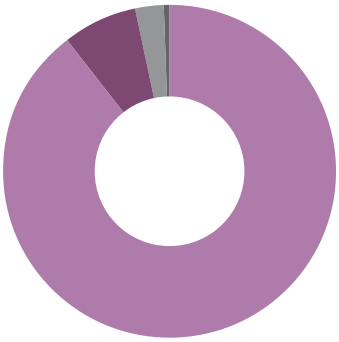
- Appropriation - 86.4%
- External funds - 13.6%

ACIAR revenue 2014–15



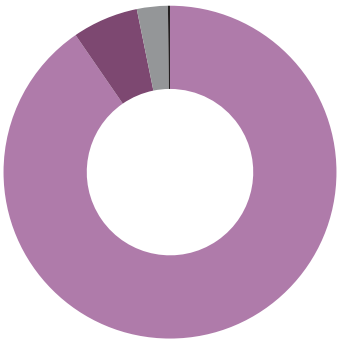
- Appropriation - 80.9%
- External funds - 19.1%

ACIAR expenditure 2015–16



- International development assistance - 89.6%
- Employees - 7.2%
- Suppliers - 2.9%
- Depreciation - 0.3%

ACIAR expenditure 2014–15



- International development assistance - 90.4%
- Employees - 6.4%
- Suppliers - 3.0%
- Depreciation - 0.2%

FINANCIAL STATEMENTS

CONTENTS

INDEPENDENT AUDITOR'S REPORT

To the Minister for Foreign Affairs

I have audited the accompanying annual financial statements of the Australian Centre for International Agricultural Research for the year ended 30 June 2016, which comprise:

- 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.

Opinion

In my opinion, the financial statements of the Australian Centre for International Agricultural Research:

(a) comply with Australian Accounting Standards 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 2016 and its financial performance and cash flows for the year then ended.

Accountable Authority's Responsibility for the Financial Statements

The Chief Executive Officer of the Australian Centre for International Agricultural Research 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 and the rules made under that Act and 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.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and

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plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the Accountable Authority of the entity, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

In conducting my audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Australian National Audit Office

Jodi George
Audit Principal

Delegate of the Auditor-General

Canberra
12 September 2016

STATEMENT BY CHIEF EXECUTIVE OFFICER AND CHIEF FINANCE OFFICER

In our opinion, the attached financial statements for the year ended 30 June 2016 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.

Signed.....

Andrew Campbell
Chief Executive Officer

12 September 2016

Signed.....

Albert Blair
Chief Finance Officer

12 September 2016

Statement of Comprehensive Income
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
NET COST OF SERVICES				
Expenses				
Employee benefits	1.1A	**7,781**	7,587	8,195
Suppliers	1.1B	**3,224**	3,643	3,424
Depreciation and amortisation	3.2A	**294**	240	255
Losses from asset sales		**39**	-	-
Total expenses		**11,338**	11,470	11,874
Own-Source Income				
Own-source revenue				
Sale of goods and rendering of services	1.2A	**1,875**	1,398	1,933
Other revenue	1.2B	**30**	30	29
Total own-source revenue		**1,905**	1,428	1,962
Net cost of services		**9,433**	10,042	9,912
Revenue from Government	1.2C	**9,657**	9,802	9,657
Surplus/(Deficit) after income tax on continuing operations		**224**	(240)	(255)
OTHER COMPREHENSIVE INCOME				
Items not subject to subsequent reclassification to net cost of services				
Changes in asset revaluation surplus		**-**	(153)	-
Total other comprehensive income		**-**	(153)	-
Total comprehensive income/ (loss) after income tax		**224**	(393)	(255)

The above statement should be read in conjunction with the accompanying notes.

Budget Variances Commentary

Employee benefits

Delay in enterprise agreement negotiations resulting in anticipated pay increases not being implemented until January 2016.

Supplier Expenses

$0.5m related to a new project management system (work in progress at year end) that was capitalised. At the time the original budget was prepared ACIAR did not have sufficient information to identify capital/non capital split so the full anticipated cost was deemed non capital. Additionally, the scope of the new system was increased and thus the cost, which was funded from savings made elsewhere.

Statement of Financial Position
as at 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
ASSETS				
Financial Assets				
Cash and cash equivalents	3.1A	**71**	84	83
Trade and other receivables	3.1B	**3,712**	3,678	3,643
Total financial assets		**3,783**	3,762	3,726
Non-Financial Assets				
Leasehold improvements	3.2A	**1,108**	992	445
Plant and equipment	3.2A	**205**	300	583
Intangibles	3.2A	**570**	48	99
Other non-financial assets	3.2B	**152**	96	136
Total non-financial assets		**2,035**	1,436	1,263
Total assets		**5,818**	5,198	4,989
LIABILITIES				
Payables				
Suppliers	3.3A	**517**	364	307
Other payables	3.3B	**528**	754	26
Total payables		**1,045**	1,118	333
Provisions				
Employee provisions	6.1A	**2,063**	2,003	2,126
Total provisions		**2,063**	2,003	2,126
Total liabilities		**3,108**	3,121	2,459
Net assets		**2,710**	2,077	2,530
EQUITY				
Contributed equity		**1,987**	1,578	2,147
Reserves		**112**	112	751
Retained surplus/(Accumulated deficit)		**611**	387	(368)
Total equity		**2,710**	2,077	2,530

The above statement should be read in conjunction with the accompanying notes.

Statement of Financial Position (con't)
as at 30 June 2016

Budget Variances Commentary

Leasehold improvements and plant and equipment

In the original budget fit-out costs are included in plant and equipment (then property, plant and equipment) while they are included under leasehold improvements in the financial statements. Also, the higher value of leasehold improvements and plant and equipment assets combined is due to additional fit-out included in the 2014-15 refurbishment of ACIAR's Canberra office which was not envisaged when the 2015-16 original budget was prepared. The additional fit-out was funded by a lease incentive provided by the landlord post development of the 2015-16 original budget.

Intangibles

$0.5m related to a new project management system (work in progress at year end) 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 payables

Post the development of the 2015-16 original budget a lease incentive (to partially fund leasehold improvements) was provided by the landlord of ACIAR's Canberra office.

Other variances

Variances not covered above are due to timing differences and the difficulty in predicting exactly when payments will be made or monies received.

Statement of Changes in Equity
for the period ended 30 June 2016

	Retained earnings			Asset revaluation surplus			Contributed equity/capital			Total equity		
	2016	2015	Original Budget	**2016**	2015	Original Budget	**2016**	2015	Original Budget	**2016**	2015	Original Budget
	$'000	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000
Opening balance												
Balance carried forward from previous period	**387**	141	(113)	**112**	751	751	**1,578**	1,486	1,738	**2,077**	2,378	2,376
Adjusted opening balance	**387**	141	(113)	**112**	751	751	**1,578**	1,486	1,738	**2,077**	2,378	2,376
Comprehensive income												
Surplus/ (deficit) for the period	**224**	(240)	(255)	**n/a**	n/a	n/a	**n/a**	n/a	n/a	**224**	(240)	(255)
Other comprehensive income	**-**	-	-	**-**	(153)	-	**-**	-	-	**-**	(153)	-
Total comprehensive income	**224**	(240)	(255)	**-**	(153)	-	**-**	**-**	**-**	**224**	(393)	(255)
Transactions with owners												
Distributions to owners												
Returns of capital:												
Equity injection - Appropriations	**-**	-	-	**-**	-	-	**-**	(160)	-	**-**	(160)	-
Contributions by owners												
Departmental capital budget	**-**	-	-	**-**	-	-	**248**	249	248	**248**	249	248
Equity injection - Appropriations	**-**	-	-	**-**	-	-	**161**	3	161	**161**	3	161
Transfers between equity components	**-**	486	-	**-**	(486)	-	**-**	-	-	**-**	-	-
Total transactions with owners	**-**	486	-	**-**	(486)	-	**409**	92	409	**409**	92	409
Closing balance as at 30 June	**611**	387	(368)	**112**	112	751	**1,987**	1,578	2,147	**2,710**	2,077	2,530

The above statement should be read in conjunction with the accompanying notes.

Accounting Policy

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

In addition to the flow-on impact of items referred to in the Budget Variance Commentary on the Statement of Comprehensive Income and the Statement of Financial Position, a revaluation adjustment and a transfer between equity components were booked in 2014-15 relating to the refurbishment of ACIAR's Canberra office. Insufficient information was available to estimate these when the 2015-16 original budget was developed.

Cash Flow Statement
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
OPERATING ACTIVITIES				
Cash received				
Appropriations		**9,815**	9,676	9,607
Sales of goods and rendering of services		**1,658**	1,405	1,933
Net GST received		**302**	248	230
Total cash received		**11,775**	11,329	11,770
Cash used				
Employees		**7,912**	7,388	8,155
Suppliers		**3,358**	3,754	3,615
Total cash used		**11,270**	11,142	11,770
Net cash from operating activities	5.4A	**505**	187	-
INVESTING ACTIVITIES				
Purchase of property, plant and equipment		**952**	219	409
Total cash used		**952**	219	409
Net cash (used by) investing activities		**(952)**	(219)	(409)
FINANCING ACTIVITIES				
Cash received				
Contributed equity		**434**	33	409
Total cash received		**434**	33	409
Net cash from financing activities		**434**	33	409
Net (decrease) / increase in cash held		**(13)**	1	-
Cash and cash equivalents at the beginning of the reporting period		**84**	83	83
Cash and cash equivalents at the end of the reporting period	3.1A	**71**	84	83

The above statement should be read in conjunction with the accompanying notes.

Budget Variances Commentary

Variances result from the flow-on impact of items referred to in the Budget Variance Commentary on the Statement of Comprehensive Income and the Statement of Financial Position.

Administered Schedule of Comprehensive Income
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
NET COST OF SERVICES				
Expenses				
International development assistance	2.1A	**100,050**	109,999	106,868
Total expenses		**100,050**	109,999	106,868
Income				
Revenue				
Non-taxation revenue				
External funds	2.2A	**12,411**	21,331	25,239
Total non-taxation revenue		**12,411**	21,331	25,239
Total revenue		**12,411**	21,331	25,239
Net cost of services		**87,639**	88,668	81,629
(Deficit) after income tax		**(87,639)**	(88,668)	(81,629)
Total comprehensive (loss)		**(87,639)**	(88,668)	(81,629)

The above schedule should be read in conjuction with the accompanying notes.

Budget Variances Commentary

International development assistance

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. ACIAR's Administered appropriation was fully expended.

External funds

The majority of ACIAR's external funds currently comes 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 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
ASSETS				
Financial assets				
Cash and cash equivalents	4.1A	**21,144**	27,852	26,159
Taxation receivables	4.1B	**538**	699	785
Trade and other receivables	4.1C	**-**	2	4,046
Total financial assets		**21,682**	28,553	30,990
Total assets administered on behalf of Government		**21,682**	28,553	30,990
LIABILITIES				
Payables				
Suppliers	4.2A	**879**	2,958	2,572
Other payables	4.2B	**485**	652	678
Total payables		**1,364**	3,610	3,250
Provisions				
Employee provisions	6.1B	**14**	18	33
Total provisions		**14**	18	33
Total liabilities administered on behalf of Government		**1,378**	3,628	3,283
Net assets		**20,304**	24,925	27,707

The above schedule should be read in conjunction with the accompanying notes.

Budget Variances Commentary

Cash and cash equivalents

Utilisation of external funds on hand not matched by replenishment due to inability to secure anticipated new external funds.

Trade and other receivables

Anticipated external party debtors did not eventuate. All invoices raised were paid by 30 June 2016.

Other variances

Variances not covered above are due to timing differences and the difficulty in predicting exactly when payments will be made or monies received.

Administered Reconciliation Schedule

	2016	2015
	$'000	$'000
Opening assets less liabilities as at 1 July	**24,925**	27,807
Net (cost of)/contribution by services		
Income	**12,411**	21,331
Expenses	**(100,050)**	(109,999)
Transfers (to)/from the Official Public Account		
Appropriation transfers from Official Public Account		
Annual appropriations		
Payments to entities other than corporate Commonwealth entities	**83,066**	85,860
Appropriation transfers to OPA		
Transfers to OPA	**(48)**	(74)
Closing assets less liabilities as at 30 June	**20,304**	24,925

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 2016

	Notes	2016 $'000	2015 $'000	Original Budget $'000
OPERATING ACTIVITIES				
Cash received				
External funds		**12,413**	25,375	25,239
Net GST received		**4,932**	4,919	4,500
Total cash received		**17,345**	30,294	29,739
Cash used				
International development assistance		**106,915**	114,347	106,818
Total cash used		**106,915**	114,347	106,818
Net cash (used by) operating activities	5.4B	**(89,570)**	(84,053)	(77,079)
Cash and cash equivalents at the beginning of the reporting period		**27,852**	26,159	26,159
Cash from Official Public Account				
Appropriations		**87,850**	90,748	81,579
		87,850	90,748	81,579
Cash to Official Public Account				
Appropriations		**4,988**	5,002	4,500
		4,988	5,002	4,500
Cash and cash equivalents at the end of the reporting period	4.1A	**21,144**	27,852	26,159

This schedule should be read in conjunction with the accompanying notes.

Budget Variances Commentary

Variances result from the flow-on impact of items referred to in the Budget Variance Commentary on the Administered Schedule of Comprehensive Income and Administered Schedule of Assets and Liabilities.

Overview

Objectives of ACIAR

The Australian Centre for International Agricultural Research (ACIAR) is an Australian Government controlled entity. ACIAR is a not-for-profit entity. The objective of ACIAR is to achieve more productive and sustainable agricultural systems, for the benefit of developing countries and Australia, through international agricultural research partnerships. Developing countries are the major beneficiaries but there are also spin-offs for Australia. To achieve this objective, ACIAR facilitates and supports bilateral and multilateral research and development activities in a broad range of agricultural areas, including crops, animals, fisheries, forestry, land and water resources management, post-harvest technology, and economic studies of agricultural and natural resource utilisation.

ACIAR is structured to meet one outcome:

> 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.

Although a portion of ACIAR's revenue is from external sources, the continued existence of ACIAR in its present form and with its present programme is dependent on Government policy and on continuing funding by Parliament for ACIAR's administration and programme.

ACIAR activities contributing toward this outcome are classified as either Departmental or Administered. Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by the entity in its own right. Administered activities involve the management or oversight by ACIAR, on behalf of the Government, of items controlled or incurred by the Government.

ACIAR conducts the following Administered activity on behalf of the Government:

- International agriculture research and development.

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) for reporting periods ending on or after 1 July 2015; and

b) Australian Accounting Standards and Interpretations 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.

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: May have an impact on the timing of the 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 for all applicable leases (some exceptions) and a lease liability on its Statement of Financial Position. Likely impact: Likely to require changes given the volume of leases (particularly property leases) entered into. There is likely need for changes to the capture and storage of supporting documentation and lease accounting processes. If application is retrospective, there will be a significant workload either to calculate opening balance adjustments, or correction to comparative disclosures. There are also likely to be substantial additional disclosures (e.g. assumption and judgements).

[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.

Taxation / Competitive Neutrality
ACIAR is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

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.

Financial Performance

This section analyses the financial performance of ACIAR for the year ended 2016.

1.1: Expenses

	2016 $'000	2015 $'000
1.1A: Employee Benefits		
Wages and salaries	**6,010**	5,646
Superannuation:		
Defined contribution plans	**634**	555
Defined benefit plans	**257**	334
Leave and other entitlements	**857**	793
Separation and redundancies	**23**	259
Total employee benefits	**7,781**	7,587

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	**564**	1,017
Travel	**387**	461
IT Services	**725**	458
Property services (excluding rent)	**144**	246
Workforce capability	**167**	144
Publications and promotion	**115**	113
Other	**414**	453
Total goods and services supplied or rendered	**2,516**	2,892
Goods supplied	**273**	376
Services rendered	**2,243**	2,516
Total goods and services supplied or rendered	**2,516**	2,892
Other suppliers		
Operating lease rentals in connection with		
Minimum lease payments	**623**	661
Workers compensation expenses	**85**	90
Total other suppliers	**708**	751
Total suppliers	**3,224**	3,643

1.1: Expenses (con't)

	2016	2015
	$'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	**806**	779
Between 1 to 5 years	**3,067**	2,831
More than 5 years	**3,208**	3,860
Total operating lease commitments[1]	**7,081**	7,470

[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.

1.2 Own-Source Revenue and Gains

	2016 $'000	2015 $'000
Own-Source Revenue		
1.2A: Sale of Goods and Rendering of Services		
Sale of goods	**7**	17
Rendering of services	**1,868**	1,381
Total sale of goods and rendering of services	**1,875**	1,398

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.

The stage of completion of contracts at the reporting date 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[1]		
Remuneration of auditors	**30**	30
Total other revenue	**30**	30

[1]KPMG was engaged by the ANAO in 2015/16 to provide financial statement audit services to ACIAR. No other services were provided by the ANAO or performed directly by KPMG during the reporting period.

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: Revenue from Government		
Appropriations		
Departmental appropriation	**9,657**	9,802
Total revenue from Government	**9,657**	9,802

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

	2016	2015
	$'000	$'000
2.1A: International Development Assistance		
Research program	**71,524**	81,343
Multilateral program	**19,812**	19,810
Education and training	**8,082**	8,231
Communicating research results	**632**	615
Total international development assistance	**100,050**	109,999
International Development Assistance is made up of		
Employee benefits	**224**	224
Supplier expenses	**99,826**	109,775
Total	**100,050**	109,999

Accounting Policy

International Development Assistance

ACIAR administers international development assistance programmes 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.

2.2: Administered - Income

	2016	2015
	$'000	$'000
Revenue		
Non–Taxation Revenue		
2.2A: External Funds		
External funds	**12,411**	21,331
Total external funds	**12,411**	21,331

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

	2016 $'000	2015 $'000
3.1A: Cash and Cash Equivalents		
Cash on hand or on deposit	**71**	84
Total cash and cash equivalents	**71**	84

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		
Goods and services receivables		
Goods and services	**217**	-
Total receivables for goods and services	**217**	-
Appropriations receivable		
Appropriation receivable	**3,439**	3,622
Total appropriations receivable	**3,439**	3,622
Other receivables		
GST receivable from the Australian Taxation Office	**56**	56
Total other receivables	**56**	56
Total trade and other receivables (net)	**3,712**	3,678
Trade and other receivables (net) expected to be recovered		
No more than 12 months	**3,712**	3,678
Total trade and other receivables (net)	**3,712**	3,678
Trade and other receivables (gross) aged as follows		
Not overdue	**3,712**	3,678
Total trade and other receivables (net)	**3,712**	3,678

Credit terms for goods and services were within 30 days (2015: 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 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 2016

	Leasehold improvements	Plant and equipment	Intangibles Computer Software[1]	Total
As at 1 July 2015	**$'000**	**$'000**	**$'000**	**$'000**
Gross book value	**840**	**439**	**638**	**1,917**
Accumulated depreciation, amortisation and impairment	**(21)**	**(139)**	**(590)**	**(750)**
Work in progress	**173**	**-**	**-**	**173**
Total as at 1 July 2015	**992**	**300**	**48**	**1,340**
Additions				
Purchase	**233**	**88**	**555**	**876**
Depreciation and amortisation	**(117)**	**(144)**	**(33)**	**(294)**
Disposals				
Asset cost	**-**	**(143)**	**(121)**	**(264)**
Accumulated depreciation	**-**	**104**	**121**	**225**
Total as at 30 June 2016	**1,108**	**205**	**570**	**1,883**
Total as at 30 June 2016 represented by				
Gross book value	**1,246**	**384**	**534**	**2,164**
Accumulated depreciation, amortisation and impairment	**(138)**	**(179)**	**(502)**	**(819)**
Work in progress	**-**	**-**	**538**	**538**
Total as at 30 June 2016	**1,108**	**205**	**570**	**1,883**

[1]The carrying amount of computer software included $32k purchased software and $538k 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 (con't)

Revaluations of non-financial assets

Leasehold improvements and plant and equipment were revalued as at 30 June 2014 by an independent qualified valuer from Australian Valuation Solutions Pty Ltd in accordance with ACIAR's revaluation policy. The result of the revalution was reported in the 2014-15 financial statements.

	2016	2015
ACIAR has a number of contractual commitments for the acquisition of plant and equipment and intangible assets	**$'000**	$'000
Within 1 year	**774**	108
Between 1 to 5 years	**8**	36
Total commitments[1]	**782**	144

[1]Commitments are GST inclusive where relevant.

Reconciliation of the opening and closing balances of leasehold improvements, plant and equipment and intangibles for 2015

	Leasehold improvements	Plant and equipment	Intangibles Computer Software	Total
As at 1 July 2014	$'000	$'000	$'000	$'000
Gross book value	261	440	637	1,338
Accumulated depreciation, amortisation and impairment	-	-	(530)	(530)
Work in progress	170	-	-	170
Total as at 1 July 2014	431	440	107	978
Additions				
Purchase	748	7	-	755
Depreciation and amortisation	(39)	(141)	(60)	(240)
Disposals				
Asset cost	(166)	(8)	-	(174)
Accumulated depreciation	18	2	-	20
Other	-	-	1	1
Total as at 30 June 2015	992	300	48	1,340
Total as at 30 June 2015 represented by				
Gross book value	840	439	638	1,917
Accumulated depreciation, amortisation and impairment	(21)	(139)	(590)	(750)
Work in progress	173	-	-	173
Total as at 30 June 2015	992	300	48	1,340

3.2: Non-Financial Assets (con't)

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.

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:

	2016	2015
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

3.2: Non-Financial Assets (con't)

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 (2015: 3 to 10 years).

All computer software assets are assessed for indications of impairment annually.

	2016	2015
	$'000	$'000
3.2B: Other Non-Financial Assets		
Prepayments	**152**	96
Total other non-financial assets	**152**	96
Other non-financial assets expected to be recovered		
No more than 12 months	**152**	96
Total other non-financial assets	**152**	96

3.3: Payables

	2016 $'000	2015 $'000
3.3A: Suppliers		
Trade creditors and accruals	**517**	364
Total suppliers	**517**	364
Suppliers expected to be settled		
No more than 12 months	**517**	364
Total suppliers	**517**	364

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	**107**	274
Superannuation	**3**	27
Rent payable	**53**	51
Lease incentive	**356**	396
Other	**9**	6
Total other payables	**528**	754
Other payables expected to be settled		
No more than 12 months	**180**	352
More than 12 months	**348**	402
Total other payables	**528**	754

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

	2016	2015
	$'000	$'000
4.1A: Cash and Cash Equivalents		
Cash in special accounts	**21,144**	27,851
Cash on hand or on deposit	**-**	1
Total cash and cash equivalents	**21,144**	27,852
4.1B: Taxation Receivables		
GST receivable from Australian Taxation Office	**538**	699
Total taxation receivables (net)	**538**	699
Taxation receivables (gross) were aged as follows:		
Not overdue	**538**	699
Total taxation receivables (gross)	**538**	699
4.1C: Trade and Other Receivables		
Goods and services receivables	**-**	2
Total trade and other receivables	**-**	2
Trade and other receivables (net) expected to be recovered		
No more than 12 months	**-**	2
Total trade and other receivables (net)	**-**	2
Trade and other receivables aged as follows		
More than 90 days	**-**	2
Total trade and other receivables	**-**	2

No indicators of impairment were found for trade and other receivables.

Trade and other receivables credit terms were within 30 days (2015 : 30 days).

4.2: Administered - Payables

	2016 $'000	2015 $'000
4.2A: Suppliers		
Trade creditors and accruals	**879**	2,958
Total suppliers	**879**	2,958
Suppliers expected to be settled		
No more than 12 months	**879**	2,958
Total suppliers	**879**	2,958
Settlement was usually made within 30 days.		
4.2B: Other Payables		
GST payable to OPA	**482**	638
Salaries and wages	**3**	13
Superannuation	**-**	1
Total other payables	**485**	652
Other payables expected to be settled		
No more than 12 months	**485**	652
Total other payables	**485**	652

Funding

This section identifies ACIAR's funding structure.

5.1: Appropriations

5.1A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2016

	Appropriation Act		*PGPA Act*				
	Annual Appropriation[1] $'000	Advance to the Finance Minister $'000	Section 74 Receipts $'000	Section 75 Transfers $'000	Total appropriation $'000	Appropriation applied in 2016 (current and prior years) $'000	Variance[2] $'000
DEPARTMENTAL							
Ordinary annual services	**9,657**	**-**	**1,875**	**-**	**11,532**	**11,690**	**(158)**
Capital Budget[3]	**248**	**-**	**-**	**-**	**248**	**404**	**(156)**
Other services							
Equity	**161**	**-**	**-**	**-**	**161**	**30**	**131**
Total departmental	**10,066**	**-**	**1,875**	**-**	**11,941**	**12,124**	**(183)**
ADMINISTERED							
Ordinary annual services							
Administered items	**81,629**	**-**	**-**	**-**	**81,629**	**83,066**	**(1,437)**
Total administered	**81,629**	**-**	**-**	**-**	**81,629**	**83,066**	**(1,437)**

Notes:

[1]In 2015-16, there were no appropriations which have been quarantined.

[2]In 2015-16, 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 (con't)

Annual Appropriations for 2015

	Appropriation Act		*PGPA Act*				
	Annual Appropriation[1] $'000	Advance to the Finance Minister $'000	Section 74 Receipts $'000	Section 75 Transfers $'000	Total appropriation $'000	Appropriation applied in 2015 (current and prior years) $'000	Variance[2] $'000
DEPARTMENTAL							
Ordinary annual services	9,802	-	1,398	-	11,200	10,887	313
Capital Budget[3]	249	-	-	-	249	215	34
Other services							
Equity	3	-	-	-	3	4	(1)
Total departmental	10,054	-	1,398	-	11,452	11,106	346
ADMINISTERED							
Ordinary annual services							
Administered items	86,289	-	-	-	86,289	85,859	430
Total administered	86,289	-	-	-	86,289	85,859	430

Notes:

[1]In 2014-15, there were no appropriations which have been quarantined.

[2]In 2014-15, 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 (con't)

5.1B: Unspent Annual Appropriations ('Recoverable GST exclusive')

	2016	2015
Authority	**$'000**	$'000
DEPARTMENTAL		
Appropriation Act (No 1) 2014-15	**-**	3,403
Appropriation Act (No 1) 2014-15 Capital Budget (DCB) Non Operating	**-**	219
Appropriation Act (No 1) 2015-16	**3,246**	-
Appropriation Act (No 1) 2015-16 Capital Budget (DCB) Non Operating	**62**	-
Appropriation Act (No 4) 2015-16 Non Operating - Equity Injection	**131**	-
Total	**3,439**	3,622
ADMINISTERED		
Appropriation Act (No 1) 2012-13	**-**	32
Appropriation Act (No 1) 2013-14	**-**	32
Appropriation Act (No 1) 2014-15	**141**	2,187
Appropriation Act (No 1) 2015-16	**608**	-
Total	**749**	2,251

5.2: Special Accounts

5.2: Special Accounts (Recoverable GST exclusive)

	ACIAR Special Account[1]	
	2016	2015
	$'000	$'000
Balance brought forward from previous period	**27,851**	26,159
Increases		
Other receipts	**14,280**	26,755
Total increases	**14,280**	26,755
Available for payments	**42,131**	52,914
Decreases		
Administered		
Payments made to suppliers	**(20,987)**	(25,063)
Total Administered	**(20,987)**	(25,063)
Total decreases	**(20,987)**	(25,063)
Total balance carried to the next period	**21,144**	27,851

[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

	2016	2015
	$'000	$'000
Total comprehensive income / (loss) income excluding depreciation / amortisation expenses previously funded through revenue appropriations	**518**	(153)
Plus: depreciation/amortisation expenses previously funded through revenue appropriation	**(294)**	(240)
Total comprehensive income / (loss) - as per the Statement of Comprehensive Income	**224**	(393)

5.4: Cash Flow Reconciliation

5.4A: Cash Flow Reconciliation

	2016	2015
	$'000	$'000
Reconciliation of cash and cash equivalents as per statement of financial position to cash flow statement		
Cash and cash equivalents as per		
Cash flow statement	**71**	84
Statement of financial position	**71**	84
Discrepancy	**-**	-
Reconciliation of net cost of services to net cash from operating activities		
Net cost of services	**(9,433)**	(10,042)
Revenue from Government	**9,657**	9,802
Adjustments for non-cash items		
Depreciation / amortisation	**294**	240
Loss on disposal of assets	**39**	-
Movements in assets / liabilities		
Assets		
(Increase) / Decrease in net receivables	**(59)**	56
(Increase) / Decrease in prepayments	**(57)**	40
Liabilities		
Increase in employee provisions	**60**	162
Increase / (Decrease) in supplier payables	**231**	(108)
(Decrease) / Increase in other payables	**(227)**	37
Net cash from operating activities	**505**	187

5.4: Cash Flow Reconciliation (con't)

5.4B: Administered - Cash Flow Reconciliation

	2016	2015
	$'000	$'000
Reconciliation of cash and cash equivalents as per statement of financial position and cash flow statement		
Cash and cash equivalents as per		
Administered cash flow statement	**21,144**	27,852
Administered schedule of assets and liabilities	**21,144**	27,852
Discrepancy	**-**	-
Reconciliation of net cost of services to net cash from/(used by) operating activities		
Net cost of services	**(87,639)**	(88,668)
Movement in assets and liabilities		
Assets		
Decrease in net receivables	**163**	4,129
Liabilities		
(Decrease) in employee provisions	**(4)**	-
(Decrease) / Increase in suppliers payables	**(1,390)**	487
(Decrease) in other payables	**(700)**	(1)
Net cash used by operating activities	**(89,570)**	(84,053)

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

	2016 $'000	2015 $'000
6.1A: Employee Provisions		
Leave	**1,934**	1,745
Other	**129**	258
Total employee provisions	**2,063**	2,003
Employee provisions expected to be settled		
No more than 12 months	**653**	547
More than 12 months	**1,410**	1,456
Total employee provisions	**2,063**	2,003
6.1B: Administered - Employee Provisions		
Leave	**14**	18
Total employee provisions	**14**	18
Employee provisions are expected to be settled		
No more than 12 months	**11**	13
More than 12 months	**3**	5
Total employee provisions	**14**	18

6.1 Employee Provisions (con't)

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.

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 superannuauable salaries.

6.2 Senior Management Personnel Remuneration

	2016	2015
	$'000	$'000
Short-term employee benefits		
Salary	**590**	561
Performance bonuses	**4**	4
Allowances	**112**	111
Total short-term employee benefits	**706**	676
Post-employment benefits		
Superannuation	**75**	76
Total post-employment benefits	**75**	76
Other long-term employee benefits		
Annual leave	**47**	42
Long-service leave	**33**	13
Total other long-term employee benefits	**80**	55
Total senior executive remuneration expenses	**861**	807

The total number of senior management personnel that are included in the above table is 3 (2015: 3).

Managing uncertainties

This section analyses how the ACIAR manages financial risks within its operating environment.

7.1A: Contingent Assets and Liabilities

Quantifiable Contingencies

At 30 June 2016, ACIAR had no quantifiable contingencies (2015: $Nil).

Unquantifiable Contingencies

At 30 June 2016, ACIAR had no unquantifiable contingencies (2015: $Nil).

Significant Remote Contingencies

At 30 June 2016, ACIAR had no significant remote contingencies (2015: $Nil).

7.1B: Administered - Contingent Assets and Liabilities

Quantifiable Contingencies

At 30 June 2016, ACIAR had no quantifiable contingencies (2015: $Nil).

Unquantifiable Contingencies

At 30 June 2016, ACIAR had no unquantifiable contingencies (2015: $Nil).

Significant Remote Contingencies

At 30 June 2016, ACIAR had no significant remote contingencies (2015: $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

	2016 $'000	2015 $'000
7.2A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash and cash equivalents	**71**	84
Trade and other receivables	**217**	-
Total financial assets	**288**	84
Financial Liabilities		
Financial Liabilities measured at amortised cost		
Trade creditors	**517**	364
Other	**409**	447
Total financial liabilities	**926**	811

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).

7.2B: Credit Risk

ACIAR is exposed to minimal credit risk as loans and receivables are trade and other receivables. The maximum exposure to credit risk is the risk that arises from potential default of a debtor. This amount is equal to the total amount of trade and other receivables (2016: $217,225 and 2015: $nil). ACIAR has assessed the risk of the default on payment and believes all amounts will be paid in full. No amounts have been allocated to an impairment allowance account.

7.2: Financial Instruments (con't)

ACIAR manages its credit risk by undertaking background and credit checks prior to allowing a debtor relationship. In addition, ACIAR has policies and procedures that guide employees debt recovery techniques that are to be applied.

ACIAR holds no collateral to mitigate against credit risk.

No assets have been individually assessed as impaired.

7.2C: Liquidity Risk

Liquidity risk is the risk that ACIAR will not be able to meet its obligations as they fall due.

ACIAR's financial liabilities are payables. The exposure to liquidity risk is based on the notion that ACIAR will encounter difficulty in meeting its obligations associated with financial liabilities.

There is low risk as ACIAR is appropriated funding from the Australian Government and manages its budgeted funds to ensure it has adequate funds to meet payments as they fall due. In addition, ACIAR has policies in place to ensure timely payments are made when due and has no past experience of default.

Maturities for non-derivative financial liabilities 2016

	On demand $'000	**within 1 year $'000**	**1 to 2 years $'000**	**2 to 5 years $'000**	**Total $'000**
Trade creditors	**-**	**517**	**-**	**-**	**517**
Other payables	**-**	**61**	**230**	**118**	**409**
Total	**-**	**578**	**230**	**118**	**926**

Maturities for non-derivative financial liabilities 2015

	On demand $'000	within 1 year $'000	1 to 2 years $'000	2 to 5 years $'000	Total $'000
Trade creditors	-	364	-	-	364
Other payables	-	45	243	159	447
Total	-	409	243	159	811

7.2D: Market Risk

ACIAR holds basic Departmental financial instruments that do not expose it to currency, interest rate or other price risk.

Credit terms for both receivables and payables are normally 30 days net.

7.3: Administered - Financial Instruments

	2016 $'000	2015 $'000
7.3A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash on hand or on deposit	**21,144**	27,852
Trade and other receivables	**-**	2
Total financial assets	**21,144**	27,854
Financial Liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	**879**	2,958
Total financial liabilities	**879**	2,958

7.3B: Credit Risk

ACIAR is exposed to minimal credit risk as loans and receivables are trade and other receivables. The maximum exposure to credit risk is the risk that arises from potential default of a debtor. This amount is equal to the total amount of trade and other receivables (2016:$ nil and 2015:$1,935).

ACIAR manages its credit risk by undertaking background and credit checks prior to allowing a debtor relationship. In addition, ACIAR has policies and procedures that guide employees' debt recovery techniques that are to be applied.

ACIAR holds no collateral to mitigate against credit risk.

No assets have been individually assessed as impaired.

7.3C: Liquidity Risk

Liquidity risk is the risk that ACIAR will not be able to meet its obligations as they fall due.

ACIAR's financial liabilities are payables. The exposure to liquidity risk is based on the notion that ACIAR will encounter difficulty in meeting its obligation associated with financial liabilities.

There is low risk as ACIAR's funding is appropriated funding from the Australian Government and ACIAR manages its budgeted funds to ensure it has adequate funds to meet payments as they fall due. In addition, ACIAR has policies in place to ensure timely payments are made when due and has no past experience of default.

The maturities of all financial liablilities are within 1 year.

7.3D: Market Risk

ACIAR holds basic administered financial instruments that do not expose it to currency, interest rate or other price risk.

Credit terms for both receivables and payables are normally 30 days net.

7.4: Fair Value Measurements

The following tables provide an analysis of assets and liabilities that are measured at fair value.
The different levels of the fair value hierarchy are defined below.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
Level 3: Unobservable inputs for the asset or liability.

Accounting policy
ACIAR engaged the service of the Australian Valuation Solutions (AVS) to conduct a comprehensive valuation of all non-financial assets at 30 June 2014 and has relied upon those outcomes to establish carrying amounts. 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. AVS 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 account 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.

The ACIAR's policy is to recognise transfers into and transfers out of fair value hierarchy levels as at the end of the reporting period.

7.4: Fair Value Measurements (con't)

7.4A: Fair Value Measurement

	Fair value measurements at the end of the reporting period			
	2016 $'000	2015 $'000	**Category (Level 1, 2 or 3)[3]**	**Valuation Technique(s) and Inputs Used**
Non-financial assets[2]				
Leasehold improvements[1]	**1**	1	2	**Market Approach**: This approach seeks to estimate the current value of an asset with reference to recent market transactions involving identical or comparable assets. **Inputs**: Prices and other relevant information generated by market transactions involving similar assets were considered.

7.4: Fair Value Measurements (con't)

	Fair value measurements at the end of the reporting period			
	2016 $'000	2015 $'000	**Category (Level 1, 2 or 3)[3]**	**Valuation Technique(s) and Inputs Used**
Leasehold improvements[1]	**1,107**	818	3	**Depreciated Replacement Cost**: The amount a market participant would be prepared to pay to acquire or construct a substitute asset of comparable utility, adjusted for physical depreciation and obsolescence. **Inputs**: Current costs per square metre of floor area relevant to the location of the asset. Physical depreciation and obsolescence has been determined based on the term of the associated lease.
Plant and equipment[1]	**112**	105	2	**Market approach** **Inputs**: Prices and other relevant information generated by market transactions involving similar assets were considered.
Plant and equipment[1]	**93**	195	3	**Depreciated Replacement Cost** **Inputs**: Current prices for substitute assets. Physical depreciation and obsolescence has been determined based on professional judgement regarding physical, economic and external obsolescence factors relevant to the assets under consideration.
Total non-financial assets	**1,313**	1,119		

[1]No non-financial assets were measured at fair value on a non-recurring basis as at 30 June 2016 (2015: Nil).
[2]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 assets is considered their highest and best use.
[3] There were no transfers between levels 1 and 2 for recurring fair value measurements during the year.

7.4: Fair Value Measurements (con't)

7.4B: Reconciliation for Recurring Level 3 Fair Value Measurements

Recurring Level 3 fair value measurements - reconciliation for assets

	Non-Financial assets					
	Land and Buildings		Property, plant and equipment		Total	
	2016	2015	**2016**	2015	**2016**	2015
	$'000	$'000	**$'000**	$'000	**$'000**	$'000
As at 1 July	**818**	249	**195**	268	**1,013**	517
Total losses recognised in total comprehensive income[1]	**(117)**	(177)	**(74)**	(73)	**(191)**	(250)
Purchases	**406**	746	**-**	-	**406**	746
Disposals	**-**	-	**(28)**	-	**(28)**	-
Total as at 30 June	**1,107**	818	**93**	195	**1,200**	1,013

[1]These losses are presented in the Statement of Comprehensive Income under Depreciation and Amortisation and Write Down and Impairment of Assets.

Other information

8.1: Reporting of Outcomes

ACIAR has only one outcome - accordingly, all amounts are attributed this outcome.

	Outcome 1[1]	
	2016	2015
	$'000	$'000
Departmental		
Expenses	**11,338**	11,470
Own-source income	**1,905**	1,428
Administered		
Expenses	**100,050**	109,999
Own-source income	**12,411**	21,331
Net cost of outcome delivery	**97,072**	98,710

[1]Outcome 1 is described in the "Overview" section of these financial statements. Net costs shown included intra-government costs that were eliminated in calculating the actual Budget Outcome.

ANNUAL PERFORMANCE STATEMENT 2015–16

STATEMENT OF PREPARATION

I, Colin Andrew Campbell, as the accountable authority of the Australian Centre for International Agricultural Research (ACIAR), present the 2015–16 Annual Performance Statement of ACIAR, as required under paragraph 39(1)(a) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and the *Occupational Health and Safety Act 2000*, the *Freedom of Information Act 1982* and the *Public Service Act 1999*. 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.

Colin Andrew Campbell
Chief Executive Officer

Purpose

To achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia through international agricultural research and training partnerships. ACIAR has one administered program: international agricultural research for development for more productive and sustainable agriculture, delivered through a number of initiatives aligning closely with the Australian aid policy.

This purpose appears as a single outcome in the **Portfolio Budget Statement 2015-16, Budget Related Paper No. 1.9 Foreign Affairs and Trade Portfolio**. It is anticipated that this purpose will remain unchanged over the next four years, although the focus on particular geographic areas may change in response to changing needs in individual countries and regions. ACIAR's goals and programme objectives are derived from the functions of the Centre, as prescribed in the *Australian Centre for International Agricultural Research Act 1982* (ACIAR Act). The ACIAR Act is administered by the Minister for Foreign Affairs in accordance with the Administrative Arrangements Order September 2013.

In a whole of government context, ACIAR's research agenda underpins the Government's overarching development policy, *Australian aid: promoting prosperity, reducing poverty, enhancing stability* and aligns with key sectoral priorities outlined in the *Strategy for Australia's aid investments in agriculture, fisheries and water*.

ACIAR will directly contribute to the Government's aid policy by working to enhance and promote agricultural competitiveness and sustainability, increased market access, and value-chain efficiencies and effectiveness. Farm-level productivity and the competitiveness of both traditional and emerging value chains to achieve access to domestic and international markets will continue to be a primary focus of the Centre's activities.

ACIAR's research partnerships also deliver benefits to Australian farmers, institutions and the wider private sector in areas such as biosecurity, technology, research capabilities and trade, as well as improve smallholder farmer productivity and livelihoods in the countries in which the Centre works.

ACIAR will continue to manage research partnerships in four areas: crops; livestock and fisheries; natural resources and forestry; socioeconomics and policy. There will continue to be a multidisciplinary approach between these research clusters, including cross-cutting issues such as communication; and the empowerment of women and girls in the design, delivery and assessment of impacts of the Centre's activities.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New technologies that enhance agricultural productivity, food sufficiency, diversification and health and nutrition.	*Adoption of new technologies* • The absolute number of commercialised new agricultural technologies • Reduced pre- and post-harvest losses • Closed yield gaps through improved agronomic and animal husbandry practices • The extent to which new technologies and practices in natural resource management for the forestry and fisheries sectors have been developed • Enhanced genetic gain • The identification of the number of projects designed to improve the participation and empowerment of women • The absolute number of new partners and modalities developed	• Strategies for reducing losses of mangoes developed through new post-harvest and production technologies	• Achieved – Strategies refined and tested in Indonesia, Philippines and Pakistan include area-wide management of fruit flies (during production) and treatments including warm-water dips and irradiation for pest/disease reduction and alternatives to calcium carbide for ripening.
		• Recommendations developed for remedying mineral deficiencies in crop–livestock systems for Tibet Autonomous Region	• Achieved – Mineral blocks addressing selenium deficiency in dairy cattle are produced in Tibet and used by smallholder farmers.
		• New fish-passage technology introduced in the Lower Mekong Basin	• Achieved
		• Rice direct-seeding techniques demonstrated and farmer extension material developed	• Achieved
		• Lung-lesion scoring method adopted by commercial abattoirs in two regions in the Philippines for routine inspection and disease surveillance	• Achieved – Government and pig industry veterinarians and meat inspectors were trained in lung scoring, which is now being used in Region III. The Philippine Council of Agriculture, Forestry and Natural Resources Research and Development (PCAARRD) published the project training materials, which are now available for use in other regions of the country.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New technologies that enhance agricultural productivity, food sufficiency, diversification and health and nutrition (cont.).		• ICM options for management of Panama disease of bananas being developed and tested on farms in the southern Philippines	• Achieved – The use of more effective footbath dips (to disinfect workers' footwear) and planting of cover crops (especially pinto peanut) have reduced the incidence of Panama disease in trial farms.
		• Capacity developed for trade and market access through establishing remote microscopy equipment for routine use in national plant biosecurity centres in Cambodia, Laos and Thailand	• Achieved – Biosecurity officers in Cambodia, Laos and Thailand are using remote microscopy and Pestpoint software for pest and disease identification and preparation of 'pest lists' as a foundation for market access negotiations.
		• Higher yielding disease-resistant maize and wheat varieties released for farmer adoption in Afghanistan	• Achieved – 6 wheat varieties approved for release by Afghan government in Nov. 2015.
		• Improved crop varieties demonstrated in six provinces in Afghanistan	• Achieved – 540 demonstrations on farmers' fields (4 provinces). Trials and demonstrations on research stations (2 provinces).
		• At least three demonstration sites established for improved citrus production practices in Bhutan	• Achieved – Demonstration sites have been established for the use of superior genetic resources, drip irrigation, improved crop nutrition and fruit-fly management.
		• Use of molecular markers fully integrated into three wheat breeding programs in India	• Achieved as presented at annual research meeting June 2016.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New technologies that enhance agricultural productivity, food sufficiency, diversification and health and nutrition (cont.).		• Genetic mapping of deep-root and soil-shading wheat lines undertaken for use in developing improved breeding material	• Partially achieved – Delays due to change of staff; undertaken but not completed.
		• Innovation platforms developed in six irrigation areas to address factors constraining development in eastern and southern Africa	• Achieved – These platforms have led to increases in productivity of 2–5 times in irrigation schemes in Mozambique, Tanzania and Zimbabwe.
		• Novel soil moisture monitoring tools tested in farmers' fields in eastern and southern Africa	• Achieved – Tools being used by farmers to schedule irrigations, reducing water use by 25-75% and often doubling or tripling yields.
		• Sites established in at least three countries in eastern and southern Africa to evaluate technologies and train farmers in 'best practice' for vegetable production and marketing	• Achieved – 'Best practice hubs' for training farmers in improved production and marketing of high-value, nutritious vegetables have been established in Ethiopia, Malawi, Mozambique and Tanzania.
		• At least four reports published in the Impact Assessment Series	• Achieved – Assessments include cocoa in Indonesia and PNG; private sector involvement in ACIAR projects; Smallholder ADOPT tool.
		• A report completed on the results and benefits of incorporating biochar from coconut stems into agricultural systems in Fiji	• Achieved – Research note on coconut biochar use in a Taveuni field trial on Taro cropping completed. Assessment on the use of coconut wood harvesting and processing residues for by-products completed.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New knowledge that improves agricultural productivity and management systems and enhances market opportunities.	*Application of new knowledge* • The extent to which productivity and income growth, measured in real terms, has increased through improved management of crops, livestock, fisheries and forestry • The identification of social, economic and environmental constraints to industry development for smallholder farmers, and documentation of case studies on crop, fisheries, forestry and gender research • The increase in the number of farmers linked to markets • Increased availability of diverse nutrient-rich foods • Reduced biological and chemical hazards in the food system • The increase in number of improved post-harvest systems in rice-based farming systems, notably rice drying practices • The absolute number of partner-country consultations; contacts between members of the Policy Advisory Council and the ACIAR's Commission; and engagements with both research and development partners, including industry and NGOs	• Six new community tree nursery ventures supplying high value tree seedlings to smallholders in Solomon Islands	• Partially achieved – Three new community tree nurseries established with the assistance of Rural Training Centres (RTC), with a further four to be completed by August 2016. A 'how to' booklet to help landholders establish their own nursery and produce seedlings has been developed and distributed.
		• Farmers and farmer networks in PICs supplying higher-value products or obtaining better returns through improved quality, certification, branding, participatory guarantee schemes or other value-chain interventions, for at least two new markets or commodities	• Achieved – Cocoa producers in Vanuatu and Solomon Islands are receiving better prices for higher-quality beans (sun-dried, without smoke-taint) from chocolate makers, in-country (Vanuatu) and in Australia (both countries). Tomato growers in Fiji are getting better prices for top-quality tomatoes sold to resorts outside the normal production season.
		• Information published on the economic and social benefits of alternative and agroforestry practices and the legal aspects of land-use in Fiji and Vanuatu	• Achieved
		• Updated manual for balsa growers and three Pidgin language information leaflets produced in PNG	• Achieved

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New knowledge that improves agricultural productivity and management systems and enhances market opportunities (cont.).		• A comprehensive series of research papers on sustainable grassland management in China prepared as an ACIAR monograph	• Achieved – Research papers have been prepared and were presented at the International Rangeland Congress in Canada. Drafts are ready for publication as an ACIAR Monograph.
		• Recommendations on biosecurity training and producer incentives for the small commercial poultry sector provided to government and industry bodies in Indonesia	• Achieved – Training manuals and videos were developed (in English and Bahasa) on poultry biosecurity. A technical report (TR82) on ‘‘Developing a clean market chain for poultry products in Indonesia was published.
		• Strategies for managing diseases in shallot production in Java defined and being field tested	• Partially achieved – More appropriate application rates for fertilisers and pesticides have been defined and are being applied on farms near Cirebon, Java, but a supply of virus-free planting material has not yet been established.
		• Best practice guidelines for agroforestry systems relevant to Dien Bien, Son La and Yen Bai provinces published in English, Vietnamese and local languages	• Partially achieved – An agroforestry guide for Northwest Vietnam is in preparation. This document will be in English and Vietnamese with a “farmer friendly” form. It contains the basic and important information, such as methods to cultivate on sloping land, suitable species, recommended distance, etc.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New knowledge that improves agricultural productivity and management systems and enhances market opportunities (cont.).		• Agreed collaborative research developed and commenced to meet key challenges of food security, environmental sustainability and natural resource use in the crop sector in PICs	• Achieved
		• Enhanced knowledge of existing agricultural development policies for food security in Vietnam	• Achieved
		• Watershed development using a mix of perennial trees and forage crops expanded to a further two catchments in Afghanistan	• Achieved – Working with government and NGOs is leading to take up of watershed development in Afghanistan.
		• Priority research and scaling-out challenges assessed for intensification and diversification of sustainable and resilient farming systems in eastern India, Bangladesh and Nepal	• Achieved
		• Initiation of a project to better manage soil and water in the embankments of the Bangladesh and India coastal zone established in India	• Achieved – Project sites have been identified and characterization started.
		• Experiences in strengthening mango and citrus value chains fully documented and gaps requiring further R&D investment identified in Pakistan	• Achieved – Projects on citrus production, and production and post-harvest handling of mango have been completed and reviewed. Experiences are documented in field manuals, final technical reports and review reports.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
New knowledge that improves agricultural productivity and management systems and enhances market opportunities (cont.).		• Knowledge of practices of farming systems intensification enhanced through joint research with national R&D agencies in Eastern and Southern Africa	• Achieved
		• Stakeholders, internally (such as Commission, PAC, RPMs, CSOs and Country Managers) and externally (such as DFAT, research and private sector partners, and industry bodies) are effectively engaged	• Achieved
		• 12–16 new publications on ACIAR-funded outputs, outcomes and impacts are commissioned and three issues of Partners in Research for Development magazine published	• Achieved

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
Greater capability for scientific excellence, agricultural innovation and agribusiness development among researchers, research institutions, policy makers and development partners	*Building greater capacity* • Institutional capacity of partner research organisations • Identification of skills gaps in the countries in which we work • Individual capacity in partner country research organisations through training and exchange • Number of institutional capacity building and training opportunities developed to support ongoing research interventions • Absolute number of fellowships awarded	• At least four postgraduate thesis studies developed in collaboration with USP and active ACIAR Pacific region projects	• Achieved – Scholarships have been awarded and recipients are conducting their research in horticulture and fisheries projects in Fiji, Samoa and Tonga.
		• A regional research program created to improve maize and cassava based systems in PNG	• Partially achieved – Cassava system underway, maize system in progress.
		• 1,200 community seed production groups operate, with 75% of them requiring minimal support from Seeds of Life III in Timor-Leste	• Achieved
		• Capacity building of national scientists in community-based watershed management achieved through completed training courses and lessons learnt from project partnerships in Afghanistan	• Achieved
		• Capacity of national agronomists to manage legumes between cereal crops improved through training and knowledge transfer in project partnerships in Bangladesh	• Achieved over the course of the 5 year project: relay cropping of lentil in monsoon rice, lentil disease management with a predictive model, new vegetable pea crop. • Disturbed in 2016 by the deteriorating security situation.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
Greater capability for scientific excellence, agricultural innovation and agribusiness development among researchers, research institutions, policy makers and development partners (cont.).		• Capacity of lead farmers, researchers and extension staff in the horticulture and dairy sectors increased, through short courses in irrigation management conducted in Pakistan	• Achieved
		• Assessment of the impacts from capacity building activities within ACIAR projects	• Achieved – Review of capacity building activities in forestry and fisheries programs in Vietnam completed.
		• Partner-country and project team capacities to evaluate agricultural research initiatives strengthened	• Achieved – APAARI member training workshop in impact pathways and project evaluation. Presentations to project teams throughout year.
		• Capacity Building of national scientists in community-based watershed management achieved through completed training courses and lessons learnt from project partnerships	• Achieved – In the Philippines, training of the national Bureau of Soil and Water Management in rapid soil analysis, land suitability assessment and participatory land-use planning has been completed, using two watersheds as case studies.
		• At least 15 ACIAR supported students to have successfully completed postgraduate awards in 2015–16. Continuation of high quality of applicants for in-depth research management training in Australia (John Dillon Fellows), such that over 40 applications are received and at least 8 Fellowships are awarded	• Achieved

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
Better decision-making within research and policy institutions to support agricultural innovation and agribusiness development	*Better decision-making and improved policy knowledge* • Absolute number of early engagements with decision-makers, opinion-formers and practitioners • Number of projects involving attention to property rights, land-use policies and collective action in agroforestry • Demonstrated increased understanding of the economic and social benefits of catchment rehabilitation and remediation strategies • Identification of the uptake of technical assistance and advice provision relevant to policy strengthening in government agencies • Conducive agricultural policy environment • Reduced barriers to market	• A research program developed to advance land evaluation methods that enable better planning and management of agricultural development in the Central Dry Zone in Myanmar	• Achieved – Projects on land-use suitability and nutrient management formally commenced in May 2016.
		• Recommendations developed and policy advice for efficient grassland management options in China	• Partially achieved – Policy recommendations have been formulated as part of project reporting but have not yet been formally published. This will form part of the Monograph (16-17) and Final Review process scheduled for August 2016.
		• A series of policy briefs developed to assist authorities with management of disease spread via livestock movement in Cambodia	• Achieved
		• Seaweed and pearl production contributing to economic development of participating communities	• Achieved
		• Awareness of forest policies and programs in Lao PDR and Vietnam	• The forest policy project had many months delay in getting Lao PDR country approval and eventually started late, so could not achieve the outcomes in the original timeframe.

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
Better decision-making within research and policy institutions to support agricultural innovation and agribusiness development (cont.).		• Identified and tested strategies for rapid assessment of land suitability developed for the southern Philippines	• Achieved – A catalogue of suitable land-uses has been developed and tested with vulnerable communities in one catchment, and advanced in another. Adoption by local authorities of techniques is gaining traction.
		• Enhanced knowledge amongst policy makers of the key factors that affect farmers' decisions to take up entrepreneurial ventures, and the effect of climate change related resource scarcity and shocks on decision-making	• Achieved
		• Increased knowledge and assessment of policies affecting Pakistani agriculture developed and documented for policy decision-makers	• Partially achieved
		• Strategic partnership established between supermarket retailers and smallholder beef supply groups in South Africa	• Achieved – Successful partnerships were established with Woolworths and Cradock Abattoir for processing and retailing smallholder beef
		• Information published on the economic and social benefits of alternative and agroforestry practices and the legal aspects of land-use in Fiji and Vanuatu	• Achieved
		• Effective participation by ACIAR in CGIAR reform implementation as Pacific Donor Constituency representative, with Australian perspectives and contributions valued by the Fund Council and Consortium Board	• Achieved

Portfolio Budget Statement 2015–16 Key Performance Indicators	Corporate Plan 2015–16 Planned Performance KPIs	Results - Activities	Analysis – Activities and performance are measured through an annual reporting and peer review process
Better decision-making within research and policy institutions to support agricultural innovation and agribusiness development (cont.).		• Effective participation of ACIAR in the management and assessment of CGIAR Research Programs	• Achieved
		• Effective contributions and guidance provided to APAARI through membership on the Executive Committee	• Achieved
		• All statutory and legislative, reporting and information requirements and requests are met in an efficient and timely manner	• Achieved

REPORTING AGAINST OTHER STATUTORY REQUIREMENTS

Purchasing and tendering compliance

ACIAR complies with the Commonwealth Procurement Rules (CPRs) 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 CPRs. 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 CPRs.

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, 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 CPRs, 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 (AOP) that includes areas of priority for research developed in consultation with partner countries
- disseminates the AOP 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 113 contracts and agreements to acquire services mainly related to research program support and services. These contracts totalled $3 119 295 in 2015–16 (2014–15: $5 035 175). All contracts over $10 000 are reported on the AusTender website <www.tenders.gov.au>.

No contracts were let in excess of $10 000 that were exempted from publication in AusTender due to freedom of information exemptions.

Competitive tendering

ACIAR conducted a single approach to market for an Expression of Interest (over $80 000) during 2015–16.

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

Small and Medium Enterprises

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 SME 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; and
- 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.

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 CPRs and relevant internal policies.

During 2015–16 three new consultancy contracts were entered into involving total actual expenditure of $130 290. In addition, three ongoing consultancy contracts were active during the period, involving total actual expenditure of $347 188.00.

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.

Discretionary grants

ACIAR did not issue any discretionary grants during 2015–16 or have any ongoing grants from previous years.

Advertising and market research

ACIAR entered into one contract with a market researchers company, to conduct research on our stakeholders and engagement. One advertisement, promoting what ACIAR does, was placed with the National Farmers' Federation yearbook. ACIAR is also a sponsor of the annual Crawford Fund Conference. 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. The Centre maintains mailing lists of project personnel and those requesting selected material.

Management of human resources

ACIAR's Individual Development and Performance Evaluation Scheme (IDPES) is utilised to identify and measure the effectiveness of employees capability development and performance. IDPES also links each individuals 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 IDPES each employee makes a commitment to enhance the knowledge and skills of other ACIAR employees.

ACIAR employed 78 employees as at 30 June 2015. Of these, 55 are employed under the *Public Service Act 1999* and are located in Canberra and 23 are at overseas missions and embassies. ACIAR has 2 male SES Band 1 employees, 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 2016

Staff employed under the PS Act	55* (53.38 FTE)
Median length of APS service	3 years
Median age	46
Females as % of total	56%
NESB staff as % of total	14%
Part-time staff as % of total	23%
Non-ongoing staff as % of total	40%
Employee turnover for 2015–16	27%
Employees who identify as Indigenous	0%
Employees who identify as disabled	0%

*excludes CEO

ACIAR four-year perspective

Staff employed under the *Public Service Act 1999*

	2012–2013	2013–2014	2014–2015	2015–2016
Staff at 30 June	53	51	51	55
Staff (FTE)	49.47	48.5	49.4	53.38
Female (%)	63%	61%	54%	56%
Base salaries	$5 482 427	$5 772 821	$5 584 196	$5 927 949
Cessations	8	14	13	15
Staff turnover	15%	27%	25%	27%
Part-time	21%	20%	16%	23%
Non-ongoing	30%	39%	41%	40%
Learning and development activities	$79 978	$95 540	$66 656	$55 725

Overseas staff

	2012–2013	2013–2014	2014–2015	2015–16
Staff (FTE)	19.3	18.13	17.8	23
Base salaries	$650 847	$707 292	$734 355	$830 317
Learning and development activities	$2 072	$2 113	$1 325	$12 889

Performance management

ACIAR's IDPES encourages high achievement by improving individual performance through development, evaluation and planning to meet individual and ACIAR needs.

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 2016 there were 42 completed assessments, with 42 rated as 'meets expectations' or higher. Of these, 9 were advanced one salary point.

Organisation bonuses

A bonus of $2 000 is granted to employees rated as 'meets expectations' or higher in the performance cycle, who have worked for ACIAR for at least 9 months and who were still employed by ACIAR on 30 June 2016, in recognition of ACIAR's achievements against the 2015–16 Annual Operational Plan. Part-time employees received a pro-rata payment based on hours worked. 42 employees earned performance bonuses totalling $82 120.

APS classification received Organisational Bonus	Number of Employees by classification	Part-timer received bonus	Full-time received bonus	TOTAL Employees by classification who received bonus	Aggregate Bonus for each classification
SES Band1	2	0	2	2	$4 000
EL2 RPM	14	0	13	13	$26 000
EL2	1	0	1	1	$2 000
EL 1	7	0	6	6	$12 000
APS 6	7	0	5	5	$10 000
APS 5	9	3	5	8	$15 060
APS 4	15	3	4	7	$13 060
TOTAL	55	6	36	42	$82 120

Learning and development

ACIAR spent $55 725 on training and development for its Canberra-based employees in 2015–16. 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 2015–16 two employees received study assistance.

Enterprise Agreement

The ACIAR Enterprise Agreement 2015–2018 came into effect on 31 December 2015. Non–SES staff received a 2% salary increase on commencement, with an expected 2% salary increase twelve months from commencement and a further 2% salary increase twenty four months from commencement. Two Individual Flexibility Arrangements (IFA) were in place for 2015-2016.

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 *National Disability Strategy* and the *Carer Recognition Act 2010*.

Carer Recognition Act 2010 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 2015–16 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 others' differences.

Recognising the importance of all employees and achieving an appropriate balance of work, family and cultural responsibilities is encouraged and supported through ACIAR's Workplace Diversity Program.

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 (CDS)

Since 1994, Commonwealth departments and agencies have reported on their performance as policy adviser, purchaser, employer, regulator and provider under the Commonwealth Disability Strategy. In 2007–08, reporting on the employer role was transferred to the Australian Public Service Commission's *State of the Service Report* and the *APS Statistical Bulletin*. These reports are available at www.apsc.gov.au. From 2010–11, departments and agencies have no longer been required to report on these functions.

The Commonwealth Disability Strategy was overtaken by the *National Disability Strategy 2010–2020*, which sets out a ten year national policy framework to improve the lives of people with disability, promote participation and create a more inclusive society. A high level two-yearly report will track progress against each of the six outcome areas of the Strategy and present a picture of how people with disability are faring. The first of these reports was released in late 2014, and can be found at www.dss.gov.au.

Work health and safety

A healthy lifestyle is actively encouraged and promoted by ACIAR, through providing access to non-salary benefits such as subsidies for healthy lifestyle initiatives and annual influenza injections.

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 less work-related physical ailments and increased productivity.

In 2015–16, 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*.

Compliance with Freedom of Information/ Information Publishing Scheme

Subject to the *Freedom of Information Act 1982* (FOI Act) ACIAR and other Australian Government agencies are required to publish information to the public as part of the Information Publication Scheme (IPS). This requirement is in Part II of the FOI Act and has replaced the former requirement to publish a section 8 statement in an annual report. A plan showing what information ACIAR publishes in accordance with the IPS requirements is available on the website at <aciar.gov.au/IPS>

Ecologically sustainable development and environmental performance

This report comprises the Centre'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, obligation rests with both ACIAR and the proponents 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 (RPM) 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 Environment. 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 Environment.

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 Environment.

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 etc.

How the outcomes of the organisation contribute to ecologically sustainable development (ESD)

ACIAR's governing legislation outlines the mandate and functions of the Centre 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 (AOP). 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 Centre's mandated region of operations, in developing countries of the Indo–Pacific. 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—mitigation and adaptation 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 affects 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 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:

- National Government waste reduction and purchasing guidelines (2004)
- Environmental Purchasing Guide (2004)
- Environmental Purchasing Checklist (2004)
- Energy Use in Commonwealth Operations (2006)

Resource	Usage	
	2014–15	2015–16
Energy (kilowatt hours)	230 574	232 091
Water (kilolitres)	984	1 179

APPENDIXES

APPENDIX 1: BASIS OF AUTHORITY

ACIAR's governing legislation is the *Australian Centre for International Agricultural Research Act 1982* (the Act), proclaimed on 3 June 1982 as Act No. 9 of 1982. The 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 involving a Chief Executive Officer (CEO) and a seven-member Commission. The functions of the CEO are set out at Section 5 of the legislation, 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.

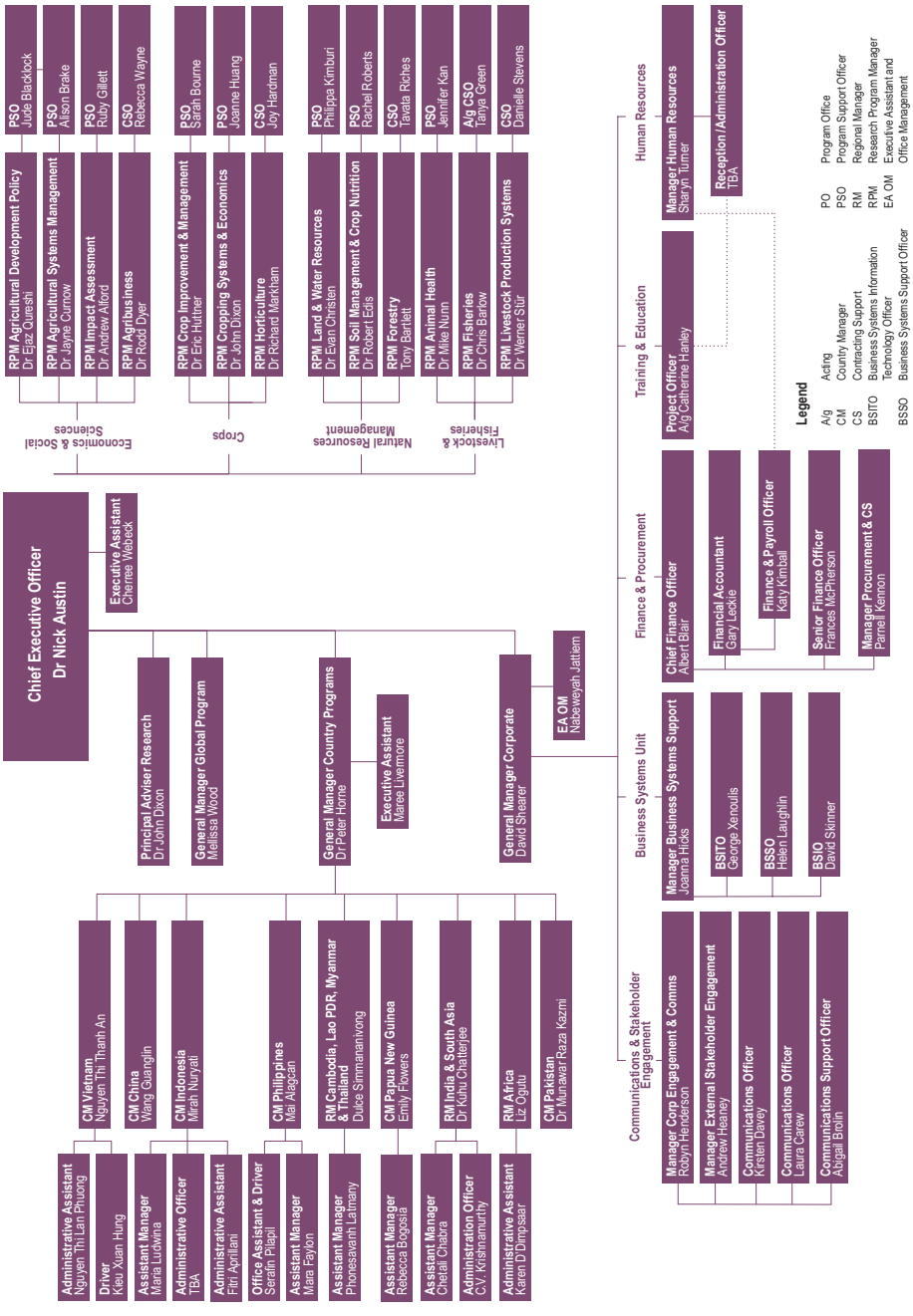
5A Power of Minister to give directions

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: ORGANISATION STRUCTURE

As at 30 June 2016



APPENDIX 3: CORPORATE PLANNING AND RESOURCES

Corporate planning

Each financial year ACIAR publishes a formal Annual Operational Plan to guide external stakeholders through the priority areas for research in partner countries. The AOP identifies key research programs in each country, creating a two-way management matrix against which funds are allocated. Reporting against the Annual Operational Plan is covered in the section Annual Performance Statement.

Agency Resource Statement

	Actual resources available 2015–16 $'000s	Resources utilised 2015–16 $'000s	Remaining balance 30 June 2016 $'000s
Departmental			
Prior year Appropriations available	3 403	3 403	-
2015–16 Appropriation	9 657	6 411	3 246
Own source income	1 875	1 875	-
Received free of charge	30	30	-
Prior year Departmental Capital Budget available	219	219	-
2015–16 Departmental Capital Budget	248	186	62
Equity injection	161	30	131
Administered			
Prior year Appropriations available	2 187	2 046	141
2015–16 Appropriation	81 629	81 021	608
Special Account			
Opening balance	27 851		
Receipts	12 411		
Payments		19 118	
Closing balance			21 144
Total resources	**139 671**	**114 339**	**25 332**

APPENDIX 4: ACTIVE RESEARCH PROJECTS 2015–16

Bilateral research projects

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 Id	Title	Countries	Project Type	Financial Limit	Status
ADP/2010/008	Capturing the potential for greenhouse gas offsets in Indian agriculture	India	Project	$1 130 583	Concluded 31/07/2015
ADP/2014/011	Contributing to Indonesia's sustainable agricultural research strategy	Indonesia	Small R&D Activity	$147 510	Concluded 31/07/2015
ADP/2014/012	Improving livelihoods and economic progress through rehabilitation of degraded catchments in Fiji and Vanuatu	Fiji Vanuatu	Small R&D Activity	$63 950	Active Commenced 10/06/2014
HORT/2014/090	Supporting a diverse and sustainable fruit industry in Tonga	Tonga	Small R&D Activity	$54 550	Concluded 31/08/2015
LPS/2015/027	IndoBeef Preliminary Program and Projects Development - Phase 1 Design	Indonesia	Small R&D Activity	$111 100	Concluded 31/08/2015
LWR/2008/019	Developing multi-scale climate change adaptation strategies for farming communities in Cambodia, Lao PDR, Bangladesh and India	Bangladesh Cambodia India Lao PDR	Project	$5 516 026	Active Commenced 01/04/2010
SMCN/2014/050	Towards a multidisciplinary program for improving rural livelihoods through integrated management of the Inle Lake catchment, Myanmar	Myanmar	Small R&D Activity	$117 820	Concluded 01/10/2015

Project Id	Title	Countries	Project Type	Financial Limit	Status
AH/2015/002	Using *Apis melifera* and *A. cerana* in landless and subsistence agricultural communities in Timor-Leste and Indonesia	Timor-Leste Indonesia	Small R&D Activity	$46 500	Concluded 30/09/2015
ASEM/2010/003	Social research to foster effective collaboration and strengthen pro-poor value chains	Pakistan	Project	$1 466 611	Concluded 30/09/2015
CIM/2015/008	Multiplication and distribution of mungbean mini-core germplasm	Bangladesh Myanmar India	Small R&D Activity	$80 000	Active Commenced 01/04/2015
FIS/2009/041	Development of fish passage technology to increase fisheries production on floodplains in the lower Mekong and Murray - Darling River basins	Lao PDR	Project	$1 837 834	Concluded 30/09/2015
FSC/2014/101	Developing a model for understanding and promoting dietary diversity in Zambia	Zambia India	Small R&D Activity	$149 730	Concluded 30/09/2015
FST/2008/030	Overcoming constraints to community-based commercial forestry in Indonesia	Indonesia	Project	$932 335	Concluded 30/09/2015
HORT/2010/001	Mango value chain improvement	Pakistan	Project	$1 958 560	Active Commenced 01/12/2010
HORT/2010/002	The enhancement of citrus value chains of production in Pakistan and Australia through improved orchard management practices	Pakistan	Project	$1 329 508	Active Commenced 01/04/2011
HORT/2010/006	Integrated crop management practices to enhance value chain outcomes for the mango industry in Pakistan and Australia - ASLP Phase 2	Pakistan	Project	$1 426 467	Active Commenced 01/12/2010

Project Id	Title	Countries	Project Type	Financial Limit	Status
LPS/2008/049	Overcoming technical and market constraints to the emergence of profitable beef enterprises in the north-western highlands of Vietnam	Vietnam	Project	$1 244 175	Active Commenced 01/04/2011
LWR/2015/019	An exploration of opportunities to utilise urban organic waste for the livelihood improvement of rural and urban communities in Bangladesh and India	Bangladesh India	Small R&D Activity	$47 000	Active Commenced 01/06/2015
SMCN/2009/003	Improving soil health in support of sustainable development in the Pacific	Fiji Kiribati Samoa	Project	$1 538 066	Concluded 30/09/2015
SMCN/2009/021	Climate change affecting land use in the Mekong Delta: adaptation of rice-based cropping systems (CLUES)	Vietnam	Restricted Grant (Large)	$3 889 406	Concluded 30/09/2015
CIM/2007/084	Molecular markers for broadening the genetic base of stem rust resistance genes effective against strain Ug99	India	Project	$1 230 001	Active Commenced 01/06/2009
CSE/2009/004	Developing improved farming and marketing systems in rainfed regions of southern Lao PDR	Lao PDR	Project	$5 161 795	Active Commenced 01/12/2009
FST/2015/020	Assessing genetic diversity of natural and hybrid populations in Fiji and Tonga	Fiji Tonga	Small R&D Activity	$150 000	Concluded 31/10/2015
ADP/2014/013	Promoting sustainable agriculture and agroforestry to replace unproductive land-use in Fiji and Vanuatu	Fiji Vanuatu	Small R&D Activity	$150 000	Active Commenced 22/05/2014
ASEM/2009/055	Facilitating livelihood adaptation to natural resource pressures in Lao PDR	Lao PDR	Project	$1 375 610	Active Commenced 01/05/2012

Project Id	Title	Countries	Project Type	Financial Limit	Status
CSE/2004/033	Zero-tillage rice establishment and crop-weed dynamics in rice and wheat cropping systems in India and Australia	India	Project	$1 264 332	Active Commenced 01/07/2006
FIS/2007/124	Diversification of smallholder coastal aquaculture in Indonesia	Indonesia	Project	$2 021 504	Concluded 31/12/2015
HORT/2008/041	Area-wide management of pest fruit flies in an Indonesian mango production system	Indonesia	Project	$1 247 517	Active Commenced 01/01/2010
LPS/2009/036	Enhancing smallholder cattle production in Timor-Leste	Timor-Leste	Project	$1 576 538	Active Commenced 01/06/2012
LPS/2010/007	Strengthening dairy value chains in Pakistan through improved farm management and more effective extension services	Pakistan	Project	$2 051 013	Active Commenced 01/01/2011
LPS/2010/010	Competitive smallholder livestock in Botswana	Botswana	Restricted Grant (Large)	$1 372 153	Active Commenced 01/09/2012
GMCP/2015/016	Assessment of digital data collection apps (DDCAs) to support ACIAR's M&E	Indonesia	Small R&D Activity	$209 770	Concluded 15/01/2016
ADP/2015/001	Scoping study for agricultural development policy review for Vietnam food security	Vietnam	Small R&D Activity	$150 000	Active Commenced 01/03/2015
AH/2014/087	Epidemiology of *henipavirus* in horses and pigs in Sultan Kudarat, Mindanao, Philippines	Philippines	Small R&D Activity	$148 560	Active Commenced 01/12/2014
FIS/2010/058	Assessing economic and welfare values of fish in the Lower Mekong Basin	Cambodia Lao PDR Thailand Vietnam	Restricted Grant (Large)	$1 210 026	Active Commenced 01/12/2011

Project Id	Title	Countries	Project Type	Financial Limit	Status
CSE/2015/022	Piloting a farming systems approach to investment planning for climate-smart smallholder agriculture in Africa	Tanzania	Small R&D Activity	$148 472	Active Commenced 01/06/2015
FIS/2011/069	Technical support for pearl culture in coastal Tanzania	Tanzania	Small R&D Activity	$140 000	Active Commenced 01/04/2012
LPS/2014/034	Economic analysis of cattle fattening systems based on forage tree legume diets in eastern Indonesia	Indonesia	Small R&D Activity	$89 434	Active Commenced 01/10/2014
LPS/2014/098	Scoping study to support the design of a project on developing integrated dairy-crop enterprises in Tibet - China	China	Small R&D Activity	$75 000	Active Commenced 01/05/2015
CIM/2014/024	Identification and validation of functional markers from diverse germplasm to reduce chalk in rice breeding materials	Bangladesh Myanmar India Indonesia Philippines Thailand Vietnam	Restricted Grant (Small)	$100 000	Active Commenced 01/06/2014
CIM/2015/010	Weedy rice in the Philippines and Vietnam	Philippines Vietnam	Small R&D Activity	$160 000	Active Commenced 01/05/2015
FST/2009/016	Improving the Papua New Guinea balsa value chain to enhance smallholder livelihoods	Papua New Guinea	Project	$1 079 149	Active Commenced 01/05/2011
FST/2010/013	Developing markets and products for the Papua New Guinea *Canarium* nut industry	Papua New Guinea	Project	$483 051	Active Commenced 01/05/2012
FST/2015/007	Developing a DNA chain of custody method to verify legally sourced teak in Indonesia and Myanmar	Indonesia	Small R&D Activity	$110 000	Concluded 30/04/2016
HORT/2015/023	Improving coffee-based production systems for smallholder farmers in Papua New Guinea: a scoping study	Papua New Guinea	Small R&D Activity	$132 000	Active Commenced 30/05/2015

Project Id	Title	Countries	Project Type	Financial Limit	Status
LPS/2013/022	Improving farmer profits from beef cattle by using dry land forage production systems in Timor-Leste	Timor-Leste Indonesia	Small R&D Activity	$149 931	Active Commenced 01/09/2014
CSE/2015/025	Testing participatory entrepreneurship for enhancing private sector-led scaling out of innovations for crop intensification	Uganda	Restricted Grant (Small)	$120 000	Active Commenced 15/06/2015
CSE/2015/026	Supporting equitable benefits among men and women through agricultural innovation platforms in Rwanda	Rwanda	Restricted Grant (Small)	$120 000	Active Commenced 15/06/2015
ADP/2015/004	Farmer's capabilities, productivity, and profitability: A case study of smallholders in selected agro zones in Pakistan	Pakistan	Small R&D Activity	$150 000	Active Commenced 01/05/2015
CSE/2016/023	Competitiveness of Cambodian Farming Systems: characterization of farming systems to inform research and policy	Cambodia	Small R&D Activity	$149 967	Active Commenced 05/08/2016
LPS/2013/020	Adoption processes to enhance uptake of forage tree legumes in Indonesia	Indonesia	Small R&D Activity	$100 000	Active Commenced 27/06/2014
AGB/2015/024	Additional analysis of regional beef markets and trade in China and South-East Asia	Myanmar Cambodia China Timor-Leste Indonesia Lao PDR Thailand Vietnam	Small R&D Activity	$248 575	Active Commenced 19/06/2015
ASEM/2008/036	Improving livelihoods of smallholder families through increased productivity of coffee-based farming systems in the highlands of Papua New Guinea	Papua New Guinea	Project	$2 122 000	Active Commenced 01/01/2010

Project Id	Title	Countries	Project Type	Financial Limit	Status
ASEM/2009/023	Developing agricultural policies for rice-based farming systems in Lao PDR and Cambodia	Cambodia Lao PDR	Project	$607 450	Active Commenced 01/06/2011
ASEM/2010/053	Enhancing the role of small scale feed milling in the development of the monogastric industries in Papua New Guinea	Papua New Guinea	Project	$1 066 060	Active Commenced 01/01/2012
ASEM/2011/048	An integrated approach for systemic change and sustained development of the Papua New Guinea sweetpotato value chain	Papua New Guinea	Project	$1 029 994	Active Commenced 01/06/2012
FIS/2008/023	Increasing production from inland aquaculture in Papua New Guinea for food and income security	Papua New Guinea	Project	$1 700 010	Active Commenced 01/04/2010
FIS/2014/104	Small-scale fisheries in Indonesia: benefits to households, the roles of women, and opportunities for improving livelihoods	Indonesia	Small R&D Activity	$149 868	Active Commenced 01/04/2015
FIS/2015/034	Research support for lobster restocking in Indonesia	Indonesia	Small R&D Activity	$50 000	Active Commenced 26/06/2015
FIS/2016/002	Developing fisheries and aquaculture reviews on Myanmar's fishery sector	Myanmar	Small R&D Activity	$69 972	Active Commenced 01/03/2016
FST/2008/039	Enhancement of production of acacia and eucalypt peeled and sliced veneer products in Vietnam and Australia	Vietnam	Project	$1 101 028	Active Commenced 01/11/2011
FST/2009/062	Development of advanced veneer and other products from coconut wood to enhance livelihoods in South Pacific communities	Fiji Samoa Solomon Islands	Project	$1 200 003	Active Commenced 01/05/2012

Project Id	Title	Countries	Project Type	Financial Limit	Status
FST/2014/030	Pilot testing of wood properties for Papua New Guinea timber species	Papua New Guinea	Small R&D Activity	$140 000	Concluded 30/06/2016
GMCP/2015/021	Scoping Study and Masterclass to scale up the findings from the Mobile Acquired Data Pilot (MAD 2)	Myanmar Pakistan Vanuatu Vietnam	Small R&D Activity	$130 000	Concluded 30/06/2016
HORT/2010/011	Improving the sustainability of cocoa production in eastern Indonesia through integrated pest, disease and soil management in an effective extension and policy environment	Indonesia	Project	$2 221 980	Active Commenced 01/04/2011
HORT/2012/002	Heat stress alleviation in summer vegetables - enhancing the use of genetic diversity in central Punjab, Pakistan	Pakistan	Project	$549 725	Active Commenced 01/04/2013
HORT/2016/001	Evaluating options for further development of mango value chains in Java and Bali	Indonesia	Small R&D Activity	$90 000	Active Commenced 02/04/2016
LPS/2008/054	Improving smallholder cattle fattening systems based on forage tree legume diets in eastern Indonesia and northern Australia	Indonesia	Project	$1 716 706	Active Commenced 01/04/2011

Multilateral projects

The multilateral projects listed below have an International Agricultural Research Centre as the project leader (commissioned organisation).

International Agricultural Research Centre	
Bioversity International	
HORT/2014/100	Linking smallholders to markets. Scoping study on developing value chains for conserving local biodiversity and improving diets
International Center for Agricultural Research in the Dry Areas	
AH/2012/021	Forage options for smallholder livestock in water-scarce environments of Afghanistan
CSE/2011/025	Adapting conservation agriculture for rapid adoption by smallholder farmers in northern Africa
LWR/2008/047	Integrated catchment management and capacity building for improving livelihoods in Afghanistan
International Crops Research Institute for the Semi Arid Tropics	
CIM/2007/120	Improving post-rainy sorghum varieties to meet the growing grain and fodder demand in India
International Livestock Research Institute	
CSE/2010/022	Integrating crops and livestock for improved food security and livelihoods in rural Zimbabwe
LPS/2010/010	Competitive smallholder livestock in Botswana
LPS/2010/047	Reducing disease risks and improving food safety in smallholder pig value chains in Vietnam
LPS/2015/017	Fodder markets in East Java: Identifying interventions to improve market performance and quality
International Maize and Wheat Improvement Center	
CIM/2011/026	Sustainable wheat and maize production in Afghanistan
CIM/2016/034	Response to Wheat Blast in Bangladesh
CSE/2009/024	Sustainable intensification of maize-legume cropping systems for food security in eastern and southern Africa (SIMLESA)
CSE/2011/077	Sustainable and resilient farming systems intensification in the Eastern Gangetic Plains (SRFSI)
CSE/2013/008	Sustainable intensification of maize-legume cropping systems for food security in eastern and southern Africa II (SIMLESA II)
CSE/2015/025	Testing participatory entrepreneurship for enhancing private sector-led scaling out of innovations for crop intensification
CSE/2015/026	Supporting equitable benefits among men and women through agricultural innovation platforms in Rwanda
FSC/2012/024	Identifying socioeconomic constraints to and incentives for faster technology adoption: Pathways to sustainable intensification in eastern and southern Africa
FSC/2012/047	Farm mechanisation and conservation agriculture for sustainable intensification

International Agricultural Research Centre	
International Rice Research Institute	
CIM/2014/024	Identification and validation of functional markers from diverse germplasm to reduce chalk in rice breeding materials
CSE/2009/005	Improved rice germplasm for Cambodia and Australia
SMCN/2011/046	Diversification and intensification of rice-based systems in lower Myanmar
International Water Management Institute	
LWR/2010/081	Enhancing the resilience and productivity of rainfed-dominated systems in Lao PDR through sustainable groundwater use
The World Vegetable Center	
CIM/2014/079	Establishing the international mungbean improvement network
FSC/2012/111	Improving income and nutrition in eastern and southern Africa by enhancing vegetable-based farming and food systems in peri-urban corridors
World Agroforestry Centre	
FSC/2012/014	Improving sustainable productivity in farming systems and enhanced livelihoods through adoption of evergreen agriculture in eastern Africa
FST/2010/034	Agroforestry for livelihoods of smallholder farmers in north-western Vietnam
FST/2012/039	Development of timber and non-timber forest products-production and market strategies for improvement of smallholders livelihoods in Indonesia
FST/2014/093	Developing value chain innovation platforms to improve food security in east and southern Africa
WorldFish Center	
FIS/2010/057	Developing inland aquaculture in Solomon Islands
FIS/2010/058	Assessing economic and welfare values of fish in the Lower Mekong Basin
FIS/2010/097	Exploring options for improving livelihoods and resource management in Timor-Leste's coastal communities
FIS/2011/052	Improving research and development of Myanmar's' inland and coastal fisheries
FIS/2012/074	Improving community-based fisheries management in Pacific island countries
FIS/2015/031	Fish in national development: contrasting case studies in the Indo-Pacific region
FIS/2016/002	Developing fisheries and aquaculture reviews on Myanmar's fishery sector

APPENDIX 5: PUBLICATIONS 2015–16

Appendix 5: Publications 2015–16

Publ. Code	Title	Authors	Year	Pages
Impact Assessment Series reports				
IAS91	Development of the public release version of Smallholder ADOPT for developing countries	Brown P. R., Nidumolu U. B., Kuehne G., Llewellyn R., Mungai O., Brown B. and Ouzman J.	2016	56
IAS90	Impact of private sector involvement in ACIAR projects: a framework and cocoa case studies	Pearce D.	2016	42
IAS89	Sustaining cocoa production: impact evaluation of cocoa projects in Indonesia and Papua New Guinea	Pearce D.	2016	58
IAS88	ACIAR-funded crop–livestock projects, Tibet Autonomous Region, People's Republic of China	Clarke M.	2015	55
Co-Publication				
CoP27	Adding value to the farmers' trees—Experiences of community-based commercial forestry in Indonesia	Race D. and Stewart H. (Eds, The Australian National University)	2016	134
Monographs				
MN188	Improvement and Sustainability of Sweetpotato-Pig Production Systems to Support livelihoods in Highland Papua and West Papua, Indonesia	Cargill C., Mahalaya S., Soplanit A., Syahputra A.T., Kossay L., Muiid N., Isman Lyons, G., Prabawardani S., Ginting E., Glatz P., Putra M., Dwita D.A., Rumbarar M.K., Rengil J.B.and dan Ellen A.K.	2016	205
MN178	A guide to value-chain analysis and development for overseas development assistance projects	Collins R.C., Dent B. and Bonney L.B.	2016	190
MN177	Trajectories of rice-based farming systems in mainland southeast Asia	Cramb R.A., Gray G.D., Gummert M., Haefele S.M., Lefroy R.D.B., Newby J.C. Stür W. and Warr P.	2016	224

Publ. Code	Title	Authors	Year	Pages
MN176	Introduction to basic crop production, post-harvest and financial management practices: a training manual for smallholder vegetable farmers in western Pacific Island nations	Seta-Waken P., Malie R., Utama P. and Palaniappan G.	2016	99
MN173	Working with rhizobia	Araujo R.S., Ardley J., Abaidoo R., Bala A., Deaker R., Dilworth M., Gemell G., Giller K., Hartley E., Herridge D., Howleson J., Hungrla M., Karanja N., Ramakrishnan K., Melino V., De Meyer S., O'Hara G., Poole P., Reeve W., Sprent J., Terpolilli J., Tlwarl R., Woomer P., Yates R. and Zilli J. Howieson J.G. and Dilworth M.J. (Eds).	2016	312
MN171	Sunflower production guide for Cambodian conditions	Martin R., Montgomery S., Thompson S., Phan S. and Im S.	2016	58
MN169	Sorghum Production guide for Cambodian Conditions	Martin R., Montgomery S., Thompson S., Phan S., and Im S.	2016	46
MN167	Maize production guide for Cambodian conditions	Martin R., Montgomery S., Thompson S., Phan S. and Im S.	2016	86
MN165a	Veterinary cold chain manual– Ensuring effective vaccines	Young M., Costa R., Shirima G., Lobo Q., Tounkara K., Farrell P. and Alders R.	2016	89
Proceedings				
PR146	Food security in Timor-Leste through crop production	Nesbitt H., Erskine W., da Cruz C.J. and Moorhead A. (Eds).	2016	190
PR145	Spiny lobster aquaculture development in Indonesia, Vietnam and Australia	Jones C.M. (Ed).	2015	283
PR144	Sustainable Management of Soil in Oil Palm Plantings	Webb M.J., Nelson P.N., Bessou C., Caliman, J-P. and Sutarta E.S. (Eds).	2015	69
Adoption Studies				
AS012	Adoption of ACIAR project outputs 2015	Pearce D. and Alford A. (Eds). Bennett J., Coventry D.,Vock N., Griffith G.,Rohadi D., Herawati T., Lastoni T. and Henson M.	2016	63
Technical Reports				
TR89	Water use and water productivity of *Eucalyptus* plantations in South-East Asia	White D.A, Battaglia M., Ren S. and Mendham D.S.	2016	55

Publ. Code	Title	Authors	Year	Pages
TR88	Strategic plan for ACIAR engagement in capture fisheries research and capacity development in Indonesia, 2015–25	Pusat Penelitian Pengelolaan Perikanan dan Konservasi Sumberdaya Ikan (Centre for Fisheries Research and Development) and Australian Centre for International Agricultural Research	2016	29
TR87	A comparison of three empirical models for assessing cropping options in a data-sparse environment, with reference to Laos and Cambodia	Vote C., Chantha O., Ty S., Phongpacith C., Inthavong T., Vang S., Eberbach P. and Hornbuckle J.	2016	30
TR086	Scoping Study: Evaluation and Targeting of Formal and Informal Capacity Building in ACIAR Training and Research Programs	Gray G.D., Mullen J. and De Meyer J.	2015	72
Corporate publications				
	ACIAR Annual Report 2014–15	ACIAR	2015	249
	Independent review of the Australian International Food Security Research Centre 2015	Reeves T. and Ryan J.	2015	40
	Partners in Research for Development magazine: Empowering Women, Changing Lives	ACIAR	2016	32
	Partners in Research for Development magazine: Indonesia faces of progress	ACIAR	2015	32
	Partners in Research for Development magazine: Australian research leaders	ACIAR	2015	32
	ACIAR Annual Operational Plan 2015–16	ACIAR	2015	124
	Corporate Plan 2015-19	ACIAR	2015	10

APPENDIX 6: STAFFING STATISTICS

Employee numbers 2015–16

Public Service Act 1999 employee numbers (ongoing and non-ongoing)

	Ongoing staff	Non-ongoing staff	Total
			30 June 2016
Full-time			
Male	6	18	24
Female	15	3	18
Part-time			
Male	0	0	0
Female	12	1	13
Total	**33**	**22**	**55**

Staff turnover

Retention rates were maintained in ACIAR in 2015–16. Thirteen employees ceased employment. The table below shows a comparison of employee turnover over the past four years.

	2012–2013	2013–2014	2014–2015	2015–2016
Retrenched	1	3	5	1
Promotions/transfers		2	1	4
End of contract	3		1	7
Resigned	2	5	5	1
Retired	1	4	1	2
Leave without pay	3	2	2	0
Temporary movement				
Other	1			
Total	**11**	**16**	**15**	**15**

Non-APS employees employed overseas

18 contract and locally engaged staff are employed by ACIAR in Australian overseas missions to provide program support locally, as detailed below.

Location	Male	Female	Full-time	Part-time	Total 30 June 2016
Vietiane	1	1	2	0	2
Beijing	1	0	1	0	1
Hanoi	1	2	3	0	3
Jakarta	1	3	4	0	4
Manila	1	1	2	0	2
New Delhi	1	2	3	0	3
Nairobi	0	2	2	0	2
Port Moresby	0	3	3	0	3
Yangon	1	0	1	0	1
Islamabad	1	1	2	0	2
Total	**8**	**15**	**23**	**0**	**23**

Classification structure

ACIAR employees by broadband (excludes 2xSES and LWOP)

ACIAR broadband	APS classi-fication	Salary Range	Employees by classi-fication	Ongoing	Non-ongoing	Female	Male
Band 4	EL 2	$120 740 - $131 335	1	1	0	0	1
Band 3	EL 1	$96 491 - $101 492	7	6	1	3	4
Band 2	APS 6	$76 043 - $84 220	7	6	1	5	2
	APS 5	$69 250 - $71 981	9	8	1	8	1
	APS 4	$62 603 - $66 083	15	11	4	13	2
Band 1	APS 3	No employees at this level					
	APS 2	No employees at this level					
	APS 1	No employees at this level					

Research Program Manager Structure

ACIAR broadband	APS classi-fication	Salary Range	Employees by classi-fication	Ongoing	Non-ongoing	Female	Male
Band 4	EL2—RPM	**$147 075 - $169 490**	14	0	14	2	12

APPENDIX 7: COMPLIANCE CHECKLIST

Part of Report	Description	Requirement	Page No.
Letter of transmittal			
	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 Act and any enabling legislation that specifies additional requirements in relation to the annual report.	Mandatory	iii
Aids to access			
	Table of contents	Mandatory	v
	Alphabetical Index	Mandatory	192–184
	Glossary of abbreviations and acronyms	Mandatory	189–191
	List of requirements	Mandatory	184–188
	Details of contact officer(s)	Mandatory	ii
	Entity's website address	Mandatory	ii
	Electronic address of report	Mandatory	ii
Review by accountable authority			
	Review of the Accountable Authority of the entity - Chief Executive Officer	Mandatory	4–11
Overview of the entity			
	A description of the role and functions of the entity	Mandatory	2–4, 58
	A description of the organisational structure of the entity	Mandatory	166–167
	A description of the outcomes and programs administered by the entity	Mandatory	142
	A description of the purposes of the entity as included in the corporate plan	Mandatory	na
	An outline of the structure of the portfolio of the entity.	Portfolio departments - Mandatory	na
	Where the outcomes and programs administered by the entity differ from any Portfolio Budget Statement, Portfolio Additional Estimates Statement or other portfolio estimates statement that was prepared for the entity for the period, include details of variation and reasons for change.	If applicable, Mandatory	na

Part of Report	Description	Requirement	Page No.
Report on Performance of the entity			
Annual Performance Statements			
	Annual performance statement in accordance with paragraph 39(1)(b) of the Act and section 16F of the Rule.	Mandatory	142–162
Report on Financial Performance			
	Discussion and analysis of the entity's financial performance.	Mandatory	88–89
	A table summarising the total resources and total payments of the entity.	Mandatory	168
	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	85–89
Management and Accountability			
Corporate Governance			
	Information on compliance with section 10 (fraud systems)	Mandatory	86
	A certification by accountable authority that fraud risk assessments and fraud control plans have been prepared.	Mandatory	87
	A certification by accountable authority that appropriate mechanisms for preventing, detecting incidents of, investigating or otherwise dealing with, and recording or reporting fraud that meet the specific needs of the entity are in place.	Mandatory	87
	A certification by accountable authority that all reasonable measures have been taken to deal appropriately with fraud relating to the entity.	Mandatory	na
	An outline of structures and processes in place for the entity to implement principles and objectives of corporate governance.	Mandatory	77
	A statement of significant issues reported to Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with Finance law and action taken to remedy non-compliance.	If applicable, Mandatory	na
	How nature and amount of remuneration for SES officers is determined	Suggested	127–129
External Scrutiny			
	Information on the most significant developments in external scrutiny and the entity's response to the scrutiny	Mandatory	85–86

Part of Report	Description	Requirement	Page No.
	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	na
	Information on any reports on operations of the entity by the Auditor-General (other than report under section 43 of the Act), a Parliamentary Committee, or the Commonwealth Ombudsman.	If applicable, Mandatory	85–86
	Information on any capability reviews on the entity that were released during the period.	If applicable, Mandatory	na
Management of Human Resources			
	An assessment of the entity's effectiveness in managing and developing employees to achieve entity objectives.	Mandatory	156–159
	Statistics on the entity's APS employees on an ongoing and non-ongoing basis; including the following: • Statistics on staffing classification level; • Statistics on full-time employees; • Statistics on part-time employees; • Statistics on gender; • Statistics on staff location; • Statistics on employees who identify as Indigenous.	Mandatory	157–158
	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	158
	Information on the number of SES and non-SES employees covered by agreements etc identified in paragraph 17AD(4)(c).	Mandatory	156–157
	The salary ranges available for APS employees by classification level.	Mandatory	183
	A description of non-salary benefits provided to employees.	Mandatory	158–159
	Information on the number of employees at each classification level who received performance pay.	If applicable, Mandatory	158
	Information on aggregate amounts of performance pay at each classification level.	If applicable, Mandatory	158
	Information on the average amount of performance payment, and range of such payments, at each classification level.	If applicable, Mandatory	158
	Information on aggregate amount of performance payments.	If applicable, Mandatory	158
Assets management			
	An assessment of effectiveness of assets management where asset management is a significant part of the entity's activities.	If applicable, Mandatory	88

Part of Report	Description	Requirement	Page No.
Purchasing			
	An assessment of entity performance against the Commonwealth Procurement Rules.	Mandatory	155–156
Consultants			
	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	156
	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	156
	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	156
	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	156
Australian National Audit Office Access Clauses			
	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	na
Exempt contracts			
	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 in 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	na
Small business			
	A statement that "*[Name of entity] 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*."	If applicable, Mandatory	156

Part of Report	Description	Requirement	Page No.
	An outline of the ways in which the procurement practices of the entity support small and medium enterprises.	Mandatory	156
	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	156
Financial Statements			
	Inclusion of the annual financial statements in accordance with subsection 43(4) of the Act.	Mandatory	92–138
Other Mandatory Information			
	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	na
	If the entity did not conduct advertising campaigns, a statement to that effect.	If applicable, Mandatory	156
	A statement that "*Information on grants awarded to [name of entity] during [reporting period] is available at [address of entity's website]*."	If applicable, Mandatory	na
	Outline of mechanisms of disability reporting, including reference to website for further information.	Mandatory	159
	Website reference to where the entity's Information Publication Scheme statement pursuant to Part II of FOI Act can be found.	Mandatory	160
	Correction of material errors in previous annual report	If applicable, Mandatory	na
	Information required by other legislation	Mandatory	155–162

ACRONYMS AND ABBREVIATIONS

2WTs	two-wheeled tractors
ABARES	Australian Bureau of Agricultural and resources Economics and Sciences
ACIAR	Australian Centre for International Agricultural Research
ACIAR Act	*Australian Centre for International Agricultural Research Act 1982*
AIP	Aid Investment Plans
ANAO	Australian National Audit Office
AOP	Annual Operational Plan (of ACIAR)
APAARI	Asia Pacific Association of Agricultural Research Institutions
APS	Australian Public Service
APSIM	Agricultural Production System Simulator
ASEAN	Association od South East Asian Nations
ASLP	Agriculture Sector Linkages Program (Australia–Pakistan)
AVRDC	The World Vegetable Center
CA	conservation agriculture
CABI	An intergovernmental not-for-profit organisation
CDZ	central dry zone (of Myanmar)
CEO	Chief Executive Officer
CGIAR	formerly the Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center (Mexico)
CIP	International Potato Centre
CPB	coca pod borer
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
DFAT	Department of Foreign Affairs and Trade (Australia)
EIAR	Ethiopian Institute of Agricultural Research
EPBC Act	*Act Environmental Protection and Biodiversity Conservation Act 1999*
FAO	Food and Agriculture Organization (of the United Nations)
FACASI	Farm power and conservation agriculture for sustainable intensification
FMD	foot-and-mouth disease

FOI	freedom of information
FTE	full-time equivalent (staff)
FMA Act	*Financial Management and Accountability Act 1997*
G20	The Group of Twenty—a forum for international economic cooperation and decision-making, established 1999, comprising 19 countries.
HOMs	Heads of Mission
IARCs	International Agricultural Research Centres
ICAR	Indian Council of Agricultural Research
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRAF	World Agroforestry Centre (Kenya)
ICRISAT	International Crop Research Institute for the Semi-arid Tropics (India)
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute (USA)
ILRI	International Livestock Research Institute (Kenya)
IRRI	International Rice Research Institute (Philippines)
KPI	key performance indicator
MAD	Mobile acquired data
MAF	Ministry of Agriculture and Fisheries (Timor-Leste)
NARI	National Agricultural Research Institute (PNG)
NARS	National Agricultural Research Systems
NESB	non-English speaking background
NGO	non-government organisation
ODA	official development assistance
PARDI	Pacific Agribusiness Research for Development Initiative
PGPA Act	*Public Governance, Performance and Accountability Act 2013*
PIC(s)	Pacific island country(ies)
PNG	Papua New Guinea
PRB	permanent raised bed
R&D	research and development
R4D	research for development
RISING	Researching sustainable intensification for the next generation (Africa)
RoU	Record of Understanding
RPM	Research Program Manager
SES	Senior Executive Service (of APS)

SIMLESA	Sustainable intensification of maize–legume cropping systems for food security in eastern and southern Africa
SME	small–medium enterprise
SoL	Seeds of Life (program)
SPC	the Pacific Community
SPS	Sanitary and Phytosanitary (conditions)
SRFSI	Sustainable and resilient farming systems intensification (Nepal)
TAR	Tibet Autonomous Region of China
TOMAK	Farming for Prosperity, Timor-Leste
USAID	United States Agency for International Development
USP	University of the South Pacific
VMP	versatile multicrop planter
WTO	World Trade Organization
WWF	World-Wide Fund for Nature

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