



Australian Government
Australian Centre for
International Agricultural Research

ACIAR

ANNUAL
OPERATIONAL
PLAN
2023-24



About ACIAR

Research that works for developing countries and Australia

Vision

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

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

Mission

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

Enabling legislation

ACIAR is established by the *Australian Centre for International Agricultural Research Act 1982*, as amended. Also established under the Act are the Commission for International Agricultural Research and the Policy Advisory Council.



Responsible minister

ACIAR is part of the Australian Government Foreign Affairs and Trade portfolio, and is accountable to the Minister for Foreign Affairs, Senator the Hon Penny Wong.

Governance

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



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This report should be attributed as the ACIAR Annual Operational Plan 2023–24

ISSN 1832-1356 (print)
ISSN 1839-6143 (online)
ISBN 978-1-922983-77-0 (print)
ISBN 978-1-922983-78-7 (pdf)
ISBN 978-1-922983-79-4 (online)

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Design: whitefox.com.au
Print: CanPrint Communications, Canberra
Cover photo: Farmers selling freshly harvested vegetables at a market in north-east Cambodia. ACIAR supports research throughout the Indo-Pacific region to enable smallholder farmers to grow more food of higher nutritive value, and to produce surplus for income.
Credit: Ratanak Leng | ACIAR



ACIAR

**ANNUAL
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ACIAR

Welcome



Professor Wendy Umberger started her term as Chief Executive Officer of ACIAR in August 2023.

Professor Umberger has played influential roles in sustainable agriculture for over 20 years. From 2013 to 2022, she founded and led the Centre for Global Food and Resources at the University of Adelaide, which engaged with policymakers and industry to make positive changes in agriculture, food and resource systems. Professor Umberger served as President of Australia's Policy Advisory Council (for international agricultural research and development) from 2020 to 2023 and was on the Board of Trustees of the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) from 2015 to 2021.

Professor Umberger is an Honorary Professorial Fellow in the School of Agriculture and Food at the University of Melbourne and an expert in agricultural economics, development and food policy. She has worked on food system issues across the Indo-Pacific region and led interdisciplinary value chain research projects in Asia, Australia, North America, the Pacific islands and South Africa.

As the Australian Centre for International Agricultural Research (ACIAR) embarks on its 42nd year of operation, I look forward to my first year with ACIAR – an organisation I have admired for many years. The opportunity to be the Chief Executive Officer of ACIAR is a tremendous honour.

I first became involved with ACIAR nearly 17 years ago as a collaborating scientist on projects in Papua New Guinea, the Pacific region, Indonesia and Vietnam. At the time, as an agricultural economist and value chain analyst, I was tasked with understanding what was impeding smallholder households' adoption of technologies and practices that would improve their access to high-value markets.

I have observed firsthand the collaborative approach of ACIAR to research and extension, through in-country partnerships and on-the-ground involvement, and how this has created life-changing opportunities for millions of people. This work has been further amplified by the commitment of ACIAR to capacity building and the subsequent presence and influence today of highly trained in-country professionals. The impact of ACIAR over its 40-plus years is extraordinary.

Many of the food security gains of recent decades face renewed pressure from climate change, conflict and what many fear will be an increasing incidence of pandemics. Resolving these complex modern-day challenges requires innovative and coordinated responses across industry, governments, academia and civil society, and significant new investment and expertise from across disciplines and sectors.

The ACIAR mandate

I begin my term as the seventh CEO of ACIAR with a strong commitment to our enabling legislation. It remains as relevant to Australia's contribution to agricultural research for development as it did in 1982. ACIAR has a mandate for a practical set of functions, which are to:

- » formulate programs and policies with respect to agricultural research to address problems in developing countries
- » commission agricultural research by persons or institutions in accordance with such programs and policies
- » communicate to persons and institutions the results of such research
- » establish and fund training schemes related to the research programs
- » conduct and fund development activities related to the research programs
- » fund international agricultural research centres.

It is critical to remember that the primary beneficiaries of ACIAR investment and the target of our impact pathways are smallholder farmers, fishers and foresters in partner countries, as well as their households and communities. Smallholder farmers make critical contributions to global food security, and economic and political stability. Like all the world's farmers, they are vulnerable to major global risk factors and multipliers – climate change, economic volatility and urbanisation.

The ability of smallholder farmers to mitigate simultaneous risks has compounding effects on food system resilience and economic stability. Smallholder farmers typically have less capacity to manage these risks than farmers in developed countries for many reasons, including food insecurity, fewer resources (human and capital), land tenure and informal markets – to name a few.

It is also important to acknowledge the benefits of our work to the agricultural innovation system in Australia. The outputs of ACIAR-supported research often benefit Australian primary industries through new knowledge and technologies that are equally applicable to Australia. These include new crop varieties and enhanced livestock genetics, better understanding of pests and diseases and subsequent biosecurity preparedness, and new technologies to manage natural environments such as coral reefs. Additionally, ACIAR-supported projects provide career development opportunities for many Australian scientists.

A national and international partner

In developing our research initiatives and partnership models, in 2023–24 and beyond, ACIAR will continue to work closely with Australian Government partners, and to be guided by Australia's International Development Policy, which was released in August 2023. We will also take into account the Development Partnership Plans, which are being developed by Australian Embassies and High Commissions across our region to deliver on the new policy.

During 2023–24, ACIAR will fund more mission-directed cross-program research and capacity-building programs with our partners in the Indo-Pacific region. There will be a focus on new partnership models with partner countries that reflect their changing needs and growing capacity. Our work will augment the relationships and expertise of our ACIAR Country Network and the deep relationships with in-country partners, built over several decades.

ACIAR will continue to partner multilaterally, including with international agricultural research centres, to ensure that Australia is an active, reliable and trusted funder of multilateral research for development institutions, and that these investments deliver the critical global public goods needed to address the complex issues of food security, climate change and economic transition in the Indo-Pacific region.

I look forward to bringing my unique experiences and deep passion for agricultural research for development to ACIAR, to continue a tradition of making a difference to the lives of smallholder farmers, fishers and foresters, rural communities, extension experts and researchers in our partner countries in the Indo-Pacific region.

Wendy Umberger

Chief Executive Officer, ACIAR

Definitions

ACIAR	Australian Centre for International Agricultural Research
ACIAR Act	<i>Australian Centre for International Agricultural Research Act 1982</i>
AIRPOH	ACIAR–IDRC Research Program on One Health
Alliance	Alliance for Agricultural Research and Development for Food Security
APAARI	Asia–Pacific Association of Agricultural Research Institutions
ASEAN	Association of Southeast Asian Nations
ASRF	Alumni Research Support Facility
BRIN	National Institute for Research and Innovation
CAADP	Comprehensive Africa Agriculture Development Programme
CABI	Centre for Agricultural Biosciences International
CultiAF	Cultivate Africa's Future Fund
DFAT	Department of Foreign Affairs and Trade
DOST–PCAARRD	Department of Science and Technology–Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development
EIT-Hub	Emerging Insect Technology Hub
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
<i>icipe</i>	International Centre of Insect Physiology and Ecology
IDRC	International Development Research Centre (of Canada)
PASS-CR	Pacific Agricultural Scholarship Support and Climate Resilience
SPC	Pacific Community
UN	United Nations
WorldVeg	World Vegetable Center

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1



Overview

The Australian Centre for International Agricultural Research (ACIAR) brokers and supports collaborative international research partnerships to improve livelihoods in the agriculture, fisheries and forestry sectors in the Indo-Pacific region.

As an agency of the Australian Government, ACIAR partners bilaterally and multilaterally with governments and institutions in the region to tackle the intersecting and complex challenges of growing food more efficiently, increasing food system resilience, improving human nutrition and reducing poverty, while sustainably managing natural resources. At the same time, while striving for more productive and sustainable agriculture, we must adapt to and mitigate the effects of climate change.

In line with the Australian Government's development program, our work has an emphasis on building the capacity of individuals and institutions, and identifying opportunities for development led by the private sector. The development of agricultural livelihoods and enterprises in our partner countries creates opportunities for employment; however, labour scarcity through increased migration of rural people to cities and urban areas and an aging farmer population will impact the extent to which project outcomes can be scaled out.

The work of ACIAR reflects Australian Government policy imperatives articulated in:

- » [Australia's International Development Policy](#)
- » [Sustainable Development Goals of the United Nations \(UN\) 2030 Agenda for Sustainable Development](#)
- » [Paris Agreement under the UN Framework Convention on Climate Change](#).

The [ACIAR 10-Year Strategy 2018–2027](#) sets out 6 high-level strategic objectives to guide partnerships, programs and projects. These objectives are consistent with the purpose stated in our enabling legislation and reflect the policy imperatives of the Australian Government. Of these objectives, 3 build knowledge to underpin crucial development objectives and 3 ensure that our work is equitable, inclusive and empowering.

These objectives provide the framework of our operating program, but the way we design and implement partnerships and programs remains flexible, and is informed by the recommendations of the mid-term review of our 10-year strategy.

Our partnerships and programs must also remain flexible and adaptive to the impacts of global, national and local events, which affect our operating environment and the capacity and lives of our partners and our beneficiaries.

ACIAR 10-Year Strategy 2018–2027

ACIAR brokers and invests in research partnerships with developing countries in the Indo-Pacific region to build knowledge to support crucial development objectives

Strategic objectives 1, 2 & 3



1. Food security and poverty reduction

Improving food security and reducing poverty among smallholder farmers and rural communities



2. Natural resources and climate change

Managing natural resources and producing food more sustainably, adapting to climate variability and mitigating climate change



3. Human health and nutrition

Enhancing human nutrition and reducing risks to human health

ACIAR works to ensure that its research-for-development programs are equitable, inclusive and empowering

Strategic objectives 4, 5 & 6



4. Gender equity and women's empowerment

Improving gender equity and empowerment of women and girls



5. Inclusive value chains

Fostering more inclusive agrifood and forestry value chains, engaging the private sector where possible



6. Capacity building

Building scientific and policy capability within our partner countries

ACIAR partnership model



Operating environment

The ACIAR business model of brokering science partnerships in agriculture, fisheries and forestry between the Australian innovation system and our neighbours in the Indo-Pacific region is as relevant today as it was when ACIAR was established in 1982.

Ensuring that the best of Australian science can be combined with local knowledge and implemented effectively in the field depends on the quality and durability of partnerships between farmers, researchers, industry and government. Our outstanding track record of building and sustaining deep, trusting partnerships over the last 40 years is now a great strategic asset.

As the capabilities and capacity of our partner countries evolve, so too do our partnerships. Within this evolving context, our operational model continues to deliver against our enabling legislation, Australia's development program and the UN Sustainable Development Goals, through 6 strategic objectives and 3 key areas of work:

1. Global research collaborations

We develop and foster partnerships and relationships with international research and development agencies, the most significant being CGIAR. We also develop and foster partnerships with development donors and the private sector to pursue shared goals and ensure that ACIAR-funded research results are implemented at scale.

2. Bilateral and regional research projects

We generate knowledge from ACIAR-funded projects and programs to empower smallholder farmers, extension agents, scientists, small and medium enterprises, and policymakers to take on the intersecting challenges of growing more and healthier food and reducing poverty while using resources sustainably.

3. Scientific and policy capacity-building activities

We identify and establish opportunities for individuals and institutions in partner countries to boost technical, policy and management skills in agriculture, fisheries, forestry and management of land and water resources.

The world continues to be affected and influenced by inter-related and complex global challenges of climate change, economic volatility and urbanisation. The primary beneficiaries of ACIAR investment, smallholder farmers in the Indo-Pacific region, and their households and communities, typically have fewer resources and less capacity to manage the risks associated with global challenges.

The ACIAR operating environment is concurrently affected by weather extremes, natural disasters, food and energy shortages, civil unrest and geopolitical tension.

The variability of influencing factors in each partner country means that our programs for research and capacity building must be developed to reflect partner priorities, and programs must be flexible to adapt to sudden and significant changes in the operating environment. We are guided by the ACIAR 10-Year Strategy 2018–2027, and in the 2023–24 year, we will focus on the recommendations of the mid-term review of the strategy to ensure ACIAR remains in a position to deliver on its mandate in a changing world.

To contribute meaningfully to transformational change in food systems, which are characterised by high levels of uncertainty, ACIAR will increase its investment in mission-directed, multi-disciplinary, transdisciplinary and cross-program initiatives.

Our partnership models will be reviewed and redeveloped during this year and into subsequent years. The new models will reflect and embrace the growing research and leadership strengths of our country partners, and maximise the mutual benefit achieved from international research collaborations between Australian and country partner institutions.

ACIAR plays an important role in delivering on the objectives of Australia's International Development Policy, launched in August 2023, not only in terms of material contributions to development but also to ensure that the research and capacity building in which we invest is based on genuine partnership, and supports peaceful and prosperous development in our region.



Regional stability and economic security

Australian security and economic interests are linked to those of countries of our region. The Australian Government's investment in agricultural research for development, through ACIAR, supports the promotion of peace and economic growth in our region. It also consolidates Australia's position as a trusted science partner and leader in the agriculture and natural resources sectors.



Food security and poverty reduction

The strategic objective to improve food security and reduce poverty among smallholder farmers and rural communities is central to the purpose, vision and mission of ACIAR.

Our research portfolio supports innovation in agriculture, fisheries and forestry systems to increase production efficiency and product quality, as well as the profitability, sustainability and resilience of the systems. This not only provides more-nutritious food for smallholder farmers and their families and communities, but also enables the production of marketable surplus to improve livelihoods.

Investment and innovation in food systems increases the resilience of farmers, communities and science agencies in the face of ongoing and future disruptions such as natural disasters, civil unrest and global pandemics.

During 2023–24, ACIAR will support the development of more-resilient food production systems through global collaboration, investment in partnerships and facilitation of capacity-building opportunities. We will continue our collaboration with Canada's International Development Research Centre to deliver the Food Loss Research Program. We will continue to investment in regional and bilateral projects to develop climate-resilient, innovative, sustainable and profitable food value chains. Our Capacity Building Program enables partner country scientists to develop scientific and leadership skills to contribute to food systems resilience.

ACIAR projects improving food systems in 2023–24 include:

- » Food loss in the *Pangasius* catfish value chain of the Mekong River Basin (CS/2020/209)
- » Sustainable intensification systems for climate-resilient development in Pacific island countries (CLIM/2020/186)
- » Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands (FIS/2019/124)
- » Increasing the productivity and profitability of smallholder beekeeping enterprises in Papua New Guinea and Fiji (LS/2014/042)
- » Crop health and nutrient management of shallot-chilli-rice cropping systems in coastal Indonesia (SLAM/2018/145)
- » Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India (LWR/2014/073)



Natural resources and climate change

Managing natural resources and producing food more sustainably, adapting to climate variability and mitigating climate change, the focus of our second research-based objective, is fundamental to the livelihoods of smallholder farmers, fishers and foresters in the Indo-Pacific region. Many countries experience a degraded natural resource base, such as poor soil health and water quality, and these issues are increasingly amplified by the growing impact of a changing climate.

Many projects across the ACIAR research portfolio address elements of this objective. In particular, the ACIAR Climate Change Program brokers research to progress the science and practice of transforming food systems and livelihoods that are most under pressure to adapt or reduce greenhouse gas emissions.

The year ahead presents several opportunities to contribute and influence global discussions on food security and climate change. ACIAR plans to share tangible examples of game-changing Australian innovation and investment that, with the right partnerships in place, can be scaled for significant impact globally.

ACIAR will continue to represent Australia in collaborations with international partners through the Adaptation Research Alliance, which aims to increase investment and opportunities for action-orientated research to inform effective climate change adaptation, particularly for vulnerable countries and communities.

ACIAR projects supporting climate change adaptation and mitigation in 2023–24 include:

- » Transformation pathways for Pacific coastal food systems (CLIM/2020/178)
- » Regreening for the future: integrating climate change adaptation pathways into community-led regreening in eastern Africa (CLIM/2022/140)
- » Regional networks for large-scale coral and fish habitat restoration in the Philippines (FIS/2019/123)
- » Enhancing livelihoods through improved forest management in Nepal (FST/2017/037)
- » Responding to emerging pest and disease threats to horticulture in the Pacific islands (HORT/2016/185)
- » Climate smart agriculture opportunities for enhanced food production in Papua New Guinea (ASEM/2017/026)
- » Farmer options for crops under saline conditions in the Mekong River Delta, Vietnam (SLAM/2018/144)
- » Trees for salinity in Pakistan (WAC/2021/136)



Human health and nutrition

Better nutrition, food safety and food security are priority concerns in our partner countries, and therefore fundamental elements of the research and programs supported by ACIAR and its partners.

Throughout the Indo-Pacific region, countries, provinces and communities are experiencing the triple burden of nutrition – acute hunger and malnutrition alongside increasing levels of obesity and diet-associated diseases. Higher incomes and urbanisation have led quickly to obesity and a rise in the incidence of non-communicable diseases. In many cases these are affecting previously under-nourished communities.

With greater awareness of the potential impact of zoonotic disease, the safety of food systems is under scrutiny. During 2023–24, ACIAR will support a program of One Health projects in partnership with Canada's International Development Research Centre (IDRC), and led by in-country science partners. Focused on the interface between human, animal and environmental health, the program aims to support the continued operationalisation of One Health.

Leaders in agriculture, business, science and government recognise that if the UN Sustainable Development Goals are to be achieved by 2030, there must be a global transformation in how food is produced, processed, distributed and consumed. Many projects in our research portfolio are designed with an element of enhancing human nutrition and reducing risks to human health. During 2023–24, ACIAR will continue to develop partnerships and broker research relationships that address the many factors that influence the nutritional value of food harvested and the safety of the food production system.

ACIAR projects supporting healthier food systems in 2023–24 include:

- » Agribusiness-led inclusive value chain development for smallholder farming systems in the Philippines (AGB/2018/196)
- » Village-based biological control of fall armyworm in Zambia (CROP/2022/112)
- » Fruit trees for climate adaption and mitigation in East Africa (FST/2021/163)
- » Timor-Leste bacteria enteropathy and nutrition study (LS/2021/126)
- » Climate-smart coastal landscapes for sustaining fisheries-based livelihoods and food security in the Pacific (SSS/2021/120)
- » Managing heavy metals and soil contaminants in vegetable production to ensure food safety and environmental health in the Philippines (SLAM/2020/117)



Gender equity and women's empowerment

Gender equity is crucial to alleviating poverty in rural communities and a key consideration in all contexts in which ACIAR operates. As more than half the world's farmers are women, ACIAR cannot credibly pursue its objectives around food security, human health and nutrition, climate change and reducing poverty unless we also promote gender equality and equity vigorously, both externally and internally.

ACIAR will update and build on its Gender Equity Policy and Strategy 2017–2022 with a new gender equity and social inclusion strategy and action plan. The strategy provides a road map to scale up and integrate gender equity and social inclusion into all aspects of ACIAR research, capacity-building and outreach programs. These efforts require improved analytical capacity to support research that addresses multiple and intersecting forms of discrimination and exclusion (such as socioeconomic status, disability, ethnicity, age, gender and sexual identity, location and migration), while ensuring fair distribution of outcomes of research for development in agriculture, natural resources and food systems.

Consistent with the targets of our strategy and Australia's aid program, we will strive for a minimum of 80% of ACIAR investments reflecting the principles of gender equity in project design and implementation. Currently, women make up less than 25% of project leaders in ACIAR-supported research, and the new strategy will seek to address barriers to project leadership for women scientists. We will strive to keep the proportion of senior positions in ACIAR that are occupied by women over 50%. Under the first strategy, this proportion increased from 11% in 2016 to 58% in June 2022.

ACIAR projects improving equity and empowerment in 2023–24 include:

- » Rapid breeding for reduced cooking time and enhanced nutritional quality in common bean (*Phaseolus vulgaris*) (CROP/2018/132)
- » Towards more profitable and sustainable mabé pearl and shell-based livelihoods in the western Pacific (FIS/2019/122)
- » Enhancing private sector-led development of the canarium industry in Papua New Guinea – Phase 2 (FST/2017/038)
- » Improving smallholder wellbeing through participation in modern value chains: sustaining future growth in the Pakistan citrus industry (HORT/2020/129)
- » Asian chicken genetic gains: a platform for exploring, testing, delivering, and improving chickens for enhanced livelihood outcomes in South-East Asia (LS/2019/142)
- » Transforming smallholder food systems in the Eastern Gangetic Plain (WAC/2020/148)



Inclusive value chains

Through the strategic objective of 'fostering more inclusive agrifood and forestry value chains, engaging the private sector where possible', ACIAR brokers projects that identify opportunities and improve business outcomes for all people along the value chain, including smallholder farming households, input providers and traders, and associated communities..

Effective, efficient and inclusive value chains have the power to transform livelihoods of some of the poorest regions of the world. Unlocking the potential for people to participate equitably in markets and benefit from the opportunities provided by business is a proven way to create employment, improve business outcomes for smallholders and communities and increase economic security in developing countries.

The ACIAR Agribusiness Program focuses on research opportunities to develop new or better business systems and build partnerships to increase the efficiency, safety and inclusivity of supply chains. Projects in other programs of the ACIAR research portfolio also link best practices in agriculture, fisheries and forestry to opportunities to support innovation in production systems and value chains, and create new domestic market opportunities.

During 2023–24, ACIAR and IDRC will continue the Food Loss Research Program, which is a series of projects working with partners in developing countries to address food loss through innovative, locally driven solutions. Read more on page 18.

ACIAR projects fostering inclusive value chains in 2023–24 include:

- » Rapid breeding for reduced cooking time and enhanced nutritional quality in common bean (*Phaseolus vulgaris*) (CROP/2018/132)
- » Towards more profitable and sustainable mabé pearl and shell-based livelihoods in the western Pacific (FIS/2019/122)
- » Enhancing private sector-led development of the canarium industry in Papua New Guinea – Phase 2 (FST/2017/038)
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Capacity building

Innovation in agriculture is a key pathway to poverty reduction, increased food security and economic growth. Building the capacity of agricultural researchers and policymakers, their networks and institutions contributes to innovation potential and supports partners to deploy relevant and effective agricultural practices and policies to reduce poverty.

The ACIAR 10-Year Strategy 2018–2027 committed to building our investment in postgraduate research training for individual scientists, as well as value-added training in management and leadership. The strategy also identified the value in developing ongoing relationships with the network of ACIAR collaborators.

Capacity building is an intrinsic factor of many of the research projects we broker. This ensures that the people we work with have the skills, resources and knowledge to sustain new initiatives, systems and approaches, so our investment leads to lasting change. The collaborative international programs and partnerships underpinning ACIAR-supported research also serve to improve Australian scientific capabilities. We will continue reviewing our Capacity Building Program to further integrate with the research function of ACIAR, a key recommendation of the mid-term review of the 10-year strategy.

ACIAR programs and projects building capability in 2023–24 include:

- » Evaluating supply chain interventions and partnerships to sustainably grow the smallholder dairy sectors of Indonesia and the Philippines (AGB/2021/124)
- » Paribartan: participatory action research on locally led iterative learning and inclusive business models for adaptive transformation in Bangladesh polders (CLIM/2021/137)
- » Managing wheat blast in Bangladesh: identification and introgression of wheat blast resistance for rapid varietal development and dissemination (CROP/202/165)
- » Building effective forest health and biosecurity networks in South-East Asia (FST/2020/123)
- » Upscaling the benefits of insect-based animal feed technologies for sustainable agricultural intensification in Africa (ProteinAfrica) (LS/2020/154)
- » Soil management in Pacific Islands: investigating nutrient dynamics and the utility of soil information for better soil and farming system management (SLAM/2020/139)
- » Virtual Irrigation Academy business models in Pakistan (WAC/2020/180)

Operating structure

ACIAR is established by the Australian Centre for International Agricultural Research Act 1982 (ACIAR Act), as amended, and it is an agency of the Australian Government Foreign Affairs and Trade portfolio.

ACIAR is a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013* and a statutory agency under the *Public Service Act 1999*.

ACIAR has an executive management governance structure headed by the CEO, who reports directly to the Minister for Foreign Affairs.

The CEO manages the administrative and financial affairs of ACIAR and its staff, subject to, and in accordance with, any directions given by the Minister. An executive team supports and advises the CEO on strategic priorities and corporate and operational policies.

The CEO is also supported by an Audit and Risk Committee, which provides independent assurance to the CEO on financial and performance reporting responsibilities, risk oversight and management, and systems of internal auditing of ACIAR.

Also established under the ACIAR Act is the Commission for International Agricultural Research and the Policy Advisory Council, to provide expert strategic advice to the Minister on international agricultural research for development.

Commission for International Agricultural Research

The role of the Commission for International Agricultural Research under the ACIAR Act is to provide strategic advice to the Minister on the formulation of programs and policies to identify agricultural problems and find solutions in developing countries. The Commission also provides advice to the Minister on the functions of ACIAR, and priorities for the ACIAR program and funding.

Policy Advisory Council

The role of the Policy Advisory Council under the ACIAR Act is to provide advice to the Minister on the agricultural problems of developing countries and strategic aspects of national and regional development. The Council plays a role in facilitating partnerships and being pivotal in discussions for setting priorities and research focus as ACIAR continues to develop strategies with partner countries.

ACIAR is a small government agency. The Chief Executive Officer leads a staff of 80 (full and part-time) in 2023–24:

- » 57 people located at ACIAR House in Canberra, Australia
- » 23 people locally engaged staff at missions and embassies of the Australian Government, throughout the Indo-Pacific region.

Staff are organised into 4 lines of management:

- » Country Partnerships
- » Research Programs
- » Outreach and Capacity Building
- » Corporate Services.

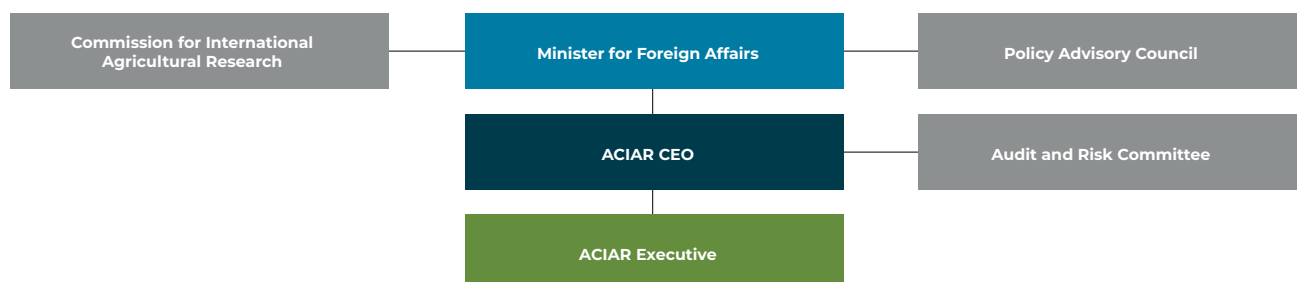


More information about our executive staff and governance arrangements is available on the ACIAR website.

www.aciar.gov.au

>About ACIAR

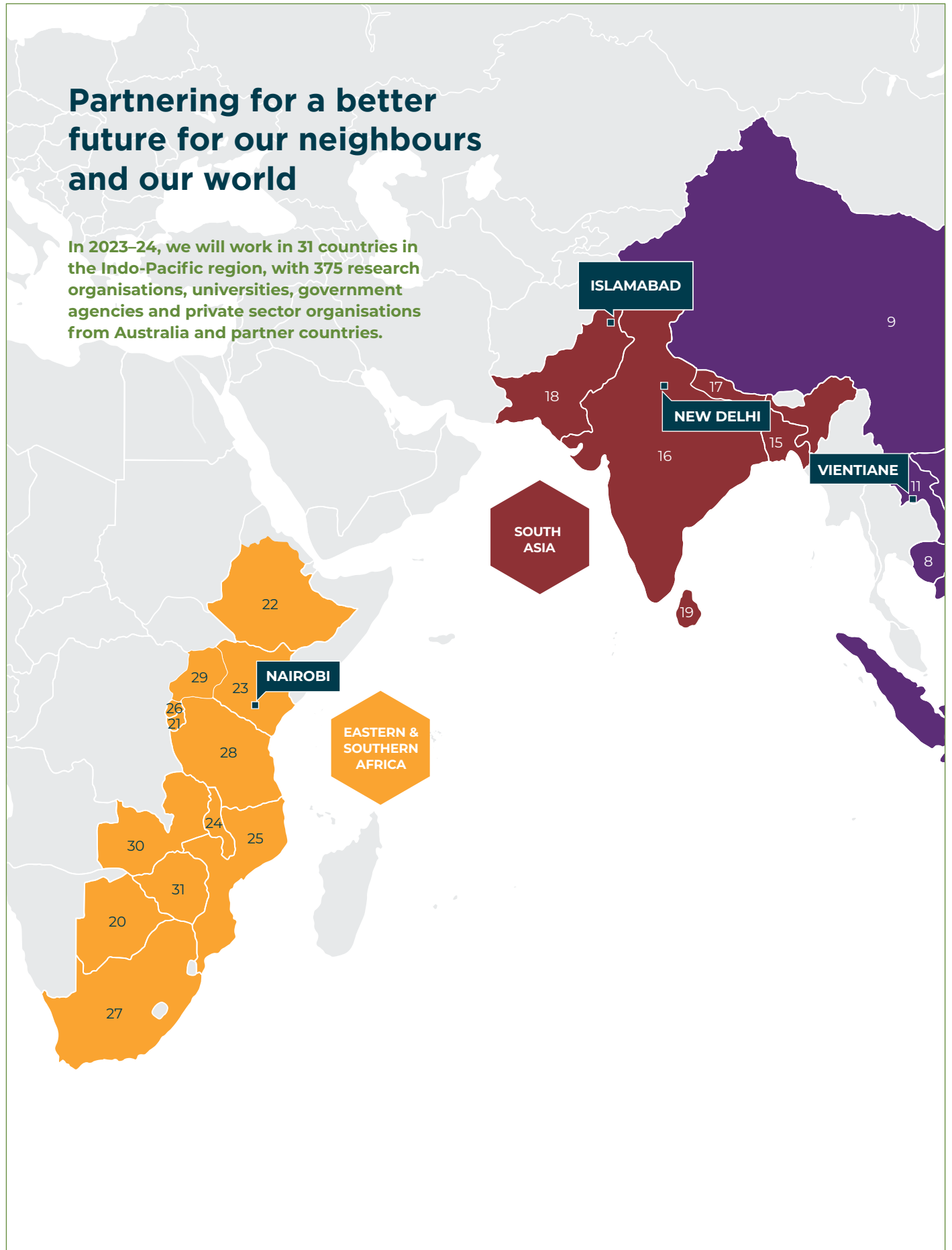
Governance structure of ACIAR

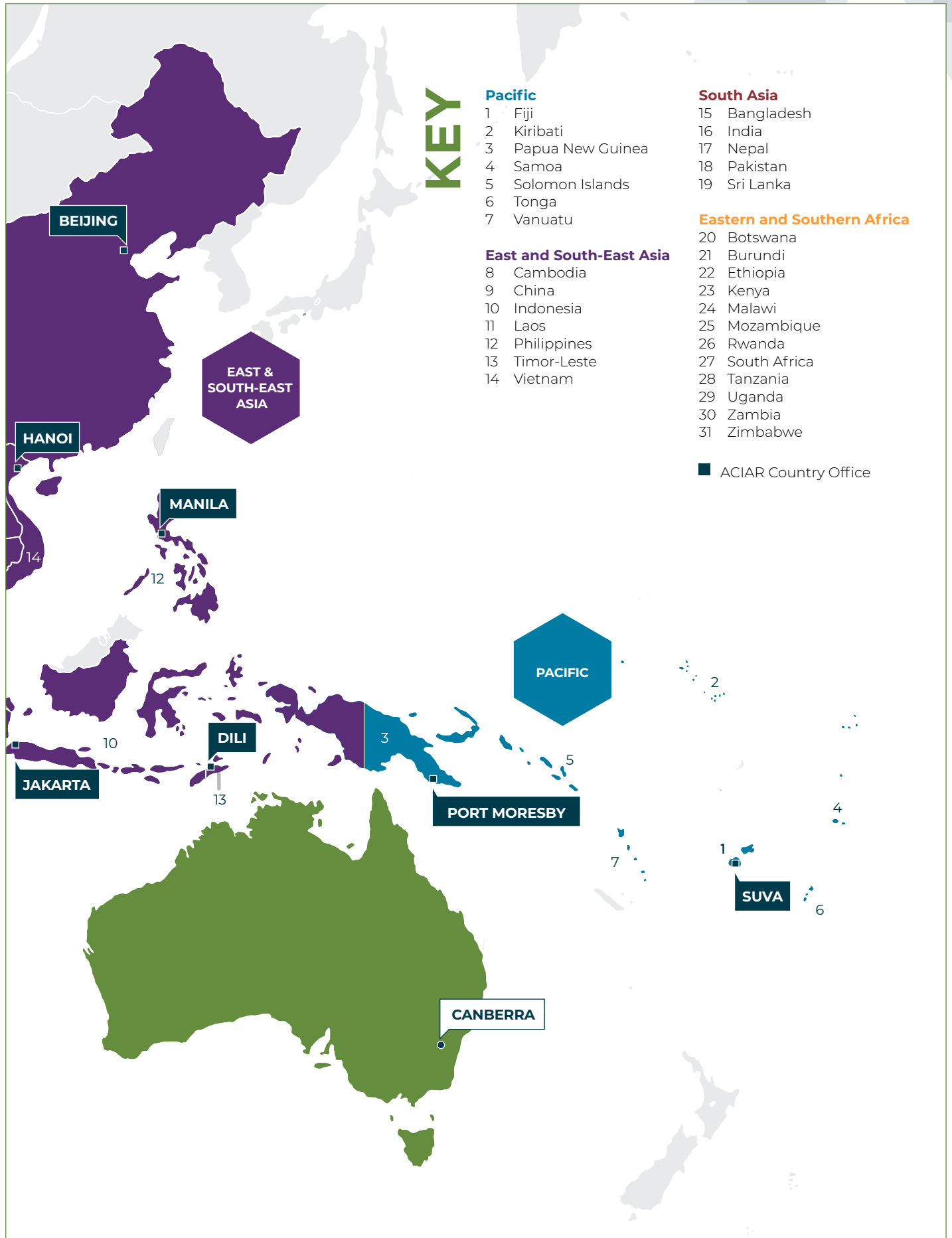


ACIAR regions and partner countries

Partnering for a better future for our neighbours and our world

In 2023–24, we will work in 31 countries in the Indo-Pacific region, with 375 research organisations, universities, government agencies and private sector organisations from Australia and partner countries.





Funding and expenditure

Table 1.1 Overview of planned funding and expenditure, 2023–24

Budget estimate		
Funding		A\$ million
Administered	Administered appropriation	103.55
	Special accounts	7.86
	Total administered funding	111.41
Departmental	Departmental appropriation	9.34
	s 74 Retained revenue receipts ^a	1.50
	Expenses not requiring appropriation ^b	1.21
	Total departmental funding	12.05
Total funding		123.46
Expenditure		A\$ million
Administered	Bilateral and regional research projects ^c	80.98
	Global research collaborations ^d	18.79
	Scientific and policy capacity-building activities ^e	9.47
	Outreach	2.17
	Total administered expenditure	111.41
Departmental	Total departmental expenditure^f	12.05
Total expenditure		123.46

a) Revenue from external sources

b) Depreciation, amortisation and audit fees

c) Includes program support and impact evaluation

d) Includes unrestricted funding to international centres

e) Does not include training and communication activity within projects

f) Includes salaries, executive, Commission for International Agricultural Research, Policy Advisory Council and corporate support

Table 1.2 Planned contribution to ACIAR activities by external funders or partners, 2023–24

Activity area	Partner funder	Expenditure
		A\$ million
Regional and country projects	Department of Foreign Affairs and Trade	5.03
Postgraduate scholarships	Department of Foreign Affairs and Trade	2.73
Food Futures Research Program	International Development Research Centre (Canada)	0.59
Total		8.35

Note There is no external funding expenditure on projects and programs in Africa by Department of Foreign Affairs and Trade.

Table 1.3 Australia's funding to international research centres, 2023–24

International centre	Unrestricted	Restricted (project specific)	Total
	A\$ million	A\$ million	A\$ million
CGIAR	17.30	7.32	24.62
Other centres	2.14	0.00	2.14
Total	19.44	7.32	26.76

Note 'Other centres' encompasses international partners that do not belong to the CGIAR network.

Table 1.4 Planned project expenditure by country, 2023–24

Region and country	Target appropriation budget allocations	ACIAR base appropriation	DFAT and other external funding	Total allocation
	%	A\$ million	A\$ million	A\$ million
Pacific region	27	17.13	1.64	18.77
Fiji	—	4.62	0.03	4.65
Kiribati	—	0.65	0.37	1.02
Samoa	—	1.50	0.07	1.57
Solomon Islands	—	2.47	0.40	2.87
Tonga	—	0.93	0.03	0.96
Vanuatu	—	1.67	0.37	2.04
Pacific island countries	—	0.25	0.37	0.62
Papua New Guinea	—	5.04	0.00	5.04
East and South-East Asia	49	30.91	3.14	34.05
Cambodia	—	3.85	0.47	4.32
China	—	0.04	0.00	0.04
Indonesia	—	6.94	1.05	7.99
Laos	—	5.23	0.45	5.68
Myanmar*	—	0.53	0.04	0.57
Philippines	—	4.83	0.93	5.76
Timor-Leste	—	2.89	0.11	3.00
Vietnam	—	6.60	0.09	6.69
South Asia	15	9.80	0.18	9.98
Bangladesh	—	4.08	0.00	4.08
India	—	0.96	0.00	0.96
Nepal	—	1.11	0.00	1.11
Pakistan	—	3.01	0.09	3.10
Sri Lanka	—	0.64	0.09	0.73
Eastern and Southern Africa	9	5.85	0.58	6.43
Burundi	—	0.06	0.00	0.06
Ethiopia	—	1.62	0.00	1.62
Kenya	—	1.55	0.00	1.55
Malawi	—	0.17	0.00	0.17
Mozambique	—	0.21	0.00	0.21
Rwanda	—	0.31	0.00	0.31
South Africa	—	0.04	0.13	0.17
Tanzania	—	0.57	0.13	0.70
Uganda	—	0.61	0.00	0.61
Zambia	—	0.34	0.00	0.34
Zimbabwe	—	0.37	0.32	0.69
Total project expenditure		63.69	5.54	69.23

Note Due to rounding, not all subtotals add up to the total.

* Planned project expenditure for Myanmar will not occur in 2023–24. See page 47 for further explanation.

2



Global collaborations

ACIAR works with international partners to foster and implement global research collaborations that support strategic development in agriculture, fisheries and forestry.

The **ACIAR 10-Year Strategy 2018–2027** (2nd edition) maintains the proposition that by leveraging strategic international partnerships we influence and promote more productive and sustainable agricultural systems for the benefit of low-income and lower-middle-income countries and Australia.

ACIAR builds and maintains multilateral partnerships with a range of international organisations, institutes and associations that are engaged in agricultural research and the delivery of global public goods. Our goal is to be a valued, engaged investor and a strong, innovative partner in international agricultural research.

The funding and support of international agricultural research centres is one of the roles of ACIAR, mandated by the ACIAR Act. We foster and maintain active working relationships with international agricultural research centres by providing timely, reliable and consistent funding, as well as strategic advice on research and governance.

The largest component of support is provided to **CGIAR**, an international network of research centres dedicated to reducing rural poverty, increasing food and nutrition security for human health, and improving natural resource management and ecosystem services. In addition to CGIAR, we establish and foster partnerships with other international research centres and networks relevant to our mission.

We also develop and manage co-investment alliances and partnerships with like-minded organisations and donors. Co-investment partnerships demonstrate deep trust, enabling partners to leverage capacity and complement research strengths to build a critical mass of resources to invest in research that is more ambitious and wide-reaching.

During 2023–24, we will seek to strengthen multilateral collaborations by serving the international research community as:

- » an engaged investor
- » a strategic research facilitator
- » a broker of Australian science (by engaging relevant Australian research expertise).

The ACIAR Multilateral Program will also work to progress Strategic Change 6 of the refreshed ACIAR 10-Year Strategy 2018–2027: Maximising the value of our multilateral investments by strengthening our partnerships with multilateral agricultural research for-development institutions.



Australia as a global contributor

Partnerships built by the ACIAR Multilateral Program contribute to Australia's global citizenship goals. Our deep engagement in collaborative international research maximises the influence of the Australian agricultural innovation system and the international standing of Australian agriculture.



Investing in global agricultural innovation

Australia has invested in CGIAR since its establishment in 1971. CGIAR is the world's largest global agricultural innovation network, comprising 15 international agricultural research centres with more than 9,000 scientists who work mostly in low-income and lower-middle-income countries.

With 50 years of experience, a presence in 89 countries, and a deep knowledge of local customs, values and markets, the CGIAR system works closely with more than 3,000 partner organisations. These include national and regional research institutes, civil society organisations, academia and the private sector. CGIAR works towards a world free of poverty, hunger, malnutrition and environmental degradation. CGIAR is directly connected to the global development agenda and operates on an annual budget of about US\$900 million.

The CGIAR research centres, shown in the map below, conduct world-class, interdisciplinary research that combines biophysical and social sciences to deliver development impact at scale. The research centres are responsible for hands-on research programs and operations guided by policies and research directions set by the CGIAR System Board with guidance from the CGIAR System Council.

A strong research-based relationship between ACIAR and CGIAR was forged soon after the establishment of ACIAR in 1982. With an amendment to the ACIAR Act in 1992, ACIAR was then mandated as Australia's representative to CGIAR.

As a significant funder of CGIAR, Australia has high-level representation on CGIAR governance bodies, including the CGIAR System Council.

During 2023–24, CGIAR will undergo the final steps to becoming a more unified and integrated One CGIAR and begin the design of the next iteration of the One CGIAR research portfolio. The reform has involved a move from a network of independent international research centres, configured mostly around agricultural commodities, to a more cohesive structure under a common board.

ACIAR has actively contributed to the reform to ensure CGIAR is well-placed to deliver against both the UN Sustainable Development Goals and the Paris Agreement under the UN Framework Convention on Climate Change, as well as to attract new funder contributions.

Australia contributes to CGIAR alongside the United States of America, Germany, India, United Kingdom, European Commission and Mexico among many others, as well as significant donors, including the World Bank and the Bill & Melinda Gates Foundation. Further information on CGIAR governance and funding can be found on the [CGIAR Governance](#) and [CGIAR Dashboards](#) sites on the CGIAR website.

In addition to participating in the governance of CGIAR, Australia has many scientists who contribute as research leaders within the CGIAR and its research centres.

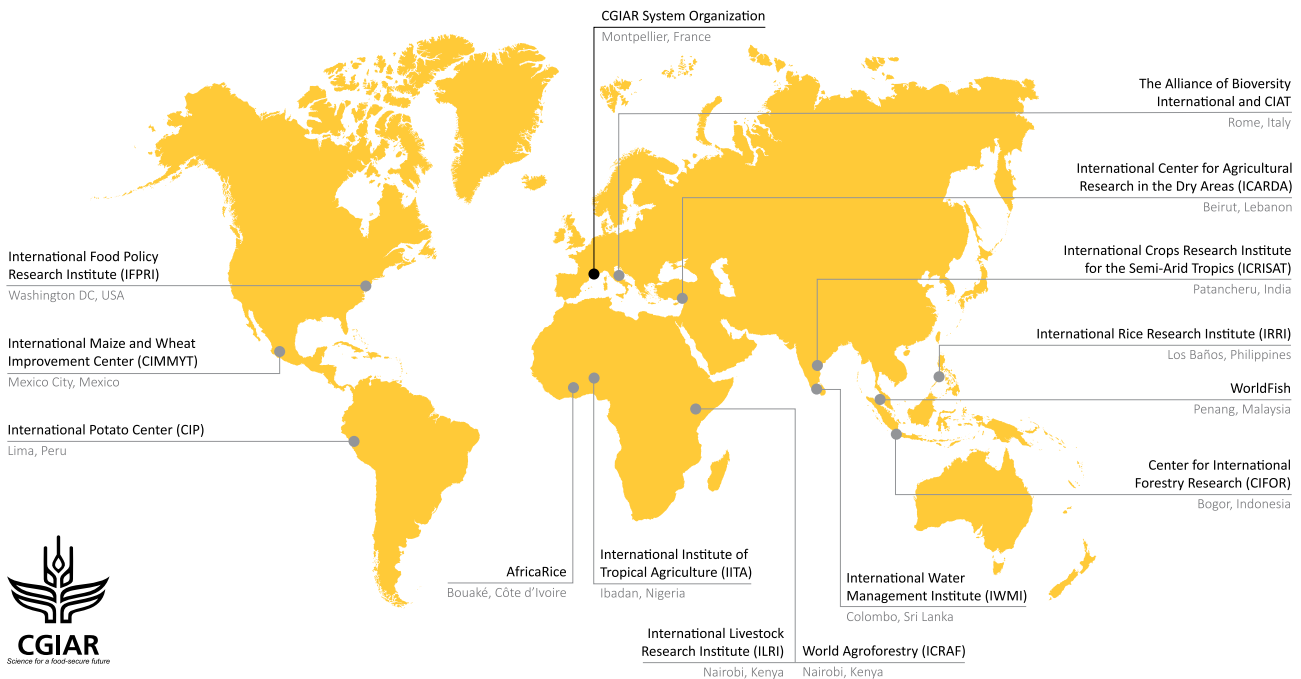


Figure 2.1 Location of the agricultural research centres of the CGIAR system

Source: CGIAR

CGIAR investment 2023–24

Australia, through ACIAR, provides restricted project funds and unrestricted core funds (designated and undesignated) to CGIAR. Restricted funding is delivered through specific research projects by individual centres of the CGIAR network. Unrestricted funding constitutes more than half of Australia's total support to CGIAR. Unrestricted funding is reviewed annually and in 2023–24 will be approximately A\$17 million (Table 1.3).

The CGIAR research portfolio strives for global and regional impact by organising its work around **3 Action Areas**:

- » Systems Transformation
- » Resilient Agrifood Systems
- » Genetic Innovation.

These Action Areas align with the CGIAR **2030 Research and Innovation Strategy**, which aims to ensure that research provides real solutions for development.

The strategy has 7 implementation approaches:

1. embracing a systems transformation approach
2. leveraging ambitious partnerships for change
3. positioning regions, countries and landscapes as central dimensions of partnership, worldview and impact
4. generating scientific evidence on multiple transformation pathways
5. targeting risk management and resilience as critical qualities for food, land and water systems
6. harnessing innovative finance to leverage and deliver research through new investment and funding models
7. making the digital revolution central to our way of working.

The new One CGIAR research portfolio, centred on transforming food, land and water systems in a climate crisis, is well underway, with the first year of results now available on the **CGIAR Results Dashboard**.

The 2023–24 year is shaping up to be pivotal for CGIAR with the implementation of the 2030 Research Strategy and delivery of impact on the current research portfolio, while beginning to design the focus of research beyond 2024.

To ensure research excellence and value for investment in CGIAR for Australia, during 2023–24 ACIAR will:

- » participate at the highest levels of governance of the CGIAR system, through membership and leadership on the CGIAR System Council, the Strategic Impact Monitoring and Evaluation Standing Committee and numerous other advisory groups
- » continue our collaboration with other donors to CGIAR through participation in multi-funder activities that align with ACIAR strategy and Australian interests
- » coordinate Australian engagement with CGIAR, including consultation with Department of Foreign Affairs and Trade (DFAT) and other Australian organisations, primarily through the CGIAR Australian Leadership Group, established by ACIAR in 2015
- » engage ACIAR Research Program Managers in the technical oversight of CGIAR Research Programs and in strengthening our partnership with the CGIAR to achieve Strategic Change 6 of **ACIAR 10-Year Strategy 2018–2027**.



Impressive return on investment

CGIAR delivers impressive economic, social and environmental returns on research investment. A 2020 study calculated a benefit:cost ratio of 10:1 for CGIAR investment since 1961, which is primarily due to enhancing the yields of staple food crops in developing countries. There are additional less-easily measured payoffs, such as greater food abundance, cheaper food, reduced rates of hunger and poverty, and a smaller geographical footprint of agriculture.

CGIAR research outputs have helped keep Australian farmers competitive in world markets by increasing yields and reducing costs. CGIAR germplasm has been incorporated into, and has greatly improved, Australian plant and livestock breeding programs. For example, 98% of all wheat grown in Australia is derived from CGIAR wheat germplasm. CGIAR germplasm is also prominent in improved varieties of sorghum, maize and chickpea in Australia.

Partnering in global and regional programs

In addition to our partnership with CGIAR, ACIAR has multilateral partnership arrangements with a number of international agricultural research centres and networks.

During 2023–24, we will support global research collaborations with:

- » The Pacific Community
- » Asia–Pacific Association of Agricultural Research Institutions
- » World Vegetable Center
- » CABI (formally known as the Centre for Agricultural Biosciences International)
- » International Centre of Insect Physiology and Ecology.

Pacific Community

The **Pacific Community** (SPC), previously known as the Secretariat of the Pacific Community, has been the principal scientific and technical organisation working to support development in the Pacific region since 1947. SPC is an international development organisation owned and governed by 26 country and territory participants.

SPC provides regional specialist technical expertise to strengthen or, in some cases, supplement regional and national capacity. Several core functions of SPC are of particular interest to ACIAR:

- » to strengthen sustainable management of natural resources (fisheries, forestry, land use, agriculture, minerals, water)
- » to improve pathways to international markets
- » to improve multi-sectoral responses to climate change and disasters
- » to advance social development through the promotion of human rights, gender equality, cultural diversity and opportunities for young people
- » to improve multi-sectoral responses to non-communicable diseases and food security.

SPC and ACIAR have worked in partnership for more than 30 years and SPC is a key partner of both ACIAR and DFAT. SPC helps deliver on Australia's strategies to support the production of strategic regional public goods with strong benefits for the region's agriculture, fisheries, forestry and biosecurity sectors.

ACIAR currently provides core and project funding to the Land Resources Division and the Fisheries Aquaculture and Marine Ecosystems Division. The current core strategic partnership agreement, associated with this funding, extends to December 2026.

The partnership between ACIAR and SPC supports the production and maintenance of scientific, technical and management capacities, and activities in agriculture and fisheries that provide shared benefits for agricultural development activities of Pacific island countries and territories. Our funding is also aimed at building stronger strategic relationships between our organisations, enhancing strategic management capacity in the Land Resources Division and strengthening capacity for coastal fisheries development in Fisheries Aquaculture and Marine Ecosystems Division.

SPC facilitates the participation and engagement of ACIAR in regional consultation processes such as Pacific Week of Agriculture and Forestry, Heads of Agriculture and Forestry Services, and Ministers of Agriculture and Forestry Services. During 2023–24, ACIAR and SPC will collaborate to progress strategic regional initiatives, particularly mitigating the impacts of current and future risks.

Asia-Pacific Association of Agricultural Research Institutions

The **Asia-Pacific Association of Agricultural Research Institutions** (APAARI) promotes and coordinates the national agricultural research institutes in the Asia-Pacific region, through inter-regional and inter-institutional cooperation. APAARI works to strengthen agrifood research and innovation systems in Asia and the Pacific, based on strategic priorities identified through regional consultation processes.

ACIAR has a history of working with and supporting APAARI. We provide annual core funding for research communication, knowledge management, advocacy for agricultural biotechnology, support for capacity building, and participation in expert consultations with national agricultural research system leaders in the region.

World Vegetable Center

The **World Vegetable Center** (WorldVeg) is an international non-profit research and development institute committed to alleviating poverty and malnutrition in low-income and lower-middle-income countries through increased production and consumption of vegetables. It also manages the world's largest vegetable gene bank. WorldVeg undertakes research and development to realise the potential role of vegetables for healthier lives and more-resilient livelihoods.

Through its extensive networks and research partnerships WorldVeg disseminates improved varieties of vegetable crops and promotes improved production methods to farmers. This results in higher vegetable harvests, higher incomes, more jobs and healthier, more-nutritious diets.

Investment in WorldVeg is an investment in research into the nexus between agriculture, livelihoods, nutrition and health. ACIAR provides WorldVeg with both core funding and project-specific funding. ACIAR has a strategic partnership arrangement with WorldVeg, which supports breeding activities and capacity building in low-income and lower-middle-income countries in Asia and Sub-Saharan Africa. The partnership focuses on the development of improved vegetable varieties, introduction of improved agricultural practices, collaboration and capacity building of public and private seed sectors and long-term support of the [International Mungbean Improvement Network](#).

ACIAR funding has enabled:

- » better conservation of vegetable crop biodiversity and development of more resilient crops to address current and future biotic and abiotic constraints to vegetable production in the context of climate change
- » development, evaluation and validation of good agricultural practices for vegetable production that are safe for consumers, profitable and sustainable for all value-chain stakeholders
- » collaboration to strengthen the capacity of smallholder farmers and national partners from both the public and private sectors in vegetable production and commercialisation
- » enhanced mungbean germplasm conservation, discovery of novel traits, and strengthened international collaboration, knowledge and technology sharing on mungbean improvement.

WorldVeg has brought significant benefits to Australian agriculture, particularly through its mungbean breeding program, which has provided the varieties grown across much of northern Australia for many years. WorldVeg also holds varieties of tomato with genetic resistance to tomato yellow leaf curl virus, which poses an ongoing threat to the Australian tomato industry.

CABI

CABI (formally known as the Centre for Agricultural Biosciences International) is an intergovernmental, not-for-profit organisation established by a UN treaty. Australia is a member of CABI, along with 49 other member countries from Africa, Asia, the Americas and Europe.

CABI addresses issues of global concern through science, information and communication, with a focus on international development and research, publishing and microbial services.

CABI works to improve global food security, combat threats to agriculture and the environment from pests and diseases, protect biodiversity from invasive species, and improve access to agricultural and environmental knowledge. CABI improves lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

Australia's membership fee, through ACIAR, enables CABI to address key issues of importance to both organisations. The funding supports PlantwisePlus, the CABI Development Fund and Australia's CABI membership (services relating to CABI's scientific expertise, products and resources). The CABI Development Fund invests in pilot projects to enable the development of strategies for climate-change adaptation and mitigation actions in smallholder agriculture. Australia's investment in CABI has contributed to improved agricultural outcomes for low-income and lower-middle-income countries and delivered benefits to Australian agriculture, particularly in the area of biosecurity.

International Centre of Insect Physiology and Ecology

The [International Centre of Insect Physiology and Ecology](#) (*icipe*) plays an important role in agricultural research for development, and in producing and maintaining global public goods in entomology.

ACIAR has engaged *icipe* as an implementing partner on research projects since 2015. In recognition of the important role that *icipe* plays for our products and in the production of regional and global public goods, in 2022, we established the Emerging Insect Technology Hub (EIT-Hub) and a partnership arrangement with *icipe*. EIT-Hub will centralise engagement and knowledge sharing around insects as food, animal feed and fertiliser, and bring together industry stakeholders, scientists and investors to discuss issues related to emerging insect technologies. The initiative is led by *icipe*, in partnership with ACIAR and AgriFutures Australia, to accelerate insect farming as an emerging industry in Africa and Australia. The partnership arrangement was established to reflect the strength of the relationship between ACIAR and *icipe*, the alignment of organisational aims, and the important role of *icipe* in the global agricultural research landscape.

In 2023–24 ACIAR will continue to strengthen its relationship with *icipe*, by providing core funds under the *icipe*–ACIAR Partnership Arrangement, project and EIT-Hub collaboration, and advocating that other funders commit to the organisation as strategic long-term (core) funders and partners.

Building strength through collaboration

Co-investment programs enable ACIAR to harness the complementary skills of partners, leverage ACIAR funds, and engage in larger and more ambitious programs.

Co-investment programs take many forms, from shared design and implementation of a suite of research, to programs designed to support industry and build capacity.

International Development Research Centre

Our most significant partner in terms of co-investment is Canada's **International Development Research Centre** (IDRC). IDRC was a model for ACIAR when Sir John Crawford submitted his recommendation to Prime Minister Fraser in 1981 to establish a centre for international agricultural development in Australia. Of all our partners, IDRC is most like ACIAR in that it is a specialist statutory agency investing in research as a form of strategic official development assistance.

IDRC has an agreement with ACIAR to build collaborations on a range of research initiatives of mutual interest until 2027. Current co-investments are 50:50 partnerships and include:

- » Food Loss Research Program, described on this page
- » ACIAR-IDRC Research Program on One Health (AIRPOH), described on page 19.



Food loss program

The Food Loss Research Program aims to gain a deeper understanding of the drivers of food loss, from the farm through to the consumer. The program marks an important evolution in looking at food from a systems perspective. In some countries where ACIAR operates, there is a lack of post-harvest infrastructure for reducing food loss. While technology solutions exist, they have not been adopted or implemented at scale.

The Food Loss Research Program addresses value chain inefficiencies, poor communication systems and overall structural inequalities. Through 4 projects the program seeks to:

- » examine agricultural value chains within food systems at a provincial or local level in 2 or more countries in which ACIAR and/or IDRC work
- » conduct foresight exercises until 2050, stipulating how value chains are likely to change given trends in labour, technology, mechanisation, climate change, urban and rural density, and nutritional requirements
- » engage private agribusinesses along the value chain to document their experiences of food loss and explore models of innovation to mitigate food loss in the long term
- » assess interventions that are currently being used at a local scale across the value chain
- » assess factors that enable or prevent the transfer of intervention strategies from one location to another.

Food Loss Research Program projects

- » Adopting a gender-inclusive participatory approach to reducing horticultural food loss in the Pacific (CS/2020/191)
- » Developing food loss reduction pathways through smart business practices in mango and tomato value chains in Pakistan and Sri Lanka (CS/2020/193)
- » Food loss in the catfish value chain of the Mekong River Basin (CS/2020/209)
- » Managing food value chains for improved nutrition for urban vulnerable populations in Africa (Africitiesfood) (CS/2020/210)



One Health program

One Health is a framework that recognises that the health of people, animals and the environment is interconnected. It provides an approach for developing more effective integration across the human and animal health systems in regard to regulations, surveillance, diagnostics and responses to disease outbreaks.

Globally, approximately 75% of newly emerging infectious diseases are zoonoses (diseases that can transmit from animals to humans). These diseases arise as a result of one or several factors that may be anthropogenic, genetic, ecological, socioeconomic or climatic in origin. Across the Indo-Pacific region, animal production systems are changing rapidly; however, local and regional capacity to diagnose, treat and control disease is generally weak and under-resourced.

Jointly funded for A\$4.3 million, the ACIAR-IDRC Research Program on One Health (AIRPOH) will form a portfolio of interconnected projects supporting research that will have a transformative impact on human, animal and environmental health. The program aims to promote new ideas and thinking on One Health.

Research Program on One Health projects

- » Developing strategies to reduce brucellosis transmission in Timor-Leste based on One Health collaboration (LS/2022/161)
- » Policy support to the Philippines' national surveillance and control programs for African swine fever, avian influenza and antimicrobial resistance: a One Health systems approach to animal food security, public health resiliency and environment sustainability (LS/2022/162)
- » Livestock enhancement through EcoHealth/One Health assessment in South-East Asia (LS/2022/163)
- » The role of agricultural and forest landscapes on human and environmental health in Cambodia (SSS/2022/164)

Alliance for Agricultural Research and Development for Food Security

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

Alliance partners undertake complementary activities and/or co-fund innovative approaches to research-for-development activities and delivery, using the unique and diverse strengths and expertise of the parties to better promote and achieve food security.

The Alliance recognised the potential for demand-led plant variety design to transform plant breeding for small-scale agriculture and food security. In 2014 it established the project '[Demand led plant variety design for emerging markets in Africa](#)' (FSC/2013/019), which engages with plant-breeding and university sectors in many countries in southern and eastern Africa. This project will finish in 2023–24, but the impact will be sustained, with the resources being used by a wide range of institutions in Africa and beyond and an alumni of over 400 plant breeders.

A new project 'Developing and translating soil health information in Bangladesh with farmers and for farmers to build resilient agricultural systems' (SLAM/2021/107), starting in 2023, has evolved from a shared interest between partners of the Alliance to develop a farmer-oriented soil health and resilience knowledge framework and evaluation system, to build resilient agricultural systems in Bangladesh. The project will take a trans-disciplinary approach to soil health research and assess the impact of this approach in relation to practice change in farmers' fields. It brings together farmers, extension agents, researchers and government agencies, and potentially private sector partners, to work collaboratively through an iterative cycle of learning in order to address soil health risks related to climate change.



More information about our international partnerships is available on the ACIAR website.

www.aciar.gov.au
>What we do >Partnerships



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

3



ACIAR in the Indo-Pacific

Through longstanding partnerships with many countries in the Indo-Pacific region, ACIAR supports collaborative research on productivity, resilience, sustainability and equity in agriculture, forestry and fisheries systems to reduce poverty and improve livelihoods.

The work of ACIAR is organised into 4 regions of operation in the Indo-Pacific. Within each region, we facilitate a varied program of research and capacity building, reflecting the challenges and opportunities of a region and individual countries.

Our work is broadly characterised by global research collaborations (Chapter 2) bilateral and regional projects (Chapters 4 to 7) and scientific and policy capacity-building programs (Chapter 8). An Outreach Program (Chapter 9) raises awareness and communicates impact and results through several platforms.

To maximise our effectiveness as an agricultural research-for-development agency, ACIAR builds and maintains partnerships with in-country agencies and organisations. These partnerships are managed by the ACIAR Country Network, which comprises 23 locally engaged staff, based in 11 offices across the Indo-Pacific region.

ACIAR identifies research priorities collaboratively with partner countries, and the Research Program brokers research partnerships and projects to tackle those priorities. Our Research Program Managers work closely with the ACIAR Country Network to build connections and relationships with in-country organisations and institutions, and to ensure that the research aligns with partner-country priorities.

During 2023–24, 169 projects will be active in our operational area. These projects are collaborations between Australian and international scientists.

Projects and partners



169

Research projects and small research activities



31

Countries where projects are located



68

Commissioned organisations



350

Collaborating institutions

Note: An organisation or institution may partner with ACIAR on more than one project, and in different roles. In this data, the same partner is counted once for its role as a commissioned organisation and once for its role as a collaborator. This data was current at time of publication. Additional projects may be commissioned during 2023–24.



Country partnerships

To ensure our effectiveness as a partner of choice across the regions in which we operate, ACIAR builds and maintains partnerships with in-country agencies and organisations supported by the ACIAR Country Network.

The ACIAR Country Network develops and maintains the strategic directions of our investments with in-country partner agencies. The network manages relationships, communication, coordination and administration of activities within the countries where ACIAR operates.

The Country Network also supports partner research institutions to develop, establish and administer activity related to research collaboration and capacity building. Our Country Network is a vital link between Australian and international researchers and the relevant in-country research agencies.

Many of our country partnerships are undergoing rapid change as local research capacity grows and the ability of countries to fund research increases. At the same time, global challenges inevitably continue to affect the ability and extent to which our partner agencies can participate in research collaboration. The Country Network closely monitors and supports our in-country partners to navigate the challenges they face in engaging with research. Ongoing changes in circumstances mean our Country Network needs to be nimble and flexible when engaging with partner agencies.

During the COVID-19 pandemic the Country Network upskilled in partnership brokering and knowledge management, equipping our overseas staff with the necessary skills, tools and plans to maintain relationships with our partner agencies during the pandemic and re-engage fully as quickly as possible after the pandemic. Training will continue during 2023–24 and the Country Network is now skilled and empowered to lead partnership discussions, with the support of ACIAR staff based in Canberra.

Over the next 2 years, ACIAR, led by the Country Network, plans to work with in-country partners to reinvigorate existing and develop new long-term partnership agreements. Country/regional strategies for research priorities that are necessary to underpin partnerships will also be renewed, and these will be driven by the Country Network in alignment with partnership discussions.

ACIAR partner countries are increasingly involved in the design of projects and capacity-building programs, with countries now regularly co-investing alongside ACIAR at different levels in accordance with their capacity. Priority countries for the development of new partnerships over this period include Vietnam, Papua New Guinea, Indonesia, Timor-Leste, Bangladesh and Pakistan. In all countries and regions, the Country Network will continue to be closely engaged with partners and nurturing partnerships, taking into consideration the prevailing circumstances in each country.

ACIAR Country Offices

ACIAR Country Network staff are located in the offices of Australian high commissions or embassies in the following countries:

Pacific

- » Fiji (regional office for Pacific island countries)
- » Papua New Guinea

East and South-East Asia

- » Laos (regional office for Laos, Cambodia and Myanmar*)
- » China
- » Indonesia
- » Philippines
- » Timor-Leste
- » Vietnam

South Asia

- » India (regional office for India, Bangladesh and Nepal)
- » Pakistan

Eastern and Southern Africa

- » Kenya (regional office).

* One ACIAR staff member is located in Myanmar, but the location is a remote site of the regional office in Laos, not an ACIAR Country Office.



More information about our Country Network is available on the ACIAR website.

www.aciar.gov.au

>Where we work

Regional investment



Pacific

50
projects

27%
research investment



East and
South-East Asia

82
projects

49%
research investment



South Asia

27
projects

15%
research investment



Eastern and
Southern Africa

20
projects

9%
research investment

Note: This data was current at time of publication. Additional projects may be commissioned during 2023–24. Some projects occur in more than one region, therefore the total of projects in each region will exceed the total number of individual projects listed on page 21.



Research program

ACIAR works with scientists in Australia, in partner countries and in international research centres around the world to use science and technology to improve the livelihoods of smallholder farmers, and their families and communities, as well as the sustainability of food systems throughout the Indo-Pacific region.

Our work in each partner country and within our 4 regions is determined through dialogue and consultation between ACIAR and in-country partners, with research partners. ACIAR-supported research addresses the specific challenges and opportunities arising in local environments and builds on established relationships.

Our research portfolio is organised into 10 programs:

- » Agribusiness
- » Climate Change
- » Crops
- » Fisheries
- » Forestry
- » Horticulture
- » Livestock Systems
- » Social Systems
- » Soil & Land Management
- » Water.



More information about the overarching objectives of each research program and a short biography of each research program manager is available on the ACIAR website.

www.aciar.gov.au
>What we do

The development of projects within and across programs is guided by the objectives of the ACIAR 10-Year Strategy 2018–2027. We identify research priorities collaboratively with partner countries, and broker research partnerships and projects to tackle those priorities. Once projects are established, we manage and monitor these investments throughout the research process to maximise impact and return on investment.

Research projects developed as bilateral and regional partnerships are led by a commissioned organisation (such as an Australian university, CSIRO, state government agency or private firm) or an international agricultural research centre or partner-country research agency. The projects are a collaboration between the commissioned organisation, other Australian or international research providers and in-country organisations. We work closely with collaborators to determine and monitor the achievement of project milestones.

We also work with other government agencies to implement programs and projects with shared goals. Since 2006, our largest and most important partnership with another government agency has been with our portfolio partner, the Australian Government Department of Foreign Affairs and Trade (DFAT).

Relationships with our in-country partners change as partner countries develop more capability in research and change focus on their research priorities. Our approach to research prioritisation and partnership brokering adapts in order to deliver research projects that are consistent with jointly agreed priorities, needs and capabilities.

Our research portfolio evolves in response to new research opportunities enabled by new knowledge and technologies, and new research and development imperatives.

Projects are varied in design, execution and outcomes. Very broadly, projects range from research or investigations conducted by a group of partners across a number of field sites over several years to develop new knowledge, technology or methodology, through to small research activities where an individual agency or specialist may conduct a desktop or scoping study over 12 months.

Planning and evaluation

Portfolio planning and impact evaluation helps us refine our priorities and learn lessons from current and past projects, as well as enabling accountability to our Minister, the Australian Government and the Australian public.

An important aspect of our work lies in strategically planning for, and measuring, the impact of our investments.

Consistent with the ACIAR 10-Year Strategy 2018–2027, the Portfolio Planning and Impact Evaluation team has 2 ongoing key areas of focus:

- » systematic portfolio planning, monitoring and reporting
- » commissioning evaluation studies.

Systematic portfolio planning, monitoring and reporting

We are continuing to revise our existing planning and reporting documents to ensure that projects are designed and budgeted in a way that enables effective project-level monitoring, evaluation and reflection throughout implementation, and longer-term impact assessment after project completion.

Commissioning evaluation studies

We will continue to commission studies that quantify our contribution and produce lessons relevant to the achievement of all ACIAR objectives. We will build on, and continue to develop, methods to understand and value the different contributions of agricultural research to human development and environmental sustainability. We will look for opportunities to undertake truly integrated impact assessments that explore the multiple values of our work. Based on our commitment to gender equity and social inclusion, we will conduct formative and ex-post gender-integrated assessment methods. We will also commission studies that will inform how we design and commission future work to deliver our objectives.

Research portfolio



18

Agribusiness projects



11

Climate Change projects



15

Crops projects



20

Fisheries projects



15

Forestry projects



18

Horticulture projects



18

Livestock Systems projects



16

Social Systems projects



22

Soil & Land Management projects



16

Water projects

Note: This data was current at the time of publication. Additional projects may be commissioned during 2023–24.

4



Pacific region program

The countries of the western Pacific region are set apart from the rest of the world. Many are small and geographically isolated, have limited land mass and arable land, fragile natural environments and limited land-based agricultural resources. Increasingly, they are more vulnerable to natural disasters and climate change than many other regions of the world.

Each country in this region faces specific development and agricultural challenges that hamper economic growth, including small formal economies, long distances from major markets, high costs and rapidly growing populations. Governance and capacity constraints in some countries also limit their ability to deliver services. These challenges make it difficult to respond and recover from disasters and climate change effects, which are prominent in the region.

In 2022–23, the region grappled with challenges arising from a string of civil and natural disasters that included civil unrest and demonstrations in Solomon Islands, social and election-related tensions in Papua New Guinea, volcanic eruption and tsunamis in Tonga, and flooding and landslides due to cyclones across several countries, including twin cyclones in Vanuatu. These events have ongoing impacts on local populations and influence the nature of development assistance programs.

Pacific island countries also face the consequences of the triple burden of malnutrition – a situation where undernutrition, micronutrient deficiencies and obesity coexist. Unhealthy diets, lifestyles and environment are key risk factors contributing to these non-communicable diseases.

The COVID-19 pandemic had devastating effects globally. For the past 3 years the Pacific region was affected by border closures and disruptions to supply chains, causing significant impacts on food security. Many countries have faced challenges in accessing food imports and agricultural inputs, leading to price increases and decreased availability of some products. Additionally, measures such as lockdowns and social distancing affected local food production and distribution, especially for small-scale farmers and fishers.

The Pacific region has reopened its borders; however, recovery from the pandemic is still in its early stages and the impacts remain prevalent and significant. The economy of the region has been impacted by unprecedented loss of tourism-related activities and the initial slowing of remittances. Concurrently, there is a deterioration of government finances and availability of public-sector funding.

In response to the pandemic, Pacific region countries adopted a variety of measures to address impacts, including economic stimulus packages, home gardening programs through seed distribution, farm support packages and backyard aquaculture farms. Cash transfers to the most vulnerable households were also implemented to augment loss of income.

Governments and non-government organisations in Pacific island countries continue to respond with policies and programs to support food security, such as increasing domestic production and distribution channels, food assistance programs for vulnerable populations, and facilitation of trade and transport of essential goods.

Agriculture and fresh produce have emerged as the foundation of the economy for the region and ensured food security for the population when the manufacturing sector, trade and services stalled. There is continued stress on the ability of food systems to deliver primary functions: providing food security and nutrition to growing populations; supporting livelihoods for farmers, fishers and workers along the agrifood chains; and supporting environmental sustainability and resilience.

The region continues to foster approaches with development partners to strengthen the agriculture and fisheries sectors and promote agritourism to enhance the region's economy. This has included a resurgent appreciation of importance of local agriculture, expansion of small-scale gardening, improved measures of post-harvesting techniques and improving local technical expertise. The past 3 years have increased interest in, and support for, agriculture, fisheries and forestry; enthusiasm for innovation in food systems and value chains; and the creation of new domestic market opportunities. Regional leaders have emphasised the urgency of catalysing national food systems transformation in Pacific island countries by promoting sustainable agriculture practices and diversifying food systems to ensure food security and reduce dependence on imports.

2023–24 program

Partner countries

Fiji
Kiribati
Papua New Guinea
Samoa
Solomon Islands
Tonga
Tuvalu
Vanuatu

50
projects

37
research
projects

13
small research
activities

A\$18.77 million

Investment in
agricultural research
for development



1
Agribusiness project



5
Climate Change projects



1
Crops project



11
Fisheries projects



5
Forestry projects



8
Horticulture projects



5
Livestock Systems projects



7
Social Systems projects



5
Soil & Land Management
projects



2
Water projects

Note: This data was current at the time of publication. Additional projects may be commissioned during 2023–24.

Drivers of regional collaboration

While acknowledging the individual needs and unique research and development priorities of each partner country in the Pacific region, the scattered nature of the Pacific region nations and their small populations mean that many countries cannot address all their challenges and opportunities in agriculture alone.

The ACIAR program within the Pacific region has a strong focus on enabling regional collaboration, especially through our close relationship with the Pacific Community (SPC). SPC is the principal scientific and technical organisation supporting research for development in the region and plays a key role in communicating research outcomes of relevance across the region. Regional research programs and projects are implemented through agencies with regional capability (including SPC, the University of the South Pacific and CGIAR centres) and bilateral research and extension agencies.

Papua New Guinea is a significant partner within our Pacific region program. We have a specific strategy that highlights enabling collaboration with the entire Pacific region on issues of common interest.

Regional ACIAR program

Australia's partnerships with the Pacific region were reaffirmed by the Australia Government in the 2023 release of [Australia's International Development Policy](#). The new policy focuses on strategically secure and economically stable support for the region and emphasises helping Australia's neighbours tackle common challenges and finding solutions to improve people's lives and livelihoods.

In 2023–24, ACIAR will continue to build on its long engagement with the Pacific region, through our regional office in Fiji. We will strengthen partnerships with Pacific island countries and Papua New Guinea, and actively pursue opportunities and models that align with the research-for-development plans and priorities of partner countries.

As the Pacific region enters the post-pandemic period – a new normal – ACIAR is developing medium-term priorities under a new 10-year regional strategy, through consultation with national government partners and regional research and development agencies. We will focus our efforts on supporting the rebuilding of the agriculture sector and re-engaging with partners. ACIAR will continue to actively engage with regional strategic platforms such as the Pacific Week of Agriculture and Forestry, among others. These events enable ACIAR to meet with and listen to Pacific partners, discuss the region's priorities and plans, and identify where research can contribute to a more resilient, sustainable and food-secure region.

ACIAR continues to support the alumni of its capacity-building programs and fellowships to work hand-in-hand with Australian and international researchers, to provide insights into building the resilience of local food security against external shocks and identify strategies to ensure future food security of the Pacific region. Post-pandemic, we are supporting research that responds to the biosecurity and health threats to communities, such as One Health (the interface between human, animal and environmental health), pest and disease management, understanding food environment and links to agriculture, and improving resilience in food value chains, both within partner countries and between Australia and partner countries.





A key future focus of our program in the Pacific region will be enabling regional collaboration in research and capacity building to address common issues and opportunities. This regional approach includes projects addressing biosecurity, climate-resilient livelihoods, opportunities for stronger agribusiness development, community-based fisheries management, integrated food systems and nutrition.




Current regional projects and linked programs include:




- » fisheries (pathways to change in Pacific coastal fisheries)
- » forestry (domestication and breeding of sandalwood, agroforestry and catchment rehabilitation)
- » crops (sweetpotato, coconut, protected cropping systems and tropical fruits)
- » soil health and management
- » food systems and nutrition (food loss).



Current and proposed projects in the Pacific region, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Evaluating an alternative approach to sector development in Pacific island countries AGB/2022/113	Fiji
	Climate Change	
	Transformation pathways for Pacific coastal food systems CLIM/2020/178	Kiribati, Solomon Islands
	Sustainable agricultural intensification systems for climate resilient development in Pacific island countries CLIM/2020/186	Samoa, Tonga
	Supporting greenhouse gas inventories and livestock data development in Fiji CLIM/2021/160	Fiji
	Using carbon markets to drive multiple benefits for Papua New Guinea coffee farmers CLIM/2022/109	Papua New Guinea
Scoping the governance and co-benefits of circular agrifood–energy systems governance in Pacific island countries CLIM/2022/174	Fiji, Kiribati	
	Crops	
	Finding a genetic basis for oil palm responses to basal stem rot in a long-term infected block CROP/2021/130	Papua New Guinea, Solomon Islands
	Fisheries	
	Half-pearl industry development in Tonga and Vietnam FIS/2016/126	Tonga, Vietnam
	Improving peri-urban and remote inland fish farming in Papua New Guinea to benefit both community-based and commercial operators FIS/2018/154	Papua New Guinea
	Towards more profitable and sustainable mabé pearl and shell-based livelihoods in the western Pacific FIS/2019/122	Fiji, Papua New Guinea, Samoa, Tonga
	Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands FIS/2019/124	Solomon Islands, Timor-Leste
	Spatially integrated approach to support a portfolio of livelihoods FIS/2020/111	Solomon Islands, South Pacific general
	Coalitions for change in sustainable national community-based fisheries management programs in the Pacific FIS/2020/172	Kiribati, Solomon Islands, South Pacific general, Vanuatu
	Strengthening agricultural resilience in Western Province: developing methods for strengths-based livelihoods approach FIS/2021/113	Papua New Guinea
	Strengthening agricultural resilience in Western Province: mapping place-based strengths and assets FIS/2021/122	Papua New Guinea
	Pursuing more inclusive engagement in agrifood value chains by better understanding the roles and challenges facing people of diverse sexual orientation, gender identity and/or expression in Samoa FIS/2022/119	Samoa
	Extending integrated analysis for improved food system outcomes in Timor-Leste and the Pacific region FIS/2022/121	Kiribati, Solomon Islands, Timor-Leste, Vanuatu
Supporting resilient and equitable food systems: emerging oyster and seaweed mariculture enterprises in coastal communities in Fiji and northern Australia FIS/2022/147	Fiji	

Program	Project title & code	Country
	Forestry	
	Enhancing private sector-led development of the canarium industry in Papua New Guinea – phase 2 FST/2017/038	Papua New Guinea
	Promoting smallholder teak and sandalwood plantations in Papua New Guinea and Australia FST/2018/178	Papua New Guinea
	Coconut and other non-traditional forest resources for the manufacture of engineered wood products FST/2019/128	Fiji
	Livelihoods in forest ecosystem recovery (LIFER) FST/2020/135	Solomon Islands
	Developing nut industries in Bougainville FST/2022/124	Papua New Guinea
	Horticulture	
	Adopting a gender-inclusive participatory approach to reducing horticultural food loss in the Pacific CS/2020/191	Fiji, Samoa, Solomon Islands, Tonga
	Responding to emerging pest and disease threats to horticulture in the Pacific islands HORT/2016/185	Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga
	Safeguarding and deploying coconut diversity for improving livelihoods in the Pacific islands HORT/2017/025	Fiji, Papua New Guinea, Samoa, Solomon Islands, Vanuatu
	Protecting the coffee industry from coffee berry borer in Papua New Guinea and Australia HORT/2018/194	Papua New Guinea
	Improving root crop resilience and biosecurity in Pacific island countries and Australia HORT/2018/195	Fiji, Samoa, Solomon Islands, Tonga
	Enhanced fruit systems for Tonga and Samoa (phase 2): community based citrus production HORT/2019/165	Samoa, Tonga
	PICfood: driving vegetable food environments to promote healthy diets in Pacific island countries HORT/2021/141	Fiji
	Understanding school food provision in the Pacific: scoping the potential of local food systems to improve diets, nutrition and livelihoods HORT/2021/159	South Pacific general
	Livestock Systems	
	Strengthening Pacific bee-keeping industries for improved production and livelihoods in Papua New Guinea and Solomon Islands LS/2014/042	Papua New Guinea, Solomon Islands
	Improving small ruminant production and supply in Fiji and Samoa LS/2017/033	Fiji, Samoa
	A farm-planning approach to increase productivity and profitability of smallholder cattle systems in Vanuatu LS/2018/185	Vanuatu
	Integrated and sustainable antimicrobial surveillance networks in the Pacific LS/2019/119	Fiji, Samoa
	Strengthened surveillance for vector-borne zoonotic and livestock diseases in Papua New Guinea LS/2021/158	Papua New Guinea

Program	Project title & code	Country
Social Systems		
	Improving livelihoods of smallholder coffee communities in Papua New Guinea ASEM/2016/100	Papua New Guinea
	Climate smart agriculture opportunities for enhanced food production in Papua New Guinea ASEM/2017/026	Papua New Guinea
	Improving agricultural development opportunities for female smallholders in rural Solomon Islands SSS/2018/136	Solomon Islands
	Gender equitable agricultural extension through institutions and youth engagement in Papua New Guinea SSS/2018/137	Papua New Guinea
	Landcare: an agricultural extension and community development model at district and national scale in Fiji SSS/2019/140	Fiji
	Supporting food and nutrition security through regenerative climate-smart ridge to reef landscape and food system designs for community conservation areas and buffer zones in Vanuatu SSS/2021/120	Vanuatu
	Mitigating gender-based violence risk in international agricultural research SSS/2022/116	Papua New Guinea
Soil & Land Management		
	Better soil and land information for improving Papua New Guinea's agricultural production and integrated land use planning – building a revitalised PNGRIS2 SLAM/2019/106	Papua New Guinea
	Optimising soil management and health in Papua New Guinea integrated cocoa farming systems – phase 2 SLAM/2019/109	Papua New Guinea
	Soil management in Pacific islands: investigating nutrient dynamics and the utility of soil information for better soil and farming system management SLAM/2020/139	Fiji, Samoa, Tonga, Vanuatu
	A review of the soil and agronomic constraints and opportunities in Pacific food garden systems SLAM/2022/180	Fiji, Samoa, Tonga
	Assessment of the capacity and sustainability of Pacific agricultural chemistry laboratories SLAM/2022/181	Fiji, Samoa, Solomon Islands, Tonga, Vanuatu
Water		
	Water security for locally relocated coastal communities in the western Pacific region WAC/2022/128	Fiji, Vanuatu
	Improving water governance in Papua New Guinea WAC/2023/180	Papua New Guinea



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au



Pacific island countries

A\$13.73 million
Budgeted funding

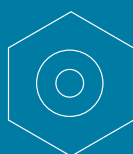
34
ACIAR-supported projects



26
Bilateral and regional research projects



8
Small projects and research activities



26
Projects specific to Pacific island countries



8
Regional projects



Agriculture, fisheries and forestry are vital sectors for the majority of Pacific island communities and countries, because of their contributions to rural livelihoods, gross domestic product (GDP) and food security, as well as increasing opportunities for local regional and international markets.

The Multi-Country Programming Framework for the Pacific Islands 2018–2022, developed in partnership with the Food and Agriculture Organization of the United Nations (FAO), identified the following common challenges across the Pacific island countries:

- » limited land mass and dispersed population
- » fragile natural environments and lack of arable land
- » narrow resource bases and reliance on ocean resources
- » high vulnerability to climate change, external economic shocks, and natural disasters
- » exposure to increasingly frequent and more intense severe weather and climate events, including droughts, floods and tropical storms
- » high dependence on food imports
- » dependence on a limited number of economic sectors
- » remoteness and distance from global markets
- » high costs for energy, transportation and communication.

These constraints interact with one another and contribute to increased vulnerability to shocks – both economic shocks (such as abrupt changes in food and fuel prices) and natural disasters (such as cyclones, floods and droughts, earthquakes and tsunamis). These vulnerabilities have limited the development of commercially oriented agriculture, fisheries and forestry sectors and left many Pacific island countries heavily dependent on imports of food and other commodities.

The vulnerability of Pacific island countries is increased by their narrow resource base, which implies the economic dependence of many islands on exports of a single commodity or limited range of commodities. Food insecurity is a growing challenge for Pacific island countries in the face of more frequent climate disasters, rising sea levels, and the economic fallout of the COVID-19 pandemic.

For much of the 20th century, most Pacific island economies were heavily dependent on copra as their principal source of export income; however, with the falling value of coconut oil, this previous source of wealth has become a 'poverty trap' for many communities and countries that lack the resources to diversify into higher-value products (which could support the rejuvenation of the industry) or into other crops and commodities.

Other Pacific island countries are heavily dependent on marine resources, especially tuna, for their export earnings. In this case, significant vulnerability arises from the limited control that each country has over the management of this resource. An emerging threat is that rising sea temperatures, especially when accentuated by El Niño cycles, may affect the migration of some tuna species, potentially reducing fish populations within the waters of Pacific island countries.

Dependence on logging – especially the export of round logs – is a challenge in western Melanesian countries (Papua New Guinea, Solomon Islands and, to a lesser extent, Vanuatu). The natural forest resource is declining rapidly, often accompanied by serious environmental degradation, and exploitation brings little lasting benefit to landowners or the national economy. Partner countries wish to move towards more sustainable management of forest resources and local processing to add value to the timber but lack the economic resources and skills to make this transition.

This context is not static but evolves on a number of scales, in time and space. Changing demographics are one key factor, with populations increasing at more than 2% per annum in Solomon Islands and Vanuatu (as well as Papua New Guinea), leading to mounting concerns about local food security and increasing pressure on the natural resource base. Elsewhere in the Pacific region, populations are either stable (increasing at less than 1% per year) or falling (due to emigration), leading to labour shortages and making it harder to develop profitable enterprises. Additionally, there is a strong move towards urbanisation across the Pacific region, with more than one-third of the total population now living in cities. This has disrupted traditional food systems and diets and is leaving some rural areas and outlying islands with declining populations, hampering economic development and making it hard for governments to assure basic services.

Another widespread vulnerability of Pacific islands agriculture – though with different impacts in each country and island – is invasive pests and diseases. Island environments have inherently limited natural resilience in the face of aggressive invasive species due to the limited local diversity of 'natural enemies'.

Recent years have been marked with rapidly spreading outbreaks of, for instance, invasive ant species, the destructive 'Guam strain' of the familiar coconut rhinoceros beetle, and the giant African snail. Emerging diseases of livestock (and potentially fisheries) may be equally destructive, even if less visible to the general public.

Pacific region leaders have repeatedly identified 2 overriding threats to the economic development and wellbeing of people in the region.

1. Climate change and its impact on food systems

Pacific island countries are disproportionately affected by climate change, while having little scope to influence the drivers of climate change. All countries in the Pacific region are concerned about the potential impacts of climate change on rising sea levels (given that much of the population and most of the productive agriculture in the Pacific islands is in coastal areas or coastal plains), food systems (including new threats from invasive pest species) and their fragile marine resources.

2. Rapid rise in non-communicable diseases, associated with declining diet quality

While under-nutrition remains a problem in some poorer, rural areas of Pacific island countries, changes in diets and lifestyles associated with increasing incomes and urbanisation have led to Pacific island countries having some of the highest levels of obesity in the world, along with record levels of Type 2 diabetes and heart disease. As well as taking a tragic toll in terms of human wellbeing, this rise in the incidence of non-communicable diseases imposes a huge burden on health services and the economy of Pacific region countries in general.

Given these challenges, Pacific leaders have strongly emphasised the need for greater resilience in Pacific region food and agriculture systems as a means to counteract vulnerabilities and to increase food and nutritional security. While investing in agriculture fisheries and forestry has been widely recognised as one of the most effective ways of stimulating broad-based economic growth, the effort to increase resilience, rather than focusing primarily on increasing productivity, has become a theme that underpins the entire agricultural development agenda in the Pacific region. Given the scale and complexity of the problems faced by Pacific island partner countries, it is fortunate that the Pacific region has a strong tradition of multilateral and bilateral institutions and partnerships that have supported many decades of collaboration and concerted action, to address a wide range of issues.

The Pacific Islands Forum provides the overall framework for policy development and action, while the technical agencies, especially SPC and the Secretariat of the Pacific Regional Environment Programme, provide support to member countries in taking action across a range of sectors and development issues, including health, education, the environment, biosecurity, trade, communications and infrastructure.

ACIAR has been a leading supporter of regional and bilateral research collaboration in the region with SPC, partner countries and other agencies, in agriculture, forestry and fisheries. These existing relationships provide a vital foundation for a portfolio of integrated and cross-sectoral research that will be needed to tackle the 2 high-level challenges outlined above. ACIAR started working with partners in the Pacific region in 1983 and, for the next 2 decades, the majority of projects were sectorally and technically focused.



Country priorities

The ACIAR 10-Year Strategy 2018–2027 positions the agency's support to the Indo-Pacific region. Our strategic objectives align with the Australian Government International Development Policy, released in 2023, to 'build resilience to climate impacts to safeguard the liveability of our region ... protect the Blue Pacific that connects us, feeds communities, drives economies and is central to Pacific cultures' and 'support each nation in their endeavours to unlock new avenues to prosperity, including as they empower women and girls ... and diversify trade on global markets'.

Our regional partner, SPC, emphasises integrated approaches to increasing resilience, including:

- » deploying a diversity of species and products in trees, crops, livestock and aquaculture to increase resilience in the face of uncertainty
- » growing a greater number and diversity of trees in forestry, agroforestry and horticulture systems to contribute to more-sustainable and resilient agricultural landscapes
- » diversifying crops to contribute to greater food security, nutrition and health
- » better managing coastal fisheries and aquaculture to underpin healthier nutrition and more-resilient livelihoods
- » strengthening market chains for greater equity and inclusion to contribute to improved and more-resilient livelihoods.

Across the board, trans-disciplinary approaches are needed to reduce the vulnerability of the natural resource base and create climate-smart agricultural landscapes. Using national policy, land-use planning and community engagement to manage water, soils, livestock, crops, forests, natural vegetation and coastal marine resources, from 'ridge to reef', in an integrated manner can increase resilience and sustainably improve livelihoods. But achieving this will require numerous well-coordinated technological innovations and ways of working.

2023–24 research program

The research program for the Pacific region addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Pacific island countries during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Regional Manager, Pacific and Papua New Guinea

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Social Systems: Dr Todd Sanderson






Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp






Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.



Current and proposed projects in Pacific island countries, 2023–24

Program	Project title & code	Countries
	Agribusiness	
	Evaluating an alternative approach to sector development in Pacific island countries AGB/2022/113	Fiji
	Climate Change	
	Transformation pathways for Pacific coastal food systems CLIM/2020/178	Kiribati, Solomon Islands
	Sustainable agricultural intensification systems for climate resilient development in Pacific island countries CLIM/2020/186	Samoa, Tonga
	Supporting greenhouse gas inventories and livestock data development in Fiji CLIM/2021/160	Fiji
	Scoping the governance and co-benefits of circular agrifood-energy systems governance in Pacific island countries CLIM/2022/174	Fiji, Kiribati
	Crops	
	Finding a genetic basis for oil palm responses to basal stem rot in a long-term infected block CROP/2021/130	Papua New Guinea, Solomon Islands
	Fisheries	
	Half-pearl industry development in Tonga and Vietnam FIS/2016/126	Tonga, Vietnam
	Towards more profitable and sustainable mabé pearl and shell-based livelihoods in the western Pacific FIS/2019/122	Fiji, Papua New Guinea, Samoa, Tonga
	Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands FIS/2019/124	Solomon Islands, Timor-Leste
	Spatially integrated approach to support a portfolio of livelihoods FIS/2020/111	Solomon Islands, South Pacific general
	Coalitions for change in sustainable national community-based fisheries management programs in the Pacific FIS/2020/172	Kiribati, Solomon Islands, South Pacific general, Vanuatu
	Pursuing more inclusive engagement in agrifood value chains by better understanding the roles and challenges facing people of diverse sexual orientation, gender identity and/or expression in Samoa FIS/2022/119	Samoa
	Extending integrated analysis for improved food system outcomes in Timor-Leste and the Pacific region FIS/2022/121	Kiribati, Solomon Islands, Timor-Leste, Vanuatu
	Supporting resilient and equitable food systems: emerging oyster and seaweed mariculture enterprises in coastal communities in Fiji and northern Australia FIS/2022/147	Fiji
	Forestry	
	Coconut and other non-traditional forest resources for the manufacture of engineered wood products FST/2019/128	Fiji
	Livelihoods in forest ecosystem recovery (LIFER) FST/2020/135	Solomon Islands

Program	Project title & code	Countries
	Horticulture	
	Adopting a gender-inclusive participatory approach to reducing horticultural food loss in the Pacific CS/2020/191	Fiji, Samoa, Solomon Islands, Tonga
	Responding to emerging pest and disease threats to horticulture in the Pacific islands HORT/2016/185	Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga
	Safeguarding and deploying coconut diversity for improving livelihoods in the Pacific islands HORT/2017/025	Fiji, Papua New Guinea, Samoa, Solomon Islands, Vanuatu
	Improving root crop resilience and biosecurity in Pacific island countries and Australia HORT/2018/195	Fiji, Samoa, Solomon Islands, Tonga
	Enhanced fruit systems for Tonga and Samoa (phase 2): community based citrus production HORT/2019/165	Samoa, Tonga
	PLCfood: driving vegetable food environments to promote healthy diets in Pacific island countries HORT/2021/141	Fiji
	Understanding school food provision in the Pacific: scoping the potential of local food systems to improve diets, nutrition and livelihoods HORT/2021/159	South Pacific general
	Livestock Systems	
	Strengthening Pacific bee-keeping industries for improved production and livelihoods in Papua New Guinea and Solomon Islands LS/2014/042	Papua New Guinea, Solomon Islands
	Improving small ruminant production and supply in Fiji and Samoa LS/2017/033	Fiji, Samoa
	A farm-planning approach to increase productivity and profitability of smallholder cattle systems in Vanuatu LS/2018/185	Vanuatu
	Integrated and sustainable antimicrobial surveillance networks in the Pacific LS/2019/119	Fiji, Samoa
	Social Systems	
	Improving agricultural development opportunities for female smallholders in rural Solomon Islands SSS/2018/136	Solomon Islands
	Landcare: an agricultural extension and community development model at district and national scale in Fiji SSS/2019/140	Fiji
	Supporting food and nutrition security through regenerative climate-smart ridge to reef landscape and food system designs for community conservation areas and buffer zones in Vanuatu SSS/2021/120	Vanuatu
	Soil & Land Management	
	Soil management in Pacific islands: investigating nutrient dynamics and the utility of soil information for better soil and farming system management SLAM/2020/139	Fiji, Samoa, Tonga, Vanuatu
	A review of the soil and agronomic constraints and opportunities in Pacific food garden systems SLAM/2022/180	Fiji, Samoa, Tonga
	Assessment of the capacity and sustainability of Pacific agricultural chemistry laboratories SLAM/2022/181	Fiji, Samoa, Solomon Islands, Tonga, Vanuatu
	Water	
	Water security for locally relocated coastal communities in the Pacific WAC/2022/128	Fiji, Solomon Islands, Vanuatu

Papua New Guinea

A\$5.04_{million}
Budgeted funding

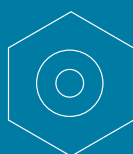
21
ACIAR-supported
projects



15
Bilateral and regional
research projects



6
Small projects and
research activities



16
Projects specific to
Papua New Guinea



5
Regional projects



Papua New Guinea's economy is made up of 2 main industries: the labour-intensive agriculture, fisheries and forestry sectors, and the mineral and energy extraction sector, which accounts for most of the country's export earnings.

The agriculture, fisheries and forestry sectors are incredibly diverse, from remote subsistence crop production to emerging freshwater aquaculture systems to commercially oriented export crops such as palm oil, cocoa and coffee. These mixed subsistence and market systems support the livelihoods of more than 8.2 million people (85% of the population of Papua New Guinea). This immense diversity of livelihood systems brings significant benefits but also significant challenges for Papua New Guinea policymakers, including limited infrastructure for delivering inputs and products to markets, high rates of inadequate nutrition, vulnerability to weather variability and climate change, and widespread lack of off-farm employment for youth. On-farm productivity is consequently and typically low. Weak institutions remain an ongoing challenge and lead to weak strategies and interventions. Improving returns from agriculture, fisheries and forestry and strengthening food nutritional security remain critical to improving the livelihoods of the majority of households in Papua New Guinea.

With renewed interest in agriculture and a commitment to expanding key agriculture industries, in 2022 the government created 3 new ministries under agriculture (for coffee, livestock and oil palm) with a specific focus on downstream processing and export market access.

Direction for development for the country is currently provided by the Papua New Guinea Vision 2050, Papua New Guinea Development Strategic Plan 2010–2030 and 4 Medium Term Development Plans. The government emphasises that by 2050, renewable sectors including agriculture, fisheries and forestry, must account for 70% of GDP compared with the current 26%. Complementing these plans, the Papua New Guinea National Food Security Policy 2018–2027 guides resources to build sustainable food security for all Papua New Guineans. A primary aim of the policy is to foster strong public–private partnerships and leverage agriculture's potential to promote enhanced nutrition and health by bringing together profitable smallholder farming, efficient food value chains, women's income and child nutrition. Of particular interest to ACIAR is the PNG Agriculture Medium Term Development Plan. This plan defines the specific areas for investment in agriculture.

Over the past 40 years, ACIAR has supported projects throughout Papua New Guinea across its diversity of the rural livelihoods systems. While we continue to work across the country, areas of particular focus are the Autonomous Region of Bougainville and the Western Province. Through the South Fly Resilience Plan, Australia is looking to assist communities in the South Fly district to transition out of food insecurity and develop resilient, sustainable livelihoods and inclusive governance.

Country priorities

ACIAR research partnerships with Papua New Guinea will continue to focus on horticulture, livestock, fisheries, forestry and socioeconomics. Ultimately, the research is working to secure improvements in food supply, food access and rural incomes for smallholders through increased productivity and enhanced access to markets and services.

Research partnerships aim to:

- » overcome social, cultural and policy obstacles to benefits from agricultural technologies, particularly with respect to gender equity and women
- » improve smallholder vegetables and starchy staple systems
- » analyse commodity and market chains to guide policy and improve production and marketing for cocoa, coffee, coconut and oil palm crops
- » enhance germplasm quality for high-value tree species to improve community forestry and agroforestry systems
- » work with private sector partners and farmers to adopt promising agricultural technologies
- » monitor and identify options for managing biosecurity threats
- » enhance livelihoods from smallholder fisheries, and inland and marine aquaculture
- » increase household income through diversifying enterprises.

In 2023–24, ACIAR will refresh its partnership with Papua New Guinea establishing a long-term intent to underpin both research and capacity-building collaboration. ACIAR will continue to support partner institutions to build the capacity of research personnel through long-term and short-term courses, informal networking events and hands-on experience at the project level. Through this process, we play a significant role in contributing to the human capital of Papua New Guinea to develop skills and knowledge in sustainable agriculture, fisheries and forestry.

As women make up more than 50% of the labour force engaged in agriculture and 35% of women are actively involved in economic agriculture, gender equity will remain integral to all our projects in Papua New Guinea. Women in rural communities play a significant role in subsistence food production, household food nutritional security and agricultural value chains.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Papua New Guinea during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.
www.aciar.gov.au

Country Manager, Papua New Guinea

Dr Norah Omot

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Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

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Horticulture: Ms Irene Kernot

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Dr Steven Crimp

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Papua New Guinea, 2023–24

Program	Project title & code	Countries
	Climate Change	
	Using carbon markets to drive multiple benefits for Papua New Guinea coffee farmers CLIM/2022/109	Papua New Guinea
	Crops	
	Finding a genetic basis for oil palm responses to basal stem rot in a long-term infected block CROP/2021/130	Papua New Guinea, Solomon Islands
	Fisheries	
	Improving peri-urban and remote inland fish farming in Papua New Guinea to benefit both community-based and commercial operators FIS/2018/154	Papua New Guinea
	Towards more profitable and sustainable mabé pearl and shell-based livelihoods in the western Pacific FIS/2019/122	Fiji, Papua New Guinea, Samoa, Tonga
	Strengthening agricultural resilience in Western Province: developing methods for strengths-based livelihoods approach FIS/2021/113	Papua New Guinea
	Strengthening agricultural resilience in Western Province: mapping place-based strengths and assets FIS/2021/122	Papua New Guinea
	Forestry	
	Enhancing private sector-led development of the canarium industry in Papua New Guinea – phase 2 FST/2017/038	Papua New Guinea
	Promoting smallholder teak and sandalwood plantations in Papua New Guinea and Australia FST/2018/178	Papua New Guinea
	Developing nut industries in Bougainville FST/2022/124	Papua New Guinea

Program	Project title & code	Countries
	Horticulture	
	Responding to emerging pest and disease threats to horticulture in the Pacific islands HORT/2016/185	Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga
	Safeguarding and deploying coconut diversity for improving livelihoods in the Pacific islands HORT/2017/025	Fiji, Papua New Guinea, Samoa, Solomon Islands, Vanuatu
	Protecting the coffee industry from coffee berry borer in Papua New Guinea and Australia HORT/2018/194	Papua New Guinea
	Livestock Systems	
	Strengthening Pacific bee-keeping industries for improved production and livelihoods in Papua New Guinea and Solomon Islands LS/2014/042	Papua New Guinea, Solomon Islands
	Strengthened surveillance for vector-borne zoonotic and livestock diseases in Papua New Guinea LS/2021/158	Papua New Guinea
	Social Systems	
	Improving livelihoods of smallholder coffee communities in Papua New Guinea ASEM/2016/100	Papua New Guinea
	Climate smart agriculture opportunities for enhanced food production in Papua New Guinea ASEM/2017/026	Papua New Guinea
	Gender equitable agricultural extension through institutions and youth engagement in Papua New Guinea SSS/2018/137	Papua New Guinea
	Mitigating gender-based violence risk in international agricultural research SSS/2022/116	Papua New Guinea
	Soil & Land Management	
	Better soil and land information for improving Papua New Guinea's agricultural production and integrated land use planning – building a revitalised PNGRIS2 SLAM/2019/106	Papua New Guinea
	Optimising soil management and health in Papua New Guinea integrated cocoa farming systems - phase 2 SLAM/2019/109	Papua New Guinea
	Water	
Improving water governance in Papua New Guinea WAC/2023/180	Papua New Guinea	



5



East and South-East Asia region program

Collectively, the countries that make up East and South-East Asia are the most populous in the world and the region is recognised as an economic powerhouse. Ten of these countries are members of the Association of Southeast Asian Nations (ASEAN) and engage closely in terms of trade and investment with east Asian countries, including China.

Cambodia and Laos receive most of their investment and aid from China, so these countries will be most affected by a marked slowdown of economic growth in China. Vietnam is the only ASEAN member state integrated into supply chains with China and is experiencing supply disruptions. Since 2009, China has become the largest trading partner of ASEAN nations and is also one of the most important sources of investment.

Before the COVID-19 pandemic, ASEAN economies were forecast to have some of the highest growth rates in the world over the next 5 years. The International Monetary Fund and the Organisation for Economic Co-operation and Development had forecast an average of 5% growth per annum, a higher rate than some of the more developed economies of Europe and North America. After 5.5% growth in 2022, the ASEAN economy performed well with a combined GDP of A\$4 trillion. Noting however, some exceptions such as Laos, which is experiencing high inflation.

Economic activity in 2022 was shored up by the continued reopening of many economies after the COVID-19 pandemic, strengthening domestic consumption and investment, especially in Indonesia, Malaysia and Thailand. China's growth is expected to pick up, which will boost external demand for economies in the rest of the region.

With more than 100 million hectares of agricultural land, the ASEAN countries collectively are a major producer, supplier and exporter of various crops, grains (including rice) and livestock products. Although agriculture only contributes around 10% of total ASEAN GDP, it is the main sector for employment in most member states, accounting for approximately one-third of total ASEAN employment. Given its significant role, the development of the food, agriculture and forestry sectors in ASEAN countries is vital to ensuring equitable and inclusive growth in the region.

Food security, food safety and better nutrition remain priority concerns within the region. These priorities align with ASEAN's goals of agricultural cooperation. Support for women's economic empowerment, which has become a prominent approach to addressing gender gaps in economic spheres, including agriculture, continues to grow.

Drivers of regional collaboration

The principal driver of regional collaboration in the East and South-East Asia region is ASEAN, which for more than 50 years has addressed shared challenges and engaged trade and development partners, including Australia and China. Recently, regional collaboration has been driven by critical factors such as the COVID-19 pandemic, geopolitics and transboundary concerns.

Trade and investment are the major drivers of economic growth in the region, aided by overseas development assistance. The ASEAN-led Regional Comprehensive Economic Partnership Agreement came into force in January 2022 and is expected to help strengthen regional economic integration and provide access to a larger market, which will assist the post-pandemic recovery of the ASEAN economies.

In the agricultural research sector, ACIAR is supporting regional collaboration through support to the Asia-Pacific Association of Agricultural Research Institutions (APAARI). Cross-border challenges such as plant and animal biosecurity remain prominent and are driving efforts for regional integration. In the Mekong region, plant diseases have recently spread across borders, destroying crops of cassava and banana.

Shared concerns about imminent and increasing threats posed by climate change have resulted in ASEAN creating a 'framework of ASEAN community building, with strategies and actions to enhance regional and international cooperation in supporting adaptation'. In the field of agricultural research for development, regional cooperation plays a significant role, particularly regarding increasing resilience and adaptation to climate change, natural disasters and other shocks.

The South-East Asia region is one of the most natural disaster-prone in the world. Natural disasters threaten food security and rural livelihoods and have economic consequences for the whole region, so disaster mitigation is a common interest among neighbouring countries. The ASEAN Declaration on 'One ASEAN, One Response' aims to increase the speed, scale and solidarity of disaster response in the region.

2023–24 program

Partner countries

Cambodia
China
Indonesia
Laos
Malaysia
Philippines
Thailand
Timor-Leste
Vietnam

82
projects

63
research
projects

19
small research
activities

A\$34.05 million

Investment in
agricultural research
for development



12
Agribusiness projects



4
Climate Change projects



5
Crops projects



11
Fisheries projects



4
Forestry projects



8
Horticulture projects



11
Livestock Systems projects



9
Social Systems projects



15
Soil & Land Management
projects



3
Water projects

Note: This data was current at the time of publication. Additional projects may be commissioned during 2023–24.

Regional ACIAR program

The ACIAR program in East and South-East Asia remains the largest across the 4 regions in which ACIAR operates. The nature of our engagement within the region is strongly bilateral, based on robust partnerships with national research systems, long-standing diplomatic connections, and sustained development collaboration with Australia. However, there is a growing trend towards regional collaboration between countries facing shared challenges. This is consistent with the research partnerships under ASEAN, which acknowledge that collaboration among member states is a sensible path towards addressing common challenges in the region.

The ASEAN drive towards regional economic integration and connectivity will increase demand from individual countries and regional bodies for research support that harmonises approaches to some agricultural issues across countries, including biosecurity, food safety and climate resilience. We contribute to this by funding regional research collaboration and through our support and chairing of APAARI.

Among our newer regional collaborations in the East and South-East Asia region are efforts to identify efficient biosecurity risk-management systems in the region to respond to prominent outbreaks affecting plant and animal health. For example, Indonesia, the Philippines and Laos are involved in regional research focusing on an integrated system to manage *Fusarium* wilt (Panama disease) in banana crops with components of biosecurity and disease management.

A series of projects continues throughout the region under the ACIAR-IDRC Research Program on One Health (AIRPOH). Cambodia, Indonesia, Laos, the Philippines and Timor-Leste will host a portfolio of interconnected projects supporting research that aims to promote new ideas and thinking on the relationship and management of human, animal and environmental health (page 19).

Trilateral collaboration and new partnership models are emerging for ACIAR in the East and South-East Asia region. Driving these new partnership models are greater capacities that can be achieved when resources are pooled. This is translating into substantial co-investment from partners such as Vietnam, Indonesia and the Philippines. While bilateral relationships remain the predominant model for development cooperation in the region, trilateral collaboration is increasingly possible and desired by partner countries.

Opportunities for trilateral research collaboration with Australia in the region include varietal development to manage devastating new diseases in banana, cassava and citrus; machinery innovation for conservation agriculture among smallholder farmers; and research to develop perennial rice varieties.

The transformation of the Chinese economy has resulted in a reorientation of the ACIAR program in China. Building on decades of trusted research relationships, the ACIAR program in China has changed from bilateral research partnerships to partnerships based on substantial co-investment, either in the form of parallel investment or trilateral collaboration. Areas of current focus include rural transformation and disease management in citrus, with Australia and China both making research investments in partner countries.

ACIAR is not supporting any research collaborations in Myanmar in 2023–24. However, ACIAR continues to consult with international partners to identify potential collaboration consistent with Australian Government guidelines.

Our on-the-ground work in South-East Asia primarily occurs with 7 partner countries. However, we also work with development and coordinating organisations based in other countries in the region, collaborating on issues and programs of regional significance.




For example, in recent decades Thailand has transitioned from aid recipient to aid donor. Thailand hosts regional organisations of relevance to ACIAR programs, including APAARI (page 16), the Asian Institute of Technology and the FAO regional office. We also include Thai expertise on projects of regional significance when opportunities arise.






Region-wide cooperation on forest biosecurity



In 2023–24, we have a regional project, 'Building effective forest health and biosecurity networks in South-East Asia' (FST/2020/123), that includes partners from Thailand and Malaysia, as well as partners from Cambodia, Indonesia, Laos and Vietnam.



Current and proposed projects in the East and South-East Asia region, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Understanding the drivers of successful and inclusive rural regional transformation: sharing experiences and policy advice in Bangladesh, China, Indonesia and Pakistan ADP/2017/024	Bangladesh, China, Indonesia, Pakistan
	Inclusive agriculture value chain financing AGB/2016/163	Indonesia, Vietnam
	Establishing sustainable solutions to cassava diseases in mainland South-East Asia AGB/2018/172	Cambodia, Laos, Vietnam
	Increasing the sustainability, productivity and economic value of coffee and black pepper farming systems and value chains in the Central Highlands region of Vietnam AGB/2018/175	Vietnam
	Agribusiness-led inclusive value chain development for smallholder farming systems in the Philippines AGB/2018/196	Philippines
	Planning and establishing a sustainable smallholder rice chain in the Mekong Delta AGB/2019/153	Vietnam
	Integrating smallholder households and farm production systems into commercial beef supply chains in Vietnam AGB/2020/189	Vietnam
	Evaluating supply chain interventions and partnerships to sustainably grow the smallholder dairy sectors of Indonesia and the Philippines AGB/2021/124	Indonesia, Philippines
	Creating resilient communities through smallholder-inclusive tourism markets in Indonesia AGB/2021/125	Indonesia
	Digital monitoring of VietGAP compliance for high-value domestic markets and potential export in smallholder fruit value chains from the northwest of Vietnam AGB/2022/114	Vietnam
Philippines dairy AGB/2023/192	Philippines	
Food loss in the <i>Pangasius</i> catfish value chain of the Mekong River Basin CS/2020/209	Cambodia, Laos, Vietnam	
	Climate Change	
	Supporting greenhouse gas inventories and targeted rice mitigation options for Vietnam CLIM/2019/150	Vietnam
	Scoping new co-governance research in Indonesian peatlands CLIM/2022/138	Indonesia
	Defining the potential for mangrove-based agribusiness transformation in the coastal Mekong Delta CLIM/2023/190	Vietnam
Strengthening capacity to pursue systemic resilience in Philippines food systems CLIM/2023/195	Philippines	
	Crops	
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Weed management techniques for mechanised and broadcast lowland crop production systems in Cambodia and Laos CROP/2019/145	Cambodia, Laos
	Agricultural innovations for communities: intensified and diverse farming systems for Timor-Leste CROP/2021/131	Timor-Leste
	Disease-resilient and sustainable cassava production systems in the Mekong region CROP/2022/110	Cambodia, Laos, Vietnam
Addressing the rapid emergence of cassava witches broom disease in Laos CROP/2023/157	Laos	

Program	Project title & code	Country
	Fisheries	
	Increasing technical skills supporting community-based sea cucumber production in Vietnam and the Philippines FIS/2016/122	Philippines, Vietnam
	Half-pearl industry development in Tonga and Vietnam FIS/2016/126	Tonga, Vietnam
	Assessing upstream fish migration measures at Xayaburi Dam in Laos FIS/2017/017	Laos
	A nutrition-sensitive approach to fisheries management and development in Timor-Leste and Nusa Tenggara Timur Province, Indonesia FIS/2017/032	Indonesia, Timor-Leste
	Fishtech: integrating technical fisheries solutions into river development programs across South-East Asia FIS/2018/153	Cambodia, Indonesia, Laos, Thailand
	Regional coral restoration networks and appropriate technologies for larger-scale coral and fish habitat restoration in the Philippines and Australia FIS/2019/123	Philippines
	Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands FIS/2019/124	Solomon Islands, Timor-Leste
	Developing social and economic monitoring and evaluation systems in Indonesian tuna fisheries to assess potential impacts of alternative management measures on vulnerable communities FIS/2020/109	Indonesia
	Institutional effectiveness and political economy of coral reef restoration in the Philippines FIS/2021/112	Philippines
Extending integrated analysis for improved food system outcomes in Timor-Leste and the Pacific region FIS/2022/121	Kiribati, Solomon Islands, Timor-Leste, Vanuatu	
Addressing key technical bottlenecks in the grouper supply chain in Vietnam (and Australia) through manufactured feed and hatchery developments that aim to improve SME-sector profitability FIS/2022/148	Vietnam	
	Forestry	
	Managing risk in South-East Asian forest biosecurity FST/2018/179	Indonesia, Vietnam
	Building an effective forest health and biosecurity network in South-East Asia FST/2020/123	Cambodia, Laos
	Forest restoration for economic outcomes FST/2020/137	Laos
Retaining the jewels in the crown: Kalimantan peat forest remnants FST/2021/145	Indonesia	
	Horticulture	
	Development of area-wide management approaches for fruit flies in mango for Indonesia, Philippines, Australia and the Asia-Pacific region HORT/2015/042	Indonesia, Philippines
	Developing vegetable value chains to meet evolving market expectations in the Philippines HORT/2016/188	Philippines
	An integrated management response to the spread of <i>Fusarium</i> wilt of banana in South-East Asia HORT/2018/192	Indonesia, Laos, Philippines
	Preparedness and management of huǎnglóngbīng (citrus greening disease) to safeguard the future of citrus industry in Australia, China and Indonesia HORT/2019/164	Indonesia
	Safe, fresh, year-round vegetables in Cambodia and Laos through research and development support of smallholder productivity and engagement in collaborative supply chains HORT/2021/143	Cambodia, Laos
	Scoping for the implementation of plant health support in Timor-Leste HORT/2022/127	Timor-Leste
	Scoping the opportunity for urban and peri-urban agricultural development in South-East Asia HORT/2023/147	Vietnam, Philippines
Strengthening Vietnam's citrus industry through research collaboration to build industry capacity to meet market demand HORT/2023/179	Vietnam	



Program	Project title & code	Country
	Livestock Systems	
	Investigating and developing interventions to mitigate food borne parasitic disease in production animals in Laos LS/2014/055	Laos
	Goat production systems and marketing in Laos and Vietnam LS/2017/034	Laos, Vietnam
	Understanding One Health zoonotic disease surveillance in Indonesia: a macaque, human and land use change framework LS/2019/116	Indonesia
	Asian chicken genetic gains: a platform for exploring, testing, delivering and improving chickens for enhanced livelihood outcomes in South-East Asia LS/2019/142	Cambodia, Vietnam
	Global burden of animal disease initiative: Indonesia case study LS/2020/156	Indonesia
	Bacteria enteropathy and nutrition in infants and children in Timor-Leste through a One Health approach LS/2021/126	Timor-Leste
	Rapid transformation of the Lao beef sector: biosecurity, trade and smallholders LS/2021/128	Cambodia, Laos
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam
	Developing strategies to reduce brucellosis transmission in Timor-Leste based on One Health collaboration LS/2022/161	Timor-Leste
Country research update and policy support to the Philippines' national surveillance and control programs for African swine fever, avian influenza and antimicrobial resistance: a One Health systems approach to food animal security, public health resilience LS/2022/162	Philippines	
Livestock enhancement through ecohealth/One Health assessment in South-East Asia LS/2022/163	Indonesia, Laos, Philippines	
	Social Systems	
	Uptake of agricultural technologies amongst farmers in Battambang and Pailin provinces, Cambodia ASEM/2013/003	Cambodia
	Enhancing livelihoods through forest and landscape restoration ASEM/2016/103	Philippines
	Next generation agricultural extension: social relations for practice change SSS/2019/138	Cambodia
	Building the evidence base on the impacts of mobile financial services for women and men in farming households in Laos and Cambodia SSS/2020/160	Cambodia, Laos
	Towards improved livelihoods for Indonesian fishers in Nusa Tenggara Timor Province, Indonesia SSS/2022/117	Indonesia
	Indigenous food systems knowledge exchange SSS/2022/118	Timor-Leste
	Pathways for future farmers in South-East Asia SSS/2022/134	Laos, Vietnam
	Developing co-management options for sustainable peatlands in Indonesia SSS/2022/155	Indonesia
The role of agricultural and forest landscapes on human and environmental health in Cambodia SSS/2022/164	Cambodia	

Program	Project title & code	Country
	Soil & Land Management	
	Land management of diverse rubber-based systems in southern Philippines SLAM/2017/040	Philippines
	Farmer options for crops under saline conditions in the Mekong River Delta, Vietnam SLAM/2018/144	Vietnam
	Crop health and nutrient management of shallot-chilli-rice cropping systems in coastal Indonesia SLAM/2018/145	Indonesia
	Managing heavy metals and soil contaminants in vegetable production to ensure food safety and environmental health in the Philippines SLAM/2020/117	Philippines
	Understanding tradition and fostering appropriate innovation in soil management to improve farmers productivity and livelihood in Timor-Leste SLAM/2020/141	Timor-Leste
	Evaluation of livelihood zones, rural household trajectories, research and development partners and initiatives in Timor-Leste SLAM/2021/108	Timor-Leste
	Quantifying the impacts of nitrogen use and developing sustainable agricultural land management strategies in Laos rice-based farming systems SLAM/2022/102	Laos
	Cambodian soil information system supporting sustainable upland agricultural development SLAM/2022/103	Cambodia
	Meeting the biophysical information needs of peatland restoration and management stakeholders to support improved and integrated decision-making SLAM/2022/104	Indonesia
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Soil microbial interactions with crop replacement options in the Vietnamese Mekong Delta SLAM/2022/175	Vietnam
	Extending findings and transferring knowledge from SMNC/2014/049 on soil management in slopping lands of northwest Vietnam and northern Laos SLAM/2023/106	Laos, Vietnam
	Assessment of soil condition for coffee, pepper and fruit tree production in the 5 provinces of the Central Highlands of Vietnam SLAM/2023/142	Vietnam
	Management practices for profitable crop livestock systems for Cambodia and Laos SMCN/2012/075	Cambodia, Laos
Land suitability assessment and site-specific soil management for Cambodian uplands SMCN/2016/237	Cambodia	
	Water	
	Water for fish and irrigation in the Mekong WAC/2021/135	Cambodia, Laos
	Support for the FAO-AWP Asia Pacific water scarcity programme – Indonesia WAC/2023/171	Indonesia
Transformative futures for water security: South-East Asia roadmap WAC/2023/176	Laos, Cambodia, Vietnam, Thailand	



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Cambodia

A\$4.32 million
Budgeted funding

19
ACIAR-supported
projects



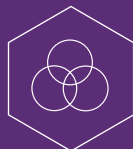
14
Bilateral and regional
research projects



5
Small projects and
research activities



5
Projects specific
to Cambodia



14
Regional projects



Cambodia's strategy of 'living with COVID-19' introduced in late 2021 is paying off. Economic recovery is gaining momentum with goods export growth accelerating and even besting its pre-pandemic growth rate.

According to the World Bank, Cambodia's real GDP growth projection increased to 4.8% in 2022 due to a broad-based economic recovery. However, while recovery from COVID-19 is ongoing, Cambodia is potentially affected by a slowdown of global demand. Especially worrying is the vulnerability of Cambodia's export-oriented manufacturing sector due to an extended slowdown in the United States of America. The same concern applies to its second-largest export market, the European Union, which is facing a substantial risk of recession. Additionally, China, Cambodia's biggest source of foreign direct investments, is also experiencing an economic slowdown, which is already affecting investment and capital inflows.

In January 2022, the Cambodia–China Free Trade Agreement came into effect. This agreement makes China an important export destination for Cambodia's agricultural commodities. China captured 40% (US\$281 million) of Cambodia's total agricultural commodity exports with the 3 largest agricultural commodity export items (bananas, milled rice and cassava).

Cambodia's Minister of Agriculture, Forestry and Fisheries, HE Mr Dith Tina, reported that the kingdom exported 8.6 million tonnes of agricultural products to 74 markets in 2022 and this was worth nearly US\$5 billion. This is up by 7.8% compared to 2021. Agriculture contributed 22.2% of Cambodia's 2022 GDP.

The Cambodia Agriculture Survey 2020, released in 2022, highlighted that 57% of total households in Cambodia are engaged in agricultural production. Of the households engaged in agriculture, 94% are cultivating crops, 82% are raising livestock, poultry or insects, and around 27% are involved in capture fishing. Agriculture remains important to livelihoods in Cambodia, with an estimated 31% of agricultural households citing that 40–59% of their income came from agriculture. A further 16% reported that 60–99% of their total household income came from agriculture.

COVID-19 had a significant impact on Cambodia's food security. The Cambodia Agriculture Survey reported that 24.7% of agricultural households experienced moderate or severe food insecurity. Female-led households reported higher food insecurity (28.7%) than male-led households (23.1%).

With extensive floodplains, Cambodia is highly exposed to floods, scoring 9.5 out of 10 in the 2023 global risk index for humanitarian crises and disasters. Climate change is expected to intensify flooding and drought, and worsen saline intrusion. These events put at risk Cambodia's aspiration to become an upper-middle-income country by 2030 and a high-income country by 2050.

The Royal Government of Cambodia is committed to pursuing green growth through its National Strategic Plan on Green Growth 2013–2030 and its Long-Term Strategy for Carbon Neutrality by 2050. Given the importance of agriculture to Cambodian food security and its potential for commercialisation, investment in climate-smart agriculture and natural capital management, development partners are asking for these to be prioritised by government.

Country priorities

ACIAR and the Royal Government of Cambodia (represented by the Ministry of Agriculture, Forestry and Fisheries) have an ongoing 10-year agreement on the strategic priorities for research collaboration. From 2019 to 2029, research collaborations will focus on 3 domains to support the development of Cambodian agriculture:

- » sustainable intensification and diversification of agriculture, focusing on non-rice crops in traditional crop-rice systems and alternative cropping systems
- » sustainable intensification of market-oriented smallholder livestock production systems
- » sustainable intensification of freshwater aquaculture production systems for nutrition-rich species.

Research priorities over this time will also take into consideration cross-cutting themes that address challenges across the agriculture sector. These are:

- » gender equity, women's empowerment and nutrition – these are particularly important in the context of increasing labour migration that impacts women and children in rural Cambodia, and high rates of stunting and poor nutrition among women and children
- » climate variability mitigation and adaptation to climate change, taking into consideration climate variability and enabling climate-resilient farming systems
- » food safety and standards.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Cambodia during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

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Regional Manager, East and South-East Asia

Vacant at the time of publication

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Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

Forestry: Dr Nora Devoe

Horticulture: Ms Irene Kernot

Livestock Systems: Dr Anna Okello







Social Systems: Dr Todd Sanderson




Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Cambodia, 2023–24

Program	Project title & code	Country
Agribusiness		
	Establishing sustainable solutions to cassava diseases in mainland South-East Asia AGB/2018/172	Cambodia, Laos, Vietnam
	Food loss in the <i>Pangasius</i> catfish value chain of the Mekong River Basin CS/2020/209	Cambodia, Laos, Vietnam
Crops		
	Weed management techniques for mechanised and broadcast lowland crop production systems in Cambodia and Laos CROP/2019/145	Cambodia, Laos
	Disease-resilient and sustainable cassava production systems in the Mekong region CROP/2022/110	Cambodia, Laos, Vietnam
Fisheries		
	Fishtech: integrating technical fisheries solutions into river development programs across South-East Asia FIS/2018/153	Cambodia, Indonesia, Laos
Forestry		
	Building an effective forest health and biosecurity network in South-East Asia FST/2020/123	Cambodia, Laos
Horticulture		
	Safe, fresh, year-round vegetables in Cambodia and Laos through research and development support of smallholder productivity and engagement in collaborative supply chains HORT/2021/143	Cambodia, Laos
Livestock Systems		
	Asian chicken genetic gains: a platform for exploring, testing, delivering and improving chickens for enhanced livelihood outcomes in South-East Asia LS/2019/142	Cambodia, Vietnam
	Rapid transformation of the Lao beef sector: biosecurity, trade and smallholders LS/2021/128	Cambodia, Laos

Program	Project title & code	Country
	Social Systems	
	Uptake of agricultural technologies amongst farmers in Battambang and Pailin provinces, Cambodia ASEM/2013/003	Cambodia
	Next generation agricultural extension: social relations for practice change SSS/2019/138	Cambodia
	Building the evidence base on the impacts of mobile financial services for women and men in farming households in Laos and Cambodia SSS/2020/160	Cambodia, Laos
	The role of agricultural and forest landscapes on human and environmental health in Cambodia SSS/2022/164	Cambodia
	Soil & Land Management	
	Management practices for profitable crop livestock systems for Cambodia and Laos SMCN/2012/075	Cambodia, Laos
	Land suitability assessment and site-specific soil management for Cambodian uplands SMCN/2016/237	Cambodia
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Cambodian soil information system supporting sustainable upland agricultural development SLAM/2022/103	Cambodia
	Water	
	Water for fish and irrigation in the Mekong WAC/2021/135	Cambodia, Laos
	Transformative futures for water security: South-East Asia roadmap WAC/2023/176	Laos, Cambodia, Vietnam, Thailand



Indonesia

A\$7.99 million
Budgeted funding

22
ACIAR-supported
projects



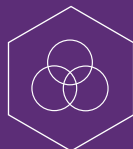
16
Bilateral and regional
research projects



6
Small projects and
research activities



12
Projects specific
to Indonesia



10
Regional projects



Indonesia's economy demonstrated impressive growth throughout 2022, recording 5.44% growth (year on year) in the second quarter of 2022.

This result aligns well with trends in economic recovery and is expected to continue in the years to come. The main strategy and relevant policies applied by the Indonesian Government include reducing restrictions on movement of people, preparing the economy to move to a 'new normal' era, and driving affordability by providing better-targeted subsidies and social welfare supports.

Indonesia's agriculture, fisheries and forestry sectors have long been an integral part of the economy, with millions of hectares of arable land and extensive marine resources across the diverse archipelago. Although their contribution to Indonesia's GDP has declined in the past years, these sectors remain critical as they employ about one-third of the workforce. Smallholder farmers throughout rural Indonesia have proven to be the backbone of the sector, particularly during the prolonged COVID-19 crisis.

Agriculture has been one of Indonesia's most resilient sectors following the COVID-19 pandemic. Indonesia's economy recovered gradually but unevenly across sectors. The positive performance of plantation commodities has supported the growth of the processing industry, especially the food and beverage industries. The global economic recovery is expected to boost Indonesia's agricultural exports.

Digital transformation and infrastructure development are a focus for future economic growth, driven by the increasing middle-class population, the agenda for human capital development, geographic position and positive progress in free trade agreements.

Indonesia has implemented strategies to achieve the goals of the United Nations 2030 Agenda for Sustainable Development, especially Sustainable Development Goal 2: Zero Hunger. The 2020–2024 National Medium-Term Development Plan includes a renewed focus on enhancement of small and medium-size enterprises and improving economic investment climate, agricultural digital transformation, land and irrigated water management and improving the governance of the national food system.

Under its nationally determined contributions submitted to the Paris Agreement, Indonesia committed to reducing greenhouse gas emissions by up to 29% with national efforts, and up to 41% with international support. A significant amount of the reductions is to come from land-based systems.

To meet these commitments, Indonesia is working to enhance the use of new technologies in land management, increasing renewable technologies for energy generation and restoring degraded peatlands. All of these initiatives have been raised with ACIAR as areas of potential collaboration.

The Indonesian Government recently established a super agency, the National Institute for Research and Innovation (BRIN), which is an autonomous entity that will be responsible for research and development in all sectors. This significant reorganisation will transform the way we collaborate with Indonesia well into the future.

Country priorities

Feeding a nation of around 270 million people has been reasserted as a critical priority by the Indonesian Government. The prolonged pandemic had severe economic and non-economic impacts on the population and economy, including the agriculture, fisheries and forestry sectors. As most communities still rely on these sectors, Indonesia faces a complicated situation as the pandemic continues, with impacts on both food production and livelihoods. This is also a high-risk situation for food security due to the decrease in purchasing power and food supply chains.

In the second term of President Widodo's administration (2019–24), agriculture has attained a higher strategic position, with line agencies tasked to achieve an advanced, modern and independent agricultural system. This has strong implications for ACIAR, as it is the first major reorientation of agricultural research priorities in Indonesia for a decade, and it is focused on both market linkages and alleviating poverty through improved family farming. While Indonesia retains a strong desire to sustain current research collaboration with ACIAR in the forestry, agriculture and fisheries sectors, our new short-term and medium-term priorities of significance include:

- » creating a single integrated data system to district level
- » strengthening the competitiveness of dedicated horticultural zones
- » improving the production, value-add and competitiveness of export crops (especially cocoa, coffee, rubber, palm oil and tea)
- » strengthening biosecurity
- » driving the productivity and genetic quality of livestock
- » the conservation and management of forestry agroecosystems (including peatland restoration and waste management)
- » improving seed systems.

Indonesia is expecting a general and presidential election in February 2024. Regardless of the election outcome, it is expected that the focus on ensuring food security will remain a top priority for the country. This is consistent with the vision and mission of the national development planning agency, BAPPENAS, and the shared goals of BAPPENAS and ACIAR to transform the country's agricultural innovation system.

The priority of the Ministry of Marine Affairs and Fisheries for 2021–24 is to maximise the revenue from the capture fisheries for small fishers' welfare; improve the productivity of some export-oriented commodities, especially shrimp, lobster and seaweed, supported by appropriate research and development programs; and develop aquaculture villages across Indonesia.

The transition of the research and development function from technical government ministries to BRIN is progressing well and ACIAR continues to negotiate the transition of ongoing projects under the new arrangements. ACIAR is keen to refresh its partnership with technical ministries (such as the Ministry of Agriculture) to facilitate and ensure the Ministry's involvement in future research collaborations.

In parallel, new and direct partnership with universities are also being established. Six new memorandums of understanding have been signed between ACIAR and the University of Gajahmada, Bogor Agricultural University, University of Udayana, University of Mataram, University of Diponegoro and University of Sam Ratulangi.

The change of the research and development landscape in Indonesia has significantly impacted the institutional capacity of ACIAR partners. ACIAR has identified the situation as an opportunity to contribute to rebuilding and enhancing capacity through the Institutional John Dillon Fellowship program in 2023, particularly for female researchers.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Indonesia during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Country Manager, Indonesia

Ms Mirah Nuryati

Research Program Managers

Agribusiness: Mr David Shearer

Climate Change: Dr Veronica Doerr

Crops: Dr Eric Huttner

Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

Forestry: Dr Nora Devoe

Horticulture: Ms Irene Kernot

Livestock Systems: Dr Anna Okello

Social Systems: Dr Todd Sanderson










Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Indonesia, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Understanding the drivers of successful and inclusive rural regional transformation: sharing experiences and policy advice in Bangladesh, China, Indonesia and Pakistan ADP/2017/024	Bangladesh, China, Indonesia, Pakistan
	Inclusive agriculture value chain financing AGB/2016/163	Indonesia, Vietnam
	Evaluating supply chain interventions and partnerships to sustainably grow the smallholder dairy sectors of Indonesia and the Philippines AGB/2021/124	Indonesia, Philippines
	Creating resilient communities through smallholder-inclusive tourism markets in Indonesia AGB/2021/125	Indonesia

Program	Project title & code	Country
	Climate Change	
	Scoping new co-governance research in Indonesian peatlands CLIM/2022/138	Indonesia
	Crops	
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Fisheries	
	A nutrition-sensitive approach to fisheries management and development in Timor-Leste and Nusa Tenggara Timur Province, Indonesia FIS/2017/032	Indonesia, Timor-Leste
	Fishtech: integrating technical fisheries solutions into river development programs across South-East Asia FIS/2018/153	Cambodia, Indonesia, Laos
	Developing social and economic monitoring and evaluation systems in Indonesian tuna fisheries to assess potential impacts of alternative management measures on vulnerable communities FIS/2020/109	Indonesia
	Forestry	
	Managing risk in South-East Asian forest biosecurity FST/2018/179	Indonesia, Vietnam
	Retaining the jewels in the crown: Kalimantan peat forest remnants FST/2021/145	Indonesia
	Horticulture	
	Development of area-wide management approaches for fruit flies in mango for Indonesia, Philippines, Australia and the Asia-Pacific region HORT/2015/042	Indonesia, Philippines
	An integrated management response to the spread of <i>Fusarium</i> wilt of banana in South-East Asia HORT/2018/192	Indonesia, Laos, Philippines
	Preparedness and management of huánglóngbing (citrus greening disease) to safeguard the future of citrus industry in Australia, China and Indonesia HORT/2019/164	Indonesia
	Livestock Systems	
	Understanding One Health zoonotic disease surveillance in Indonesia: a macaque, human and land use change framework LS/2019/116	Indonesia
	Global burden of animal disease initiative: Indonesia case study LS/2020/156	Indonesia
	Livestock enhancement through ecohealth/One Health assessment in South-East Asia LS/2022/163	Indonesia, Laos, Philippines
	Social Systems	
	Towards improved livelihoods for Indonesian fishers in Nusa Tenggara Timur Province, Indonesia SSS/2022/117	Indonesia
	Developing co-management options for sustainable peatlands in Indonesia SSS/2022/155	Indonesia
	Soil & Land Management	
	Crop health and nutrient management of shallot-chilli-rice cropping systems in coastal Indonesia SLAM/2018/145	Indonesia
	Meeting the biophysical information needs of peatland restoration and management stakeholders to support improved and integrated decision-making SLAM/2022/104	Indonesia
	Water	
	Support for the FAO-AWP Asia Pacific water scarcity programme – Indonesia WAC/2023/171	Indonesia

Laos

A\$5.68 million
Budgeted funding

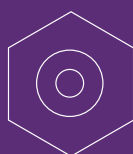
23
ACIAR-supported
projects



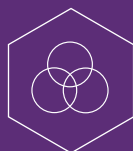
17
Bilateral and regional
research projects



6
Small projects and
research activities



5
Projects specific
to Laos



18
Regional projects



Like many countries in the world, Laos struggled with the impacts of the COVID-19 pandemic, which disrupted livelihoods and tested its fragile healthcare system. Economically, Laos had its slowest GDP growth rate in 30 years because of the pandemic.

Signs of an economic recovery in early 2022 were welcomed, with economic activity mostly driven by the services sector (due to increased regional and domestic tourism) and the openings of the Laos–China railway and the Thanaleng Dry Port. However, the Laos kip depreciated against the US dollar (to 68%), weakening economic recovery, and public debt increased to 69% of GDP. Consumer price inflation rose to 37% while food price inflation reached 39%. As a result, the economic growth forecast for 2022 was revised down to 2.5% from 3.8%.

Although agriculture continues to play a significant role in the Lao economy, the sector's share of GDP has decreased from 51% in 2000 to 16.5% in 2020. Subsistence agriculture is still the primary economic activity of approximately 61% of the national labour force (World Bank, 2021). The latest agriculture census nationwide (2019–20) indicates that smallholder farmers account for 52% of total agricultural households, the majority of whom are poor and face a wide range of supply-side challenges that affect productivity and market participation.

Most agricultural products are produced for domestic consumption, not for export. Despite its recent rapid growth and policy support, development of the export sector is constrained by many challenges. In 2022, cassava, banana and rubber performed well but livestock declined.

In a brief to the Lao PDR Government (in September 2022), the FAO indicated that Laos is facing the risk of food insecurity by 2023. Increased prices of fuel, fertiliser and feed in 2022 meant that Lao farmers cut back on planting crops during the wet season, resulting in a drop in agricultural production and household incomes. While the full impacts are yet to be felt, expectations are that many poor rural households will adopt coping strategies, which include reducing food intake.

The Lao PDR Government's vision is to move the country from an isolated nation to one that is linked to the East Asia region through infrastructure that fosters trade and integration. To this end, it has made significant investments to improve regional connectivity. The northern corridors connect with China, the western corridors connect with Thailand, and the eastern corridors connect with Vietnam.

The government remains committed to transforming its agrifood system to be more sustainable and modernised, contributing to the national economic base with a strong focus on support for smallholder farmers. The Agricultural Development Strategy provides the framework, vision and long-term development goal for ensuring national food security and sustainable development of the agriculture, forestry and natural resources sector. The Ministry of Agriculture and Forestry has the Agricultural Development Plan 2021–2025, which focuses on improving food security and encourages commercial agriculture for domestic and export purposes, increasing agricultural productivity, providing employment opportunities in rural areas, and improving production systems and practices.

Country priorities

In 2023–24, ACIAR will recalibrate its long-term strategic program priorities based on consultation with Lao stakeholders. The strategic priority outcomes that currently guide our investments in Laos are:

- » efficient and sustainable forestry industries, including non-timber products, with suitable climate-change resilience
- » innovative livestock systems that allow for intensification and land-use requirements, while raising animal health and biosecurity levels
- » increased fish habitat restoration and protection of fish migration routes
- » cost-effective and sustainable rice-based farming systems, through mechanisation, diversification and intensification, along with better crop quality, quarantine standards and value-adding for domestic and export markets
- » improved natural resource management that benefits livelihoods and food security by delivering land-use options to smallholders, with attention to both water and nutrient management within climate-change adaptation
- » improved institutional training and communication frameworks that enable smallholders to adopt and adapt new technologies, and increase the capacity development of researchers and educators.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Laos during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Regional Manager, East and South-East Asia

Vacant at the time of publication

Research Program Managers

Agribusiness: Mr David Shearer

Climate Change: Dr Veronica Doerr

Crops: Dr Eric Huttner

Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

Forestry: Dr Nora Devoe

Horticulture: Ms Irene Kernot

Livestock Systems: Dr Anna Okello






Social Systems: Dr Todd Sanderson





Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Laos, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Establishing sustainable solutions to cassava diseases in mainland South-East Asia AGB/2018/172	Cambodia, Laos, Vietnam
	Food loss in the <i>Pangasius</i> catfish value chain of the Mekong River Basin CS/2020/209	Cambodia, Laos, Vietnam
	Crops	
	Weed management techniques for mechanised and broadcast lowland crop production systems in Cambodia and Laos CROP/2019/145	Cambodia, Laos
	Disease-resilient and sustainable cassava production systems in the Mekong region CROP/2022/110	Cambodia, Laos, Vietnam
	Addressing the rapid emergence of cassava witches broom disease in Laos CROP/2023/157	Laos
	Fisheries	
	Assessing upstream fish migration measures at Xayaburi Dam in Laos FIS/2017/017	Laos
	Fishtech: integrating technical fisheries solutions into river development programs across South-East Asia FIS/2018/153	Cambodia, Indonesia, Laos
	Forestry	
	Building an effective forest health and biosecurity network in South-East Asia FST/2020/123	Cambodia, Laos
	Forest restoration for economic outcomes FST/2020/137	Laos
	Horticulture	
	An integrated management response to the spread of <i>Fusarium</i> wilt of banana in South-East Asia HORT/2018/192	Indonesia, Laos, Philippines
	Safe, fresh, year-round vegetables in Cambodia and Laos through research and development support of smallholder productivity and engagement in collaborative supply chains HORT/2021/143	Cambodia, Laos

Program	Project title & code	Country
	Livestock Systems	
	Investigating and developing interventions to mitigate food borne parasitic disease in production animals in Laos LS/2014/055	Laos
	Goat production systems and marketing in Laos and Vietnam LS/2017/034	Laos, Vietnam
	Rapid transformation of the Lao beef sector: biosecurity, trade and smallholders LS/2021/128	Cambodia, Laos
	Livestock enhancement through ecohealth/One Health assessment in South-East Asia LS/2022/163	Indonesia, Laos, Philippines
	Social Systems	
	Building the evidence base on the impacts of mobile financial services for women and men in farming households in Laos and Cambodia SSS/2020/160	Cambodia, Laos
	Pathways for future farmers in South-East Asia SSS/2022/134	Laos, Vietnam
	Soil & Land Management	
	Quantifying the impacts of nitrogen use and developing sustainable agricultural land management strategies in Laos rice-based farming systems SLAM/2022/102	Laos
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Extending findings and transferring knowledge from SMNC/2014/049 on soil management in sloping lands of northwest Vietnam and northern Laos SLAM/2023/106	Laos, Vietnam
	Management practices for profitable crop livestock systems for Cambodia and Laos SMCN/2012/075	Cambodia, Laos
	Water	
	Water for fish and irrigation in the Mekong WAC/2021/135	Cambodia, Laos
	Transformative futures for water security: South-East Asia roadmap WAC/2023/176	Laos, Cambodia, Vietnam, Thailand

Philippines

A\$5.76 million
Budgeted funding

18
ACIAR-supported
projects



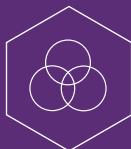
15
Bilateral and regional
research projects



3
Small projects and
research activities



10
Projects specific
to the Philippines



8
Regional projects



The Philippine economy continues to recover from the impact of the COVID-19 pandemic and from significant disasters (super typhoons and volcanic eruptions) in previous years. The Philippine economy grew by 7.6% in 2022, a significant turnaround from the contraction of GDP of 9.5% in 2020.

The agriculture, fisheries and forestry sectors contributed about 9% of GDP but growth remained slow at 0.5%. According to various studies, previous land reform policies have reduced average farm size by 34% and agricultural productivity by 17%. Furthermore, the lingering zoonotic diseases (such as African swine fever and highly pathogenic avian influenza), plant diseases and natural disasters continue to create challenges for the sector. Food insecurity remains a significant issue for the poorest and most vulnerable. The overall hunger rate was more than 11% in 2022, and food prices continue to rise.

The current Philippines Government, elected in 2022, has identified agriculture as its key priority and is focusing on modernisation of agrifood systems to increase agricultural productivity, improve resilience to climate change impacts and ensure food security. Experts recommend that in order to achieve these goals, there needs to be significant improvements in the business environment and increased support to agricultural research and development to boost long-term productivity. This provides strategic opportunities for ACIAR to co-invest in research partnerships for mutual benefits. It is anticipated that research-for-development investments will positively impact smallholder farming and fishing communities through innovations and science-based approaches.

The Philippines is one of Australia's longest-standing bilateral partners, celebrating 77 years of diplomatic relationship in 2023. Bilateral cooperation is underpinned by the Philippines–Australia General Agreement on Development Cooperation and guided by the Memorandum of Understanding on Scientific and Technical Cooperation (2009) and Record of Partnering Arrangements (2018). The Department of Science and Technology–Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST–PCAARRD) is a bilateral partner of ACIAR. The partnership between DOST–PCAARRD and ACIAR is comprehensive and strategic, characterised by joint decision-making on research priorities, co-development and co-investments in research and capacity-building projects and continuous knowledge exchange.

The Philippines takes a whole-of-government approach to research and development through its Harmonised National Research and Development Agenda in Agriculture, Aquatic and Natural Resources Sector, for which DOST–PCAARRD has oversight. To systematise research and development investments and decentralise implementation, DOST–PCAARRD established Regional Consortia, composed of government agencies, state universities and research institutions across the country. ACIAR works within these established systems to maximise effectiveness, efficiency, coherence, relevance, sustainability and impact of its investments in the Philippines. ACIAR and DOST–PCAARRD together prioritise research areas where Australia's expertise complements and adds value to existing in-country expertise.

Country priorities

ACIAR in the Philippines aims to contribute to improvements in productivity, competitiveness and sustainability of agrifood systems for human, environmental and economic resilience through research and capacity-building programs. We envision a future where the Philippines has well-functioning agrifood systems, more Filipinos (especially the poor) have better access to safe and nutritious food, and smallholder farmers, fishers and their communities have sustainable livelihoods.

In 2020, ACIAR examined food systems in the Philippines to identify vulnerabilities exposed or amplified by the COVID-19 pandemic. This information, published in ACIAR Technical Report 96, *COVID-19 and food systems in the Indo-Pacific: an assessment of vulnerabilities, impacts and opportunities for action*, as well as outcomes from subsequent annual partnership health checks with DOST–PCAARRD, affirmed the relevance of the following country priorities:

- » improved agrifood production systems, through science, technology and innovation
- » more competitive agricultural products in the market
- » improved returns from livestock systems
- » sustainable fisheries and aquaculture production
- » improved land and water resources management for profitable and sustainable agriculture
- » improved resilience to climate change and other natural shocks
- » improved technology adoption through social system analysis, community-based approaches, facilitated extension services and policy advocacy.

Capacity-building activities amplify the impact of research programs. ACIAR offers many opportunities for capacity building, including the John Allwright Fellowship, the John Dillon Fellowship, the Meryl William Fellowship, and more recently, the John Allwright Fellowship–Philippines, which is a pilot of the first ACIAR–DOST co-funded scholarship program. These programs enable researchers and scientists to gain credentials from Australian universities and enhance their leadership skills and career opportunities. Additionally, ACIAR supported the first Agribusiness Master Class in the Philippines, which successfully brought together a cohort of researchers, academics, farmer leaders and representatives from the private sector to collaborate. This has now been integrated as a regular course offering of the DOST–PCAARRD Agri–Aqua Hub.

Graduates of all these programs are considered ACIAR alumni. ACIAR provides continuing support to alumni for continuous learning, networking and access to research funds. In the Philippines, ACIAR supported the establishment of the Agriculture, Aquatic and Natural Resources Community of Practice as part of the [Australia Alumni Communities Philippines](#) and the Global Australian Alumni network. This has resulted in a more systematic and sustainable approach to alumni engagement and provides a formal mechanism for the Philippine Government and leaders from private and not-for-profit sectors to access alumni expertise on critical development issues.

Outreach and communications are increasingly important as a means to strengthen understanding and awareness of the impact of our projects as part of Australia’s aid program in the Philippines. Our initiatives aim to support and strengthen relationships among in-country project partners and stakeholders, and to share knowledge generated from ACIAR-supported research programs with the public and with policymakers.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in the Philippines during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Country Manager, The Philippines

Ms Hazel Aniceto








Research Program Managers

Agribusiness: Mr David Shearer
 Climate Change: Dr Veronica Doerr
 Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten
 Horticulture: Ms Irene Kernot
 Livestock Systems: Dr Anna Okello
 Social Systems: Dr Todd Sanderson
 Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp

Contact details for ACIAR staff are on page 107.



Current and proposed projects in the Philippines, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Agribusiness-led inclusive value chain development for smallholder farming systems in the Philippines AGB/2018/196	Philippines
	Evaluating supply chain interventions and partnerships to sustainably grow the smallholder dairy sectors of Indonesia and the Philippines AGB/2021/124	Indonesia, Philippines
	Philippines dairy AGB/2023/192	Philippines
	Climate Change	
	Strengthening capacity to pursue systemic resilience in Philippines food systems CLIM/2023/195	Philippines
	Fisheries	
	Increasing technical skills supporting community-based sea cucumber production in Vietnam and the Philippines FIS/2016/122	Philippines, Vietnam
	Regional coral restoration networks and appropriate technologies for larger-scale coral and fish habitat restoration in the Philippines and Australia FIS/2019/123	Philippines
	Institutional effectiveness and political economy of coral reef restoration in the Philippines FIS/2021/112	Philippines
	Horticulture	
	Development of area-wide management approaches for fruit flies in mango for Indonesia, Philippines, Australia and the Asia-Pacific region HORT/2015/042	Indonesia, Philippines
	Developing vegetable value chains to meet evolving market expectations in the Philippines HORT/2016/188	Philippines
	An integrated management response to the spread of <i>Fusarium</i> wilt of banana in South-East Asia HORT/2018/192	Indonesia, Laos, Philippines
	Scoping the opportunity for urban and peri-urban agricultural development in South-East Asia HORT/2023/147	Vietnam, Philippines
	Livestock Systems	
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam
	Country research update and policy support to the Philippines' national surveillance and control programs for African swine fever, avian influenza and antimicrobial resistance: a One Health systems approach to food animal security, public health resilience LS/2022/162	Philippines
	Livestock enhancement through ecohealth/One Health assessment in South-East Asia LS/2022/163	Indonesia, Laos, Philippines
	Social Systems	
	Enhancing livelihoods through forest and landscape restoration ASEM/2016/103	Philippines
	Soil & Land Management	
	Land management of diverse rubber-based systems in southern Philippines SLAM/2017/040	Philippines
	Managing heavy metals and soil contaminants in vegetable production to ensure food safety and environmental health in the Philippines SLAM/2020/117	Philippines
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam

Timor-Leste

A\$3.00 million
Budgeted funding

10
ACIAR-supported
projects



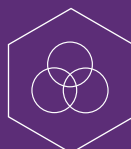
8
Bilateral and regional
research projects



2
Small projects and
research activities



7
Projects specific
to Timor-Leste



3
Regional projects

While Timor-Leste has made strong progress in recent years, some development indicators remain stubbornly entrenched.

With 70% of the population living in rural areas, there is a heavy reliance on incomes from semi-subsistence and seasonal food cropping, mixed with small-scale animal husbandry and varying degrees of foraging for wild crops and game. Despite many recent improvements in a range of essential services, there is a high prevalence of poverty, with more than 50% of the population facing some level of food and food nutritional insecurity.

Improving productivity, diversity and returns from agriculture, livestock and fisheries, as well as the functioning of food systems, will remain crucial to overcoming these challenges.

The reasons for constrained on-farm crop and animal production and productivity are complex and varied. They include highly variable weather conditions affecting crop establishment and subsequent yields, infertile soils, limited availability of and access to agricultural inputs (especially given a weak private sector), low capital for investment, pests and insects causing crop losses pre-harvest and post-harvest, labour constraints at critical times and limited market demand for agricultural products beyond local consumption. Critically, lack of access to credible, locally relevant and implementable science-based advice is a key constraint cutting across all areas.

Country priorities

Since 2001, ACIAR has had a strong program of projects in Timor-Leste, some of which have been long-term (such as Seeds of Life). The time is now right to pivot our relationship to one based on an integrated research partnership between the 2 countries, not just a series of projects. Following the opening of the ACIAR country office in Dili in 2022, ACIAR is working with key partners in Timor-Leste to establish the basis of new and long-term partnerships, using as a starting point the analysis of food systems vulnerabilities published in November 2020. Opportunities for future research to contribute to the greater resilience of Timor-Leste food systems include:

- » improved social protection measures for vulnerable households
- » a renewed focus on the productivity of smallholder agriculture with gradual intensification and improved feed and biosecurity regimes
- » greater efforts to expand private sector market developments and increase employment
- » greater focus on education and relevant technical training to increase the availability of skilled graduates.

The opportunities for ACIAR to support these priorities will be investigated in more detail this year. Focus areas may include research in coastal fisheries, agroforestry, livestock (especially cattle and poultry) and cropping systems, as well as seeking opportunities for trilateral research collaboration with Indonesia.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Timor-Leste during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.
www.aciar.gov.au

Country Manager, Timor-Leste

Mr Luis de Almeida

Research Program Managers

Crops: Dr Eric Huttner

Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

Horticulture: Ms Irene Kernot

Livestock Systems: Dr Anna Okello







Social Systems: Dr Todd Sanderson

Soil & Land Management: Dr Robyn Johnston &

Dr Steven Crimp

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Timor-Leste, 2023–24

Program	Project title & code	Country
	Crops	
	Agricultural innovations for communities: intensified and diverse farming systems for Timor-Leste CROP/2021/131	Timor-Leste
	Fisheries	
	A nutrition-sensitive approach to fisheries management and development in Timor-Leste and Nusa Tenggara Timur Province, Indonesia FIS/2017/032	Indonesia, Timor-Leste
	Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands FIS/2019/124	Solomon Islands, Timor-Leste
	Extending integrated analysis for improved food system outcomes in Timor-Leste and the Pacific region FIS/2022/121	Kiribati, Solomon Islands, Timor-Leste, Vanuatu
	Horticulture	
	Scoping for the implementation of plant health support in Timor-Leste HORT/2022/127	Timor-Leste
	Livestock Systems	
	Bacteria enteropathy and nutrition in infants and children in Timor-Leste through a One Health approach LS/2021/126	Timor-Leste
	Developing strategies to reduce brucellosis transmission in Timor-Leste based on One Health collaboration LS/2022/161	Timor-Leste
	Social Systems	
	Indigenous food systems knowledge exchange SSS/2022/118	Timor-Leste
	Soil & Land	
	Understanding tradition and fostering appropriate innovation in soil management to improve farmers productivity and livelihood in Timor-Leste SLAM/2020/141	Timor-Leste
	Evaluation of livelihood zones, rural household trajectories, research and development partners and initiatives in Timor-Leste SLAM/2021/108	Timor-Leste

Vietnam

A\$6.69 million
Budgeted funding

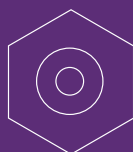
26
ACIAR-supported
projects



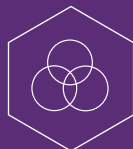
20
Bilateral and regional
research projects



6
Small projects and
research activities



11
Projects specific
to Vietnam



15
Regional projects



Vietnam has achieved remarkable economic growth and poverty reduction through its market-oriented reform process (Doi Moi) since 1986. Agriculture has always been a key sector that contributes to the country's food security, employment, export revenues, and rural livelihoods.

The importance of agriculture was again highlighted during the COVID-19 pandemic when it helped ensure food security and the economy's stabilisation.

However, the sector still faces many challenges, such as land fragmentation, low productivity, environmental degradation, climate change, market volatility and its ability to expand to new export markets. Another issue is the development gaps of ethnic minorities and women in rural areas. To address these issues, the government has issued the *Sustainable agriculture development strategy for 2021-2030 and vision to 2050*, which aims to transform the sector into a modern, green, and inclusive one that can compete globally and ensure national food security. The strategy has 6 main objectives:

- » restructuring the sector based on local advantages, value chains and market demand
- » enhancing productivity, quality, efficiency and sustainability of agricultural production
- » developing rural areas with improved infrastructure, services and living standards
- » strengthening resilience to natural disasters, epidemics and climate change
- » protecting the environment and reducing greenhouse gas emissions
- » promoting innovation, digitalisation and institutional reform in the sector.

To achieve these objectives, the strategy proposes a number of key measures, such as:

- » reforming land policies to facilitate large-scale production and private investment
- » improving access to finance, technology, information and markets for farmers and agribusinesses
- » developing high-quality human resources and promoting social inclusion and gender equality
- » investing in rural infrastructure, irrigation, logistics and public services
- » enhancing disaster risk management and climate-change adaptation and mitigation
- » strengthening legal frameworks, governance, and coordination mechanisms in the sector.

The strategy is aligned with Vietnam's aspirations to become a high-income country by 2045 and its commitments to international agreements such as the Paris Agreement on climate change. It also reflects the lessons learned from the previous *Agricultural Restructure Policy (2013–2020)*, which achieved some positive outcomes but also faced some limitations.

In the medium term, to further detail the strategy, the Vietnamese Government has recently endorsed several action plans, including plans for green growth, One Health and food systems.

The successful implementation of the strategy will require strong political will, effective coordination among stakeholders, adequate resources, and continuous monitoring and evaluation. ACIAR, as a trusted and long-term partner with Vietnam in agricultural research, will continue to contribute to the country's agricultural development in the years to come.

Country priorities

ACIAR has sustained a program of research collaboration with Vietnam for the past 30 years. The strategy for research collaboration between Vietnam and ACIAR from 2017 to 2027 was developed on the basis of mutual acknowledgment that the relationship between ACIAR and Vietnam has evolved from donor–recipient to partnership and co-investment, and that Vietnamese research managers and researchers have played increasingly important and active roles in project design and implementation. The strategy confirms the desire of both parties to engage the private sector wherever possible to create opportunities for poorer residents in rural and urban areas through inclusive agribusiness systems. It also focuses on transformational opportunities for women in research and agribusiness systems and on farms.

The key ambitions of the strategy are to:

- » develop long-term, equal and highly efficient partnership in research and technology development
- » improve the agricultural research capacity of Vietnam for sustainable and equitable growth, especially in the 3 priority areas of the Mekong River Delta, the Central Highlands and the Northwest Region of Vietnam
- » improve the skills, livelihoods and incomes of smallholder farmers, especially ethnic minorities and women, with a strong emphasis on building deeper knowledge of supply chains and stronger access to premium markets

- » enhance human health and nutrition through research on integrated farming systems, nutrition-sensitive agriculture, food safety and One Health
- » use natural resources more sustainably and efficiently in agricultural production, improving soil health and environmental outcomes while creating more-profitable production systems
- » influence policies on managing climate-change impacts on agriculture.

In June 2022, Vietnam and ACIAR reaffirmed these priorities as being the key focus for our partnership. We also reaffirmed the commitment to:

- » co-fund 75% of projects during the 10-year period
- » develop research into climate change, especially drought-tolerant cropping systems in the Mekong River Delta and the Central Highlands, and saline-cropping systems for the Mekong River Delta
- » continue investment in long-term capacity for Vietnam, including strengthening the roles of in-country ACIAR scholarship alumni, many of whom are leaders in science and policy.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Vietnam during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.
www.aciar.gov.au

Country Manager, Vietnam

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Research Program Managers

Agribusiness: Mr David Shearer
 Climate Change: Dr Veronica Doerr
 Crops: Dr Eric Huttner
 Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten
 Forestry: Dr Nora Devoe
 Horticulture: Ms Irene Kernot
 Livestock Systems: Dr Anna Okello
 Social Systems: Dr Todd Sanderson
 Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp
 Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Vietnam, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Inclusive agriculture value chain financing AGB/2016/163	Indonesia, Vietnam
	Establishing sustainable solutions to cassava diseases in mainland South-East Asia AGB/2018/172	Cambodia, Laos, Vietnam
	Increasing the sustainability, productivity and economic value of coffee and black pepper farming systems and value chains in the Central Highlands region of Vietnam AGB/2018/175	Vietnam
	Planning and establishing a sustainable smallholder rice chain in the Mekong Delta AGB/2019/153	Vietnam
	Integrating smallholder households and farm production systems into commercial beef supply chains in Vietnam AGB/2020/189	Vietnam
	Digital monitoring of VietGAP compliance for high-value domestic markets and potential export in smallholder fruit value chains from the northwest of Vietnam AGB/2022/114	Vietnam
Food loss in the <i>Pangasius</i> catfish value chain of the Mekong River Basin CS/2020/209	Cambodia, Laos, Vietnam	

Program	Project title & code	Country
	Climate Change	
	Supporting greenhouse gas inventories and targeted rice mitigation options for Vietnam CLIM/2019/150	Vietnam
	Defining the potential for mangrove-based agribusiness transformation in the coastal Mekong Delta CLIM/2023/190	Vietnam
	Crops	
	Disease-resilient and sustainable cassava production systems in the Mekong region CROP/2022/110	Cambodia, Laos, Vietnam
	Fisheries	
	Increasing technical skills supporting community-based sea cucumber production in Vietnam and the Philippines FIS/2016/122	Philippines, Vietnam
	Half-pearl industry development in Tonga and Vietnam FIS/2016/126	Tonga, Vietnam
	Addressing key technical bottlenecks in the grouper supply chain in Vietnam (and Australia) through manufactured feed and hatchery developments that aim to improve SME-sector profitability FIS/2022/148	Vietnam
	Forestry	
	Managing risk in South-East Asian forest biosecurity FST/2018/179	Indonesia, Vietnam
	Horticulture	
	Scoping the opportunity for urban and peri-urban agricultural development in South-East Asia HORT/2023/147	Vietnam, Philippines
	Strengthening Vietnam's citrus industry through research collaboration to build industry capacity to meet market demand HORT/2023/179	Vietnam
	Livestock Systems	
	Goat production systems and marketing in Laos and Vietnam LS/2017/034	Laos, Vietnam
	Asian chicken genetic gains: a platform for exploring, testing, delivering and improving chickens for enhanced livelihood outcomes in South-East Asia LS/2019/142	Cambodia, Vietnam
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam
	Social Systems	
	Pathways for future farmers in South-East Asia SSS/2022/134	Laos, Vietnam
	Soil & Land Management	
	Farmer options for crops under saline conditions in the Mekong River Delta, Vietnam SLAM/2018/144	Vietnam
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Soil microbial interactions with crop replacement options in the Vietnamese Mekong Delta SLAM/2022/175	Vietnam
	Extending findings and transferring knowledge from SMNC/2014/049 on soil management in slopping lands of northwest Vietnam and northern Laos SLAM/2023/106	Laos, Vietnam
	Assessment of soil condition for coffee, pepper and fruit tree production in the 5 provinces of the Central Highlands of Vietnam SLAM/2023/142	Vietnam
	Water	
	Transformative futures for water security: South-East Asia roadmap WAC/2023/176	Laos, Cambodia, Vietnam, Thailand

6



South Asia region program

South Asia is an immensely diverse and densely populated region. It is home to about 2 billion people – one-quarter of the world's population. The region has the highest concentration of poor people in the world, with more than 500 million people living in extreme poverty.

Despite the population pressure, the region has shown impressive annual economic growth at an average of 6%. The COVID-19 pandemic pushed millions of households into poverty and substantially increased income and wealth inequality in India, Bangladesh, Nepal, Sri Lanka and Pakistan. This situation poses a serious near-term challenge for policymakers, especially since rising food and commodity prices compound economic insecurities. Many more people, particularly women, live marginally above the poverty line but do not have the opportunity to participate in the process of economic growth.

Compared with other regions in the world, South Asia has the highest regional Global Hunger Index and a very low Human Development Index. Half of the population depends on agriculture for their livelihood. Although the share of agriculture in rural employment remains high, growth of the rural non-farm sector is accelerating and now provides a sizeable share of rural income and employment, primarily in services.

Malnutrition is prevalent in South Asia. The region has among the highest burdens of child undernutrition in the world. Thirty-six per cent of children under the age of 5 years are stunted, or too short for their age, which is an indicator of chronic undernutrition. Sixteen per cent are wasted, or too thin for their height, which is an indicator of acute malnutrition. South Asia also has a high prevalence of micronutrient deficiencies, overconsumption and diet-related non-communicable disease.

While the countries of South Asia face common challenges and opportunities in agriculture, there are also fundamental differences between and within these countries in terms of the broad characteristics that influence the nature and success of agriculture. India has 15 distinct agroecological zones. Nepal has 3 distinct topographical zones. The northern hilly region of Bangladesh is geographically distinct from the southern coastal areas, which are mostly alluvial, with fertile floodplains associated with 3 major rivers.

Pakistan's Indus plains are in sharp contrast to the arid regions of Sindh and the hilly and semi-arid areas of the north-west. Sri Lanka's landscape is clearly defined by its dry and wet zones. These regional variations throughout South Asia must be considered when designing a meaningful program for research collaboration, to accommodate regional distinctions and varying degrees of vulnerability of the local population.

The impacts of climate change on South Asia's agrifood systems include decreases in yields, degradation of natural resources, and associated income losses. Globally, total factor productivity (a measure of technological innovation and efficiency in production) in agriculture has fallen by about 21% since 1961 due to climate change, and warmer areas like South Asia have seen the largest declines (IFPRI 2022).

Globally, almost two-thirds of the people who fell into or remained in extreme poverty due to the pandemic live in South Asia. School closures have intensified learning poverty for students across the region and the average years of schooling in South Asia is expected to fall by between 0.3 and 0.5 years. This translates into an economic loss of up to \$1.9 trillion in lost earnings.

2023–24 program

Partner countries

Bangladesh

India

Nepal

Pakistan

Sri Lanka

27
projects

22
research
projects

5
small research
activities

A\$9.98 million

Investment in
agricultural research
for development



3

Agribusiness projects



1

Climate Change project



5

Crops projects



1

Fisheries project



3

Forestry projects



1

Horticulture project



1

Livestock Systems project



0

Social Systems projects



3

Soil & Land Management
projects



9

Water projects

Note: This data was current at the time of publication. Additional projects may be commissioned during 2023–24.

Drivers of regional collaboration

Countries in South Asia share many opportunities and threats that drive the need for regional cooperation, especially in the Eastern Gangetic Plains. Rice and wheat are the region's major staple crops, accounting for about two-thirds of total dietary energy. However, food consumption patterns have changed in the region over the past few decades, and the changes are most apparent in rural areas. Consumption of cereals is declining while consumption of animal-sourced foods, fruits, vegetables and processed foods is increasing.

Pressure to expand food production to meet growing demand is putting stress on natural resources. The resulting expansion and intensification of agriculture is leading to land degradation, deterioration of soil quality and loss of biodiversity, potentially jeopardising the region's capacity to meet future food demand.

Agricultural growth also poses risks for water resources. Facing the world's lowest per capita renewable freshwater resources, millions of rural people in South Asia have benefited from the growing use of groundwater. But aquifers are being depleted and, across the region, watertables are falling, particularly in India. Water quality is also deteriorating throughout the region due to nutrient overloads and industrial pollution, raising concerns about food safety and drinking water quality.

Large areas in several countries of South Asia are prone to natural disasters. Bangladesh and coastal parts of India are threatened frequently by cyclones and floods. Recurring droughts are a common feature in the arid and semi-arid parts of India and Pakistan. The impact of natural calamities is most severe on food-insecure households.

Climate variability, competing and increasing demands from agriculture and industry (including energy production), and population growth are creating severe demands on water resources. Regional cooperation is increasingly essential to manage these shared resources and address shared issues. There are also significant opportunities in regional cooperation to improve the productivity and diversification of agricultural crops, especially beyond cereals, and to improve the sustainability of farming systems through technical, institutional, value-chain and policy research and development.

Regional ACIAR program

Australian agricultural and resource management expertise is highly regarded in the South Asia region. ACIAR has a long history of research collaboration in improving crop productivity, forestry, water use efficiency and policy reforms. The South Asia regional program of the Australian Government seeks to underpin Australia's economic engagement in the region by addressing some of the key regionwide barriers to sustainable economic growth and connectivity. Gender equality is a focus in all the investments under the regional program.

The ACIAR strategy in South Asia focuses on communities, production systems and resource management in the 3 main ecosystems of the region – highlands, plains and coastal areas – that are common to Pakistan, India, Bangladesh, Nepal and Sri Lanka.








Research in these areas looks to identify appropriate policy reform, increase adoption of technology (including post-harvest management), improve productivity and livelihoods in marginalised communities, and sustainably improve the productivity and resilience of crop, livestock, forestry and fisheries systems.



The major pathways of development in the region are modernisation of agrifood systems, technology support, strengthening service providers, developing rural non-farm sector, and local governance at district and state level. Overproduction in some areas and unequal distribution networks due to poorly developed supply-chain management are the major issues in India. Addressing these could play a major role in achieving food and nutrition security and stability in the region.

The medium to long-term strategy in the region focuses on creating regional collaborations that:

- » sustainably intensify and diversify cropping systems using conservation agriculture, farm mechanisation, saline land management and adaptation to climate change
- » eradicate extreme poverty through improved productivity of food-grain crops (especially wheat and pulses), livestock (in Pakistan), agroforestry (in Nepal) and fisheries (in Sri Lanka)
- » better manage agricultural water, including rainfed areas in the Eastern Gangetic Plains and coastal zone
- » influence policy related to agricultural livelihoods and climate change
- » increase the emphasis on meaningful gender inclusion and empowerment.

Current and proposed projects in the South Asia region, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Developing competitive and inclusive value chains of pulses in Pakistan ADP/2017/004	Pakistan
	Understanding the drivers of successful and inclusive rural regional transformation: sharing experiences and policy advice in Bangladesh, China, Indonesia and Pakistan ADP/2017/024	Bangladesh, China, Indonesia, Pakistan
	Developing food loss reduction pathways through smart business practices in mango and tomato value chains in Pakistan and Sri Lanka CS/2020/193	Pakistan, Sri Lanka
	Climate Change	
	Paribartan: participatory action research on locally led iterative learning and inclusive business models for adaptive transformation in Bangladesh polders CLIM/2021/137	Bangladesh
	Crops	
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Managing wheat blast in Bangladesh: Identification and introgression of wheat blast resistance for rapid varietal development and dissemination CROP/2020/165	Bangladesh
	Accelerating genetic gain in wheat through hybrid breeding in Bangladesh, Ethiopia and Pakistan CROP/2020/167	Bangladesh, Ethiopia, Pakistan
	Resilient and profitable pulses production in Pakistan CROP/2021/132	Pakistan
	Additive intercropping in wide row crops for resilient crop production in Bangladesh, Bhutan and India CROP/2022/111	Bangladesh, India
	Fisheries	
	Improved productivity, efficiency and sustainability of the culture-based fishery for finfish and giant freshwater prawn in Sri Lankan reservoirs FIS/2018/157	Sri Lanka
	Forestry	
	Enhancing livelihoods through improved forest management in Nepal FST/2017/037	Nepal
	Sundarban ecosystem management FST/2022/123	Bangladesh
	Resource dependency in the Sundarban ECA FST/2023/177	Bangladesh
	Horticulture	
	Improving smallholder wellbeing through participation in modern value chains: sustaining future growth in the Pakistan citrus industry HORT/2020/129	Pakistan
	Livestock Systems	
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam

Program	Project title & code	Country
	Soil & Land Management	
	Nutrient management for diversified cropping in Bangladesh LWR/2016/136	Bangladesh
	Developing and translating soil health information in Bangladesh with farmers and for farmers to build resilient agricultural systems SLAM/2021/107	Bangladesh
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Water	
	Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India LWR/2014/073	Bangladesh, India
	Adapting to salinity in the southern Indus Basin LWR/2017/027	Pakistan
	Transforming smallholder food systems in the Eastern Gangetic Plain WAC/2020/148	Bangladesh, India, Nepal
	Virtual Irrigation Academy business models in Pakistan WAC/2020/180	Pakistan
	Transformation through adaption of trees and shrubs for salinity management in the Southern Indus Basin, Pakistan WAC/2021/136	Pakistan
	Current and projected hydrological trends in the Sundarban mangrove forest and their impacts on ecology and ecosystem services: a scoping study WAC/2022/129	Bangladesh
	Spring water management, agriculture and resilient livelihoods in the midhills of Nepal WAC/2022/151	Nepal
	Climate resilient and adaptive water allocation in Pakistan WAC/2022/152	Pakistan
Transitioning to climate resilient water allocation planning in Pakistan WAC/2023/182	Pakistan	



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au



Bangladesh

A\$4.08 million
Budgeted funding

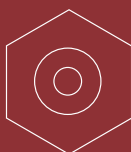
15
ACIAR-supported
projects



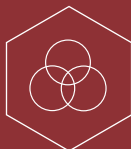
12
Bilateral and regional
research projects



3
Small projects and
research activities



7
Projects specific
to Bangladesh



8
Regional projects



Agriculture plays a pivotal role in the Bangladesh economy and in the lives of the vast majority of the population.

The agriculture sector accounts for more than half of employment in Bangladesh. Notwithstanding its transformation from a country of chronic food shortages to one of net food grain self-sufficiency, Bangladesh still faces very substantial food security challenges. While poverty is steadily declining, many people still live below the poverty line.

Recently, Bangladesh has made impressive progress in achieving national food security. Investments in agricultural research have played a pivotal role in driving productivity increases of major crops. The ongoing challenge is to improve the sustainability of agricultural production, productivity of low-lying areas and rainfed cropping systems, and increase rural incomes. This goal is adversely affected by increasing seasonal climate variability, reduced freshwater river flows and seawater intrusion.

Climate change is the most pressing issue for Bangladesh, with varying levels of vulnerability and impacts across the country. Coastal areas are prone to salinity intrusion and tropical cyclones, the floodplains in the central areas are prone to floods, the north-western region is prone to drought, the north-eastern region is prone to flash floods and the hilly regions are prone to erosion and landslides.

Bangladesh is an active participant in the global effort to combat climate change and must develop adequate adaptive capacity to protect its people and economy. In view of the substantial long-term challenges presented by climate change, the government has developed a long-term Bangladesh Delta Plan 2100 that focuses on developing approaches to sustainable management of water, environment and land resources. Being an active partner, Bangladesh plays a vital role in international and regional forums, particularly in the United Nations, Commonwealth and South Asian Association of Regional Cooperation.

The Bangladesh Climate Change Strategy and Action Plan is the de facto policy document that provides strategic direction for work on climate-change related issues. Many elements of climate-change adaptation in the country are also being addressed through specific sectoral policies. Recent consultations highlighted that the consequences of climate change on rural livelihoods is the most pressing issue facing Bangladesh. This is likely to drive thinking about future priorities for research collaboration with ACIAR.

Key priorities for Bangladesh (National Agriculture Policy 2018) that align with ACIAR objectives are:

- » diversification of crops, including production of high-value crops
- » development and promotion of stress-tolerant, disease-resistant and nutritious crop varieties
- » improvement of crop production systems for market-oriented agriculture
- » building national capacity in innovation
- » extension of technologies to increase overall productivity growth and reduce the difference between research farm and field-level yields.

ACIAR supports regional approaches to assisting Bangladesh, including in the areas of natural resource management, improving trade connectivity and encouraging investments to empower women to participate in cross-regional trade opportunities.

Country priorities

Bangladesh has been an ACIAR partner country since the mid-1990s. Over time, the ACIAR program has shifted towards a farming systems approach supporting broader food security aspects, improved production and diversification of rice-based farming systems, and adaptation to climate change. This approach includes research on short-duration varieties of pulses to fit the farming system context of Bangladesh, conservation agriculture-based technologies and related mechanisation, saline land management and adaptation to climate change. ACIAR-supported programs in Bangladesh have focused on the undulating lands of the north and north-west regions and the coastal region (which is the poorest and most vulnerable region in the country). Bangladesh's ability to maintain food security given its high vulnerability to the impacts of climate change underpins the priorities for our support.

Key agricultural production challenges are common to many countries of South Asia, and we play a role in strengthening regional research linkages between Bangladesh and other countries, particularly India (Bihar and West Bengal states) and Nepal (eastern Terai region).

Consultation with key research and development stakeholders in Bangladesh and Australia established the [ACIAR–Bangladesh Collaboration Strategy 2021–2030](#) and confirmed the following priorities for research collaboration:

- » crop improvement, with a focus on wheat, maize and pulses
- » improved farming systems, with a focus on cropping systems and diversification
- » water management, with a focus on managing both quantity (scarcity, groundwater and waterlogging) and quality (salinity)
- » soil fertility and soil management
- » markets, diversification and agricultural value chains
- » agricultural mechanisation.

Research will focus on farming systems of north, north-west and coastal Bangladesh.

The Krishi Gobeshona Foundation is a strategic partner and co-investor with ACIAR in Bangladesh. The foundation is an agricultural research funding organisation that has made major investments in funding research and capacity building in ACIAR-supported projects. The partnership with the foundation for collaboration in agriculture research and development in Bangladesh was renewed in January 2021 for 5 years.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Bangladesh during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

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Climate Change: Dr Veronica Doerr

Crops: Dr Eric Huttner

Forestry: Dr Nora Devoe

Livestock Systems: Dr Anna Okello








Soil & Land Management: Dr Robyn Johnston &

Dr Steven Crimp

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Bangladesh, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Understanding the drivers of successful and inclusive rural regional transformation: sharing experiences and policy advice in Bangladesh, China, Indonesia and Pakistan ADP/2017/024	Bangladesh, China, Indonesia, Pakistan
	Climate Change	
	Paribartan: participatory action research on locally led iterative learning and inclusive business models for adaptive transformation in Bangladesh polders CLIM/2021/137	Bangladesh
	Crops	
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Managing wheat blast in Bangladesh: Identification and introgression of wheat blast resistance for rapid varietal development and dissemination CROP/2020/165	Bangladesh
	Accelerating genetic gain in wheat through hybrid breeding in Bangladesh, Ethiopia and Pakistan CROP/2020/167	Bangladesh, Ethiopia, Pakistan
	Forestry	
	Sundarban ecosystem management FST/2022/123	Bangladesh
	Livestock Systems	
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam
	Soil & Land Management	
	Nutrient management for diversified cropping in Bangladesh LWR/2016/136	Bangladesh
	Developing and translating soil health information in Bangladesh with farmers and for farmers to build resilient agricultural systems SLAM/2021/107	Bangladesh
	Water	
	Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India LWR/2014/073	Bangladesh, India
	Transforming smallholder food systems in the Eastern Gangetic Plain WAC/2020/148	Bangladesh, India, Nepal
	Current and projected hydrological trends in the sundarbans mangrove forest and their impacts on ecology and ecosystem services: a scoping study WAC/2022/129	Bangladesh

India

A\$0.96 million
Budgeted funding

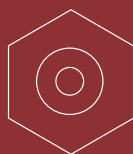
5
ACIAR-supported
projects



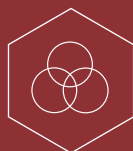
4
Bilateral and regional
research projects



1
Small projects and
research activities



0
Projects specific
to India



5
Regional projects

India accounts for 18% of the world's population and is the world's fifth-largest economy.

India is emerging as a major agricultural exporter of several key commodities and globally is often the largest exporter of rice and the second-largest exporter of cotton. While the contribution of the agriculture sector to GDP is declining, agriculture remains a major source of employment and accounts for 44% of the total national workforce. Agriculture also accounts for nearly 50% of the geographical area of India, and approximately half of the agricultural area is irrigated.

Two-thirds of India's population lives in rural areas, with landholdings averaging 1.1 hectares. The rural population is highly vulnerable to the impacts of a declining natural resource base, biosecurity threats and climate change.

Agricultural production has been increasing by an average of 3.6% per year since 2011, due to improved access to inputs such as fertiliser and seed, irrigation and credit facilities. The sector has also diversified from cereal grains to pulses, fruit, vegetables and livestock products, largely driven by evolving demographics, urbanisation and changing consumer demand patterns. However, the sector is still challenged by inefficient market mechanisms, subsidy distortions, lack of storage infrastructure, unsustainable use of natural resources and susceptibility to climate change and extreme weather events.

The Government of India advocates mainstreaming the role of women in agriculture as part of all programs in the agricultural development agenda. Although 30% of budgetary allocations under various schemes is directed to women farmers (60% of all farmers), use of these funds has declined. Moreover, due to the complex and varied nature of agriculture in India, there has been a trend of defeminisation in certain pockets of the country. Although policy articulation by the government on the rights of women farmers has shifted, there is still a huge knowledge gap and limited resources to implement gender-inclusive agricultural development strategies.

There will be strong and sustained demand for partnerships and collaboration between India and Australia for agricultural services, consulting and technologies, in which Australia has expertise. In April 2022, the Australia–India Economic Cooperation and Trade Agreement was signed. The agreement includes a provision that both countries will cooperate to promote agricultural trade as part of the agreement and will work toward concluding an enhanced agricultural memorandum of understanding.

The present ACIAR engagement in India is regional and focuses on regional issues of natural resource management and climate change. In 2023, as ACIAR celebrates 40 years of working with partners in India, we will develop a new partnership strategy to guide our research-for-development program in India.

Country priorities

ACIAR has supported a program of collaborative research with India since 1983. Presently, the ACIAR research program with India is delivered entirely through a regional collaborative approach involving neighbouring countries with shared issues and opportunities.

The geographic focus on the eastern regions of India and its neighbours has a thematic focus on:

- » management of agricultural water, including rainfed areas in the Eastern Gangetic Plains and coastal zone
- » sustainable intensification and diversification of cropping systems with support of conservation agriculture
- » breeding of improved varieties of mungbean
- » assisted policy development for farmers' livelihoods and climate change.

Existing collaboration between ACIAR and organisations in India has the potential to evolve into a substantial co-investment partnership providing benefits for both countries. A partnership refresh between ACIAR and Indian Council of Agricultural Research, will explore, at India's request, the possibilities for enhanced collaboration in:

- » sustainable intensification with a nutrition framework
- » diversification into new dry season crops
- » the role of biotechnology in crop development
- » new mechanisation opportunities, including farm robotics

- » a next phase of mungbean breeding for high-yielding varieties
- » groundwater management (overexploitation and under-exploitation)
- » co-investment and trilateral collaboration.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in India during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Regional Manager, South Asia

Dr Pratibha Singh

Research Program Managers




Crops: Dr Eric Huttner

Soil & Land Management: Dr Robyn Johnston & Dr Steven Crimp

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in India, 2023–24

Program	Project title & code	Country
	Crops	
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Additive intercropping in wide row crops for resilient crop production in Bangladesh, Bhutan and India CROP/2022/111	Bangladesh, India
	Soil & Land Management	
	Assessment of the adoption and adaptation of conservation agriculture and direct seeded rice in South and South-East Asia SLAM/2022/172	Bangladesh, Cambodia, India, Laos, Philippines, Vietnam
	Water	
	Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India LWR/2014/073	Bangladesh, India
	Transforming smallholder food systems in the Eastern Gangetic Plain WAC/2020/148	Bangladesh, India, Nepal

Nepal

A\$1.11 million
Budgeted funding

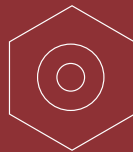
3
ACIAR-supported
projects



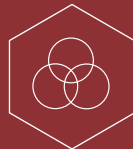
3
Bilateral and regional
research projects



0
Small projects and
research activities



2
Projects specific
to Nepal



1
Regional project

Agriculture is the largest economic sector of Nepal, and is highly diverse due to the wide range of climates and geographies in the country.

The challenges facing agriculture in the lowland terai rice–wheat farming systems (part of the Eastern Gangetic Plain) are vastly different to those in the mixed crop–livestock–tree farming systems of the hill and mountain areas. Broadly, however, the challenges include:

- » the need for seed system improvements
- » degradation of natural resources
- » underdeveloped agricultural institutions and policies
- » declining availability of labour
- » access to productive technologies and mechanisation to improve farm household livelihoods.

Nepal is vulnerable to food insecurity and recurring natural disasters, such as floods, drought, landslides and earthquakes. After the adoption of a new constitution in 2015, Nepal has witnessed 6 changes of government in 7 years. Political stability remains important to manage the economy and ensure continued pursuit of development priorities.

Economic recovery, from both the devastating 2015 earthquakes and the COVID-19 pandemic, will be a long process.

Nepal's Agriculture Development Strategy 2015–2035 outlines a vision for a self-reliant, sustainable, competitive and inclusive agriculture sector that drives economic growth and contributes to improved livelihoods and food and nutrition security. It conceptualises transformation of Nepal from a society primarily based on agriculture to one that derives most of its income from services and industry. The 20-year strategy aims to halve poverty in less than 10 years through an agriculture-led economy achieving improved governance, higher productivity, profitable commercialisation and increased competitiveness.

The Agriculture Development Strategy also guides policies that include women, and states that all agricultural programs will be designed to benefit women. It promotes women's organisations and agri-enterprises led by women through specific programs and recommends equal wages for women labourers. The strategy also promotes action to raise awareness of women's rights to land, and builds the capacity of women to manage irrigation, water resources and finances.

Country priorities

ACIAR has supported collaborative research with Nepal since the early 1990s, including projects on small ruminants, wheat and legumes. The focus for ACIAR during 2023–24 continues to be the engagement of Nepal in a regional program to improve integration of soil, water, crop, livestock and tree components of the farming systems.

Increased farm and forest productivity remains a core priority of Nepal for collaboration with ACIAR to improve food and nutrition security of the rural poor. In the Middle Hills districts, where the impacts of earthquakes and floods remain, our program supports the request of the Nepalese Government to focus primarily on research to support increased timber production from community forests. Another area of requested focus is understanding the implications of federalism on agriculture in Nepal.

Given the common agricultural production challenges across the alluvial plains of Nepal, eastern India and Bangladesh, cooperative research linkages with neighbouring countries will be explored further during 2023–24. The focus will be on conservation agriculture, to address key issues such as declining soil health, burning of rice stubble, falling groundwater levels and inequities in access to water.

Nepal hosts an important regional research body – the International Center for Integrated Mountain Development. ACIAR and DFAT are working with the centre to identify prospective areas for research collaboration.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Nepal during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.
www.aciar.gov.au

Regional Manager, South Asia

Dr Pratibha Singh

Research Program Managers

Forestry: Dr Nora Devoe

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Nepal, 2023–24

Program	Project title & code	Country
	Forestry Enhancing livelihoods through improved forest management in Nepal FST/2017/037	Nepal
	Water Transforming smallholder food systems in the Eastern Gangetic Plain WAC/2020/148	Bangladesh, India, Nepal
	Spring water management, agriculture and resilient livelihoods in the midhills of Nepal WAC/2022/151	Nepal

Pakistan

A\$3.10 million
Budgeted funding

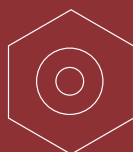
11
ACIAR-supported
projects



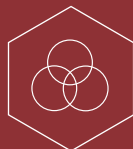
9
Bilateral and regional
research projects



2
Small projects and
research activities



8
Projects specific
to Pakistan



3
Regional projects



Agriculture is the largest sector of Pakistan's economy. It contributes about 24% of GDP and is the largest source of foreign exchange earnings.

The sector also accounts for half of the employed labour force, of which two-thirds are women. Pakistan's strong agricultural research system has been driving innovation and improvements in this sector.

The COVID-19 pandemic put significant pressure on the economy of Pakistan. Drastic measures to control the pandemic significantly reduced economic activity (including activity in agrifood systems), with consequent impacts on livelihoods, food security and nutrition. The heavy rainfall and floods of 2022 added to the problems of the sector. Approximately 57% of the cropland in the agricultural area in Sindh province, a focal geography of ACIAR, was impacted by flooding.

The decline of the Pakistan currency against the US dollar and other major currencies has stakeholders in the agriculture sector concerned, as they rely on imported inputs like seeds, fertiliser, pesticides and machinery. In turn, production costs for farmers have increased, impacting rural livelihoods and jeopardising national food security.

Before the pandemic, about 25% of the population lived below the national poverty line. Food insecurity is typically high, with 20–30% of the population (40 to 62 million people) experiencing some form of food insecurity and chronic vulnerability through natural hazards and shocks, including the ongoing pandemic. It is predicted that due to the catastrophic floods and exacerbated economic and financial challenges, more people will drop below the poverty line in the coming year.

Pakistan recognises that cost-effective availability of energy, water and food is essential to ensure sustainable economic growth and development. Sizeable national and provincial programs are being funded to revolutionise the agriculture and livestock sectors. These programs are aimed at increasing agricultural productivity, value addition to agricultural products, reducing dependence on imports, supporting and stimulating agriculture-based industries, and improving the livelihoods and wellbeing of farming communities.

Pakistan is ranked third in the world of countries facing water shortages. It is estimated that Pakistan will become the most water-stressed country in South Asia by 2040, with absolute water scarcity by 2025. There are many reasons for the country's water scarcity. The most important are climate change, urbanisation and high dependence on groundwater for agriculture and other operations.

Country priorities

Due to reduced investments in agriculture, the sector is experiencing stagnant growth, and increasing inflation, input prices and electricity tariffs have also played their part. To boost growth in agriculture, job creation and encourage the country's exports, the Pakistan Government recognises that synchronising programs, reforming of institutions and encouraging public-private partnership is important. The present policy and resourcing focus is on:

- » developing adaptation and mitigation strategies for climate change and preparing farmers for the future scenarios
- » ensuring food security and job creation through technology-based interventions with emphasis on small and medium-size farmers and landless tenants
- » developing enabling policies to ensure institutional support for private sector investment in agricultural business of high-value crops, value addition and supply chain infrastructure
- » developing reforms for moving towards market economy and involving private sector in the market-led approach to diversification of agriculture
- » implementing international food standards to enhance exports
- » creating traceability systems and improving marketing infrastructure and policies based on the public-private partnerships.

Australia has a 70-year development assistance relationship with Pakistan, which has contributed to Pakistan's long-term economic prosperity, stability and resilience. Australia is seen as a country with deep and relevant expertise in agriculture, livestock production and water management.

ACIAR is regarded as a key international partner supporting agricultural research in Pakistan. Our work is high profile and regularly gains the attention of policymakers at national and provincial levels.

Australia and Pakistan are working in partnership, where Pakistan makes substantial in-kind contributions to research programs. ACIAR aims to develop a partnering arrangement with the Pakistan Agricultural Research Council Pakistan. Our other partners in Pakistan include the National Agricultural Research System, universities and the agribusiness sector along with other international agencies working in the space. ACIAR also makes targeted technical interventions.

The ongoing focus of our research collaboration is:

- » empowering women to enhance farm incomes
- » water management, particularly horizontal expansion, salinity management, water harvesting, and low-cost/high-efficiency irrigation systems
- » crop improvement, particularly productivity enhancement and access to novel breeding techniques
- » horticulture, including fresh produce and nursery certification systems
- » agribusiness development, including background research in value-adding, product development, branding and traceability systems for growing private sector needs, which the national system cannot provide
- » models for rural transformation.

2023–24 research program

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

The following table lists ACIAR-supported projects active in Pakistan during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Country Manager, Pakistan

Dr Munawar Raza Kazmi

Research Program Managers

Agribusiness: Mr David Shearer





Crops: Dr Eric Huttner

Horticulture: Ms Irene Kernot

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Pakistan, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Developing competitive and inclusive value chains of pulses in Pakistan ADP/2017/004	Pakistan
	Understanding the drivers of successful and inclusive rural regional transformation: sharing experiences and policy advice in Bangladesh, China, Indonesia and Pakistan ADP/2017/024	Bangladesh, China, Indonesia, Pakistan
	Developing food loss reduction pathways through smart business practices in mango and tomato value chains in Pakistan and Sri Lanka CS/2020/193	Pakistan, Sri Lanka
	Crops	
	Accelerating genetic gain in wheat through hybrid breeding in Bangladesh, Ethiopia and Pakistan CROP/2020/167	Bangladesh, Ethiopia, Pakistan
	Resilient and profitable pulses production in Pakistan CROP/2021/132	Pakistan
	Horticulture	
Improving smallholder wellbeing through participation in modern value chains: sustaining future growth in the Pakistan citrus industry HORT/2020/129	Pakistan	
	Water	
	Adapting to salinity in the southern Indus Basin LWR/2017/027	Pakistan
	Virtual Irrigation Academy business models in Pakistan WAC/2020/180	Pakistan
	Transformation through adaption of trees and shrubs for salinity management in the Southern Indus Basin, Pakistan WAC/2021/136	Pakistan
	Climate resilient and adaptive water allocation in Pakistan WAC/2022/152	Pakistan
Transitioning to climate resilient water allocation planning in Pakistan WAC/2023/182	Pakistan	

Sri Lanka

A\$0.73 million
Budgeted funding

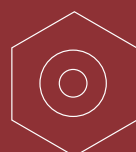
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ACIAR-supported projects



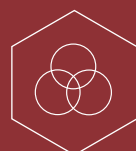
2
Bilateral and regional research projects



0
Small projects and research activities



1
Project specific to Sri Lanka



1
Regional project

Australia has a strong interest in ensuring Sri Lanka can be a secure, stable and prosperous partner of Australia in the Indian Ocean region.

ACIAR had a broad collaborative research program with Sri Lanka from 1980 to the early 2000s, which covered fisheries, agriculture policy, forestry, animal health and crops. In 2016, Australia's Commission for International Agricultural Research requested an assessment of re-establishing a collaborative research program with Sri Lanka. Two projects are active in Sri Lanka in 2023–24 but the recent economic and political environment has limited opportunities for further re-engagement.

The research program addresses our high-level objectives, as outlined in the ACIAR 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and our partner organisations.

Two ACIAR-supported projects are active in Sri Lanka during 2023–24.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Regional Manager, South Asia

Dr Pratibha Singh



Research Program Managers

Agribusiness: Mr David Shearer

Fisheries: Dr Chris Barlow & Dr Ingrid Van Putten

Contact details for ACIAR staff are on page 107.

Current and proposed projects in Sri Lanka, 2023–24

Program	Project title & code	Country
	Agribusiness Developing food loss reduction pathways through smart business practices in mango and tomato value chains in Pakistan and Sri Lanka CS/2020/193	Pakistan, Sri Lanka
	Fisheries Improved productivity, efficiency and sustainability of the culture-based fishery for finfish and giant freshwater prawn in Sri Lankan reservoirs FIS/2020/193	Sri Lanka

7



Eastern and Southern Africa region program

Although the economic performance of the African region has been strong for several years, estimates show that average growth of GDP slowed to 3.8% in 2022, from 4.8% in 2021, amid significant challenges following the COVID-19 pandemic and the Russian invasion of Ukraine.

Growth across Sub-Saharan Africa is slowed by current uncertainty in the global economy, the underperformance of the continent's largest economies, high inflation and a sharp deceleration of investment growth. Growth is expected to slow to 3.1% in 2023, given soaring food and energy prices, tightening global financial conditions and the associated increase in domestic debt service costs. These events have been felt acutely across Africa, where food insecurity and malnutrition have been persistent problems for decades.

Population growth and economic transformation are putting increasing pressure on the agricultural ecosystem, and climate change continues to exacerbate these challenges. To achieve a true transformation of food systems in Africa, there is a growing recognition that food systems should be thought about differently, taking into account the true value and full cost involved in growing, distributing and consuming food. This is vital not only for the food security of hundreds of millions of Africans but also for African economies and sustainable development on the continent.

Despite its incredible diversity at a macro level, Africa has a greater proportion of poor people on average than any other region in the world. The region is characterised by high levels of food insecurity and very low Human Development Index rankings. If the current trend continues, Africa is unlikely to meet the United Nations Sustainable Development Goals, including Goal 1 of eradicating extreme poverty by 2030.

Africa's urban population has been growing at a very high rate and is projected to reach 56% of the total population (currently 44% of 1.34 billion) by 2050. Africa's demand for food is expected to more than double by that time, driven by population growth, rising incomes, rapid urbanisation, changes in national diets towards greater consumption of higher-value fresh and processed foods, and more open intra-regional trade policies. This is compounded by impacts associated with climate change, which continue to hamper agricultural production, productivity and reliability and increase the demand for land and water. In addition, rural demographics continue to change. Rural populations are ageing, many farms are getting smaller, and rural youth are looking for more lucrative livelihoods in urban areas rather than in traditional farming.

These changes are helping to create new opportunities for Africa's smallholder farmers. Their small farms are transforming into business operations, which in turn bring new challenges to the agricultural systems.

Agriculture typically accounts for 30–40% of the GDP of African countries and more than 70% of the continent's poor live in rural areas. While agriculture remains a key driver of the economic growth that is required to deliver economic transformation for the rural poor, growth in productivity and production have broadly stagnated in the past decade. Unlocking the potential of Africa's agricultural and food systems requires substantial investment in the agriculture sector and in research to provide the knowledge that underpins growth in agricultural productivity, especially for commercialising smallholder farming.



2023–24 program

Partner countries

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

20
projects

14
research
projects

6
small research
activities

A\$6.43 million

Investment in
agricultural research
for development



3
Agribusiness projects



1
Climate Change project



7
Crops projects



0
Fisheries projects



3
Forestry projects



1
Horticulture project



3
Livestock Systems projects



0
Social Systems projects



0
Soil & Land Management
projects



2
Water projects

Note: This data was current at the time of publication. Additional projects may be commissioned during 2023–24.

Drivers of regional collaboration

The Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union, in collaboration with the Regional Economic Communities, has been at the helm of mobilising the interest and commitment of African member states and their stakeholders for the transformation of the African agriculture sector.

A major milestone was the adoption of the 2014 Malabo Declaration on Accelerated African Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods, in which the heads of states agreed to spend a minimum of 10% of their total expenditure on agriculture and pursue a target of 6% annual growth. Subsequently, the leaders noted the need for monitoring, tracking and reporting on the implementation of the declaration using the CAADP Results Framework.

The African Union introduced a biannual review, the Africa Agriculture Transformation Scorecard, which tracks and reports each country's progress towards achieving the goals and targets of the Malabo Declaration. This important mechanism ensures that there is political will, backed by appropriate actions, to achieve agricultural growth and transformation in Africa.

The scorecard is presented at the African Green Revolution Forum, a key annual pan-African forum with the goal of accelerating progress on agriculture's contribution to economic growth and transformation, in line with delivering on the Malabo commitments. The forum has become a premier platform for leaders from across Africa and around the world to advance concrete action plans and share knowledge to tap the enormous potential of agriculture in driving equitable and sustainable economic growth across the continent. The Alliance for a Green Revolution in Africa, in collaboration with several investors, coordinates the forum and produces a report on the forum, the Africa Agriculture Status Report.

Regional collaboration is crucial to achieving economic development in Africa, and the role of regional and sub-regional organisations is key, including the promotion and protection of foreign investment. ACIAR is closely linked to the main regional agencies, including the Forum for Agricultural Research in Africa, the African Union Development Agency–New partnership for Africa Development, and the Forum for Agricultural Research in Africa, which are important knowledge brokers and sources of priorities for the region.

ACIAR also liaises with sub-regional organisations, which are important strategic partners and play a key role in enhancing our impact to a regional scale, especially the Association for Strengthening Agricultural Research in Eastern and Central Africa and the Food, Agriculture, and Natural Resources Policy Analysis Network.

A good source for calibrating our regional priorities comes from the annual African Green Revolution Forum, which aims to advance concrete action plans and share knowledge to tap into the enormous potential of agriculture in driving equitable and sustainable economic growth across the continent.

Regional ACIAR program

The agricultural environments of eastern and southern Africa and northern Australia have much in common – the wet tropics of Rwanda with northern Queensland, the semi-arid tropics of eastern Africa with central Queensland, and the arid rangelands of Ethiopia and southern Africa with the Northern Territory.

Australian agricultural science has expertise that is directly relevant to the African context. For more than 3 decades, ACIAR has supported projects that mobilised this expertise to deliver sustainable development outcomes in the region. The free-market orientation and effective architecture of agricultural research in Australia are also relevant to African agricultural transformation.

The ACIAR program with eastern and southern Africa fills a niche not addressed by many donors: agricultural research for development. Our work is highly regarded and remains as relevant now as it was 30 years ago because of our research-for-development focus, ability to enable projects with a trans-disciplinary and cross institutional approach, the similarities of the agricultural environments between Australia and eastern and southern Africa, synergies built with Australia's world-class teaching and research institutions that advance African agriculture and our long-term commitment to address specific constraints in agricultural production, with multi-year projects.

ACIAR currently invests 10% of our annual research budget in the Eastern and Southern Africa regional program and directly funds projects in partnership with 11 African countries. However, our footprint is much broader because of our contribution to CGIAR, which has 4 centres located in Africa and, until recently, spent half of its total budget in Africa. ACIAR also provides funding for other international agricultural research centres working in Africa, such as CABI, WorldVeg and *icipe*.

Our program is delivered primarily through bilateral country research partnerships (linked to regional impact pathways) and regional collaborations coordinated with sub-regional organisations. We also have a strong element of engagement through CGIAR. The portfolio of projects covers a diverse range of priorities, guided by the recommendations of the regional research coordination bodies that we collaborate with.

We also have a substantial collaboration with Canada's International Development Research Centre through 2 programs: Cultivate Africa's Future Fund (CultiAF) that is focused on Africa, and the Food Loss Research Program that has a global reach with 2 of its projects being implemented in Africa. The CultiAF2 program ends in 2023 and the 2 agencies are discussing options for the future. The program supported 9 projects across 7 countries, and was a highly regarded and unique program within Africa.



More information about our projects is available on the ACIAR website. Search for the project title or project code.

www.aciar.gov.au

Regional Manager, Eastern and Southern Africa

Dr Leah Ndungu

Research Program Managers

Agribusiness: Mr David Shearer

Climate Change: Dr Veronica Doerr

Crops: Dr Eric Huttner

Forestry: Dr Nora Devoe

Horticulture: Ms Irene Kernot




Livestock Systems: Dr Anna Okello

Water: Dr Neil Lazarow

Contact details for ACIAR staff are on page 107.



Current and proposed projects in the Eastern and Southern Africa region, 2023–24

Program	Project title & code	Country
	Agribusiness	
	Mradi wa kuimarisha kilimo-biashara kwale AGB/2021/123	Kenya
	Managing food value chains for improved nutrition for urban vulnerable populations in Lusaka City (Zambia) (AfricitiesFood) CS/2020/210	Zambia
	Managing food value chains for improved nutrition for urban vulnerable populations in Mzuzu city (Malawi) (AfricitiesFood) CS/2021/115	Malawi
	Climate Change	
	Regreening for the future: integrating climate change adaption pathways into community-led greening in eastern Africa CLIM/2022/140	Kenya
	Crops	
	Faba bean in Ethiopia: mitigating disease constraints to improve productivity and sustainability CIM/2017/030	Ethiopia
	Rapid breeding for reduced cooking time and enhanced nutritional quality in common bean (<i>Phaseolus vulgaris</i>) CROP/2018/132	Burundi, Ethiopia, Kenya, Rwanda, Tanzania, Uganda
	International Mungbean Improvement Network 2 CROP/2019/144	Bangladesh, India, Indonesia, Kenya
	Protecting Ethiopian lentil crops CROP/2020/164	Ethiopia
	Accelerating genetic gain in wheat through hybrid breeding in Bangladesh, Ethiopia and Pakistan CROP/2020/167	Bangladesh, Ethiopia, Pakistan
	Village-based biological control of fall armyworm in Zambia CROP/2022/112	Zambia
Adoption of conservation agriculture practices in selected sites in Uganda: drivers, constraints and obstacles CROP/2022/186	Uganda	
	Forestry	
	Growing the future: better restoration in Uganda FST/2021/147	Uganda
	Fruit trees for climate adaption and mitigation in eastern Africa FST/2021/163	Kenya
	Management of pests and diseases of forest crops in Ethiopia FST/2022/122	Ethiopia
	Horticulture	
	Developing a biosecurity system for small banana growers resilient to <i>Fusarium</i> wilt TR4 in southern and eastern Africa HORT/2020/128	Mozambique, South Africa, Tanzania
	Livestock Systems	
	Strengthening adaptive capacity of extensive livestock systems for food and nutrition security and low-emissions development in eastern and southern Africa LS/2020/152	Ethiopia, Kenya, Zimbabwe
	Upscaling the benefits of insect-based animal feed technologies for sustainable agricultural intensification in Africa (ProteinAfrica) LS/2020/154	Kenya, Rwanda, Uganda
	Operationalising a global animal health governance network for policy impact LS/2022/143	Bangladesh, Kenya, Philippines, Vietnam
	Water	
	Circular food systems in Africa WAC/2023/111	Mozambique, Tanzania, Zimbabwe
	Information for agriculture, food and water security – Digital Earth Africa WAC/2021/164	Botswana, Ethiopia, Kenya, Rwanda, South Africa, Uganda

8



Capacity building

Science and innovation are critical to advancing agriculture and livelihoods in the Indo-Pacific region. However, of equal importance to our partner countries is the development of individual and organisational science and policy capability to implement research outcomes.

Developing capability in partner countries is a key priority for ACIAR to maximise the adoption of new knowledge and technologies to contribute to our strategic objectives. The ACIAR Capacity Building Program identifies and establishes opportunities for individuals and organisations in partner countries to boost technical, policy and management skills in agricultural research for development. To achieve this, we facilitate programs in scientific research, leadership and management, policy influencing and mentorship with our partners in the Indo-Pacific region.

Building on the key recommendations of the mid-term review of the ACIAR 10-Year Strategy 2018–2027, in 2023–24 we will continue to work towards a stronger integration of our Capacity Building Program with the Research Program. We will work to embed more capacity-building initiatives at the planning stage of selected research projects and facilitate connections between the extensive alumni network and current research projects and opportunities.

John Dillon Fellowship

ACIAR has delivered the John Dillon Fellowship since 2002. The program develops the leadership and management skills of mid-career professionals, particularly scientists, researchers and economists working in agriculture research for development in ACIAR partner countries. To date, there are more than 180 alumni of the program across our partner countries.

In 2023–24, we will be completing the John Dillon Fellowship program for cohorts from Vietnam and beginning new cohorts in Indonesia, the Pacific Region and eastern Africa in partnership with our provider, the University of New England. We will also continue to deliver the program in individual country cohorts of up to 15 participants with a strong focus on cross-organisational collaboration and organisational capability. This approach further bolsters Australia's approach to science diplomacy, especially as the program approach features opportunities to strengthen ties with Australian partners.

Meryl Williams Fellowship


ACIAR launched the Meryl Williams Fellowship Program in 2019. This initiative supports women agricultural researchers to develop their skills and knowledge to take on greater leadership positions in their employing institutions. The fellowship contributes to more secure food systems and our strategic objective of gender equality and women's empowerment by providing women in agricultural science with greater access to leadership resources, building collaborative networks, supporting career advancement and driving institutional progress towards gender equity. The fellowship is delivered by the University of New England.

The second cohort of fellows will conclude the program with a final reflective workshop in Malaysia in November 2023. The workshop will also be an opportunity to bring together both cohorts of the fellowship and support all fellows to develop their capabilities as mentors to guide the next generation of fellows in their own country contexts. ACIAR will conduct a tender process in 2023–24 to engage specialists to review and expand the Meryl Williams Fellowship program this year.

John Allwright Fellowship

Based on feedback from the 2022–23 intake of the John Allwright Fellowship, in 2024 the number of eligible countries for the fellowship will be increased and applicants will be encouraged to align their research proposals with the research-for-development objectives of their home countries. Applications for study in 2024 will be assessed and offers to new fellows made during the year. In 2023–24, there are 35 fellows undertaking their studies across 17 Australian universities.

In 2023–24, the John Allwright Support Facility will provide general support, additional pastoral care and opportunities for John Allwright Fellowship scholars to expand their professional networks by connecting with fellows and attending conferences and events. The facility includes regular check-ins with fellows during their higher degree research program. This includes both academic and welfare support, noting the significant ongoing challenges associated with research following a global pandemic and continued geo-political challenges in the Indo-Pacific. The facility acts as a second layer of support and hands-on assistance to ensure the fellows are best placed to achieve their qualifications.



The John Allwright Fellowship Executive Leadership program continues to be a key mechanism to enhance leadership skills development for fellows in Australia. The program equips the fellows with leadership and management skills designed to support their return to the workplace and bridge the gap between study and further career development. In 2023–24, the fourth cohort of participants will complete their program and preparations will begin to support the fifth cohort to undertake their learning journey.

Pacific scholarships

Our longstanding agricultural research scholarship program with the University of South Pacific was redesigned, expanded and renamed PASS-CR (Pacific Agricultural Scholarship Support and Climate Resilience program). In 2021 the program expanded to include scholarships at Fiji National University and a return to offering PhD scholarships. During 2023–24, 34 Pacific scholars will be studying under this program at either university, with this number set to expand as we finalise the 2024 intake. Scholars are aligned to an ACIAR research project in agriculture, forestry and fisheries and have an Australian co-supervisor. Through PASS-CR, ACIAR aims to support new generations of Pacific agricultural researchers who are equipped to tackle and address the challenges facing Pacific agriculture now and into the future.

The redesigned PASS-CR academic support program is being delivered primarily through the University of the Sunshine Coast's Australian Centre for Pacific Island Research, in conjunction with Southern Queensland University, Central Queensland University and the Science Research Organisation of Samoa.

The PASS-CR academic support program extends beyond awarding scholarships and engages with the Schools of Agriculture and Offices of Research at University of South Pacific and Fiji National University, providing workshops, research training and networking to scholars and their supervisors.

In 2023, an external review was undertaken of the program that highlighted strengths and areas for improvements. Activities for 2023–24 will include collaboration with partners to address the recommendations of the review, while maintaining opportunities for scholars to continue higher degree research in agriculture in the Pacific.

Alumni program

In response to the COVID-19 pandemic, the Alumni Research Support Facility (ARSF) was opened for applications. This activity provided up to \$20,000 for small research activities that strengthened resilience and responded to emerging challenges that COVID-19 placed on agricultural systems in our partner countries. The program will conclude in December 2024. Across the 3 phases of the program, the facility supported 103 small research projects led by ACIAR alumni across the Indo-Pacific. In 2023–24, participants from the last round of the program will complete their final research projects. We will be working closely with this cohort of researchers to support them to undertake outreach activities to ensure their research has maximum impact. Following the successful outcomes of the ARSF, work will progress this year to review and redevelop a small funding facility for ACIAR alumni to continue their research and extension targeted at improving livelihoods in the Indo-Pacific. Additionally, the 'launch fund' that supports researchers to develop their professional networks and highlight their research at conferences and events is being redeveloped.

During 2023–24, we will continue to deliver our Global Alumni Strategy, which aims to engage with ACIAR alumni to strengthen skills, knowledge and networks of agricultural researchers and scientists to contribute to positive development outcomes in the agricultural research-for-development sector. Under the Global Alumni Strategy, ACIAR Country and Regional Offices implement their alumni engagement plans. These plans identify the priorities and interests of each country's alumni and describe a program of activities to be implemented at the country and regional level, including training workshops (both online and in-person), networking events and new opportunities for alumni to respond to these priorities. This year we will refine the strategy based on lessons learned from implementation and more closely align this work with the ACIAR Research and Outreach programs.

ACIAR continues to host a virtual forum for our alumni, Alumni360, to further engage with ACIAR work and expand their professional networks. The platform shares information about events, research collaborations and discussion forums. Alumni360 also includes information on the Capacity Building Program, including calls for applications to our fellowships, funding opportunities, publications and other resources. There are currently around 600 active members on the platform, and we expect this will continue to grow in 2023–24.

ACIAR Learn

In 2021, ACIAR partnered with the University of Queensland and Catalpa International to pilot a new mobile-learning platform, ACIAR Learn, in response to the COVID-19 pandemic. The platform provides bespoke online learning for agricultural researchers demonstrating good practices of Australian agricultural science knowledge. Since 2022 over 250 agricultural researchers have participated in 24 courses with completion rates over 65% and we have received overwhelmingly positive feedback on the relevancy and quality of the learning content.

In 2023–24, we will continue to strengthen the platform based on feedback from participants. We will work more closely with the ACIAR Research Program and alumni to develop key learning pathways and engaging content for our partner researchers and alumni. The platform aims to provide knowledge for participants to implement in ACIAR research projects and strengthen their professional capabilities to undertake, manage and lead research for development projects.

Organisational capacity building

ACIAR has long-term trusted relationships with overseas agricultural research organisations. The ongoing nature of our research partnerships are essential to understanding the enablers, constraints and impacts that capacity building has on strengthening institutions. In 2023–24 we will work on refining our approach and tools to undertake capability assessments in collaboration with partners to identify pathways to strengthen organisational capability to undertake effective agricultural research and implement ACIAR research projects. Other capacity-building activities that ACIAR supports include activities delivered by the Crawford Fund, such as the Master Class and Training Program, a new program of e-mentoring linking agricultural researchers from developing countries with mentors in Australia, and the Next-Gen suite of activities designed to build interest in careers in international agricultural research.

Director, Capacity Building

Ms Kate Turner-Mann

See page 107 for contact details.

Table 8.1 Participation in ACIAR capacity-building programs

Programs	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
John Allwright Fellowship						
No. active in year	85	75	70	37	37	35
No. awarded in year	12	10	10	No round	10	12 (est)
John Dillon Fellowship						
No. active in year	28	28	20	15	36	45
Meryl Williams Fellowship						
No. active in year	–	20	40	40	23	23
Pacific Scholarships						
No. active in year	10	10	23	23	29	34
No. awarded in year	6	3	14	11	11	To be awarded
Alumni engagement						
No. participants	75	90	140	180	120	150
Launch fund						
No. events supported	11	15	11	8	4	4

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Increasing influence and impact

Reflecting the ACIAR 10-Year Strategy 2018–2027 and its 6 strategic objectives, the Outreach Program is designed to communicate the work of ACIAR to audiences in Australia and overseas.

The objectives of the ACIAR Outreach Program are to:

- » communicate the value and impact of our work, and increase our reputation as a trusted and valued partner
- » build closer, more-effective working relationships with our partners and other stakeholders
- » support the communication needs of our Country Offices, with an emphasis on detailing research results and outcomes achieved at a regional and country level.

In 2023–24, comprehensive and coordinated strategies and plans, and programs and projects will be developed and/or implemented to achieve these objectives. This work will include:

- » managing and implementing an integrated content strategy, including segmenting our messaging to key target audiences
- » working with partner and commissioned organisations to collaborate in outreach efforts on projects and programs
- » identifying opportunities to further engage with stakeholders, including leveraging the profile and networks of the members of the Commission for International Agricultural Research
- » leveraging sponsorship and opportunities through events to create awareness among stakeholders and cultivate relationships with partner and commissioned organisations
- » continuing to improve the user experience of our website, including additional developments to present the geographic spread of our projects more dynamically
- » working to further develop an online catalogue of scientific publications
- » supporting and building our In-Country Communication Officer Network to increase our reach and continue to communicate actively and effectively in-country and in our regions
- » implementing a formal monitoring, evaluation and learning framework, developed to evaluate the outcomes and impact of the Outreach Program.

Stakeholder engagement

Work will continue on implementing domestic and international stakeholder engagement strategies to ensure we take a strategic approach to improving awareness and detailed understanding of ACIAR among specific stakeholder groups.

In 2023–24, the stakeholder engagement strategy will continue to:

- » increase engagement with Australian stakeholders, including their awareness and understanding of the ACIAR value proposition with information specifically targeted to a domestic audience
- » leverage opportunities to demonstrate the impact of ACIAR-supported projects to business and government leaders
- » collaborate with partner and commissioned organisations to ensure combined outreach approaches
- » strengthen relationships with international stakeholder organisations to establish productive partnerships, collaborations and co-delivered initiatives
- » identify opportunities to leverage the profile and networks of members of the Commission for International Agricultural Research to raise awareness of and advocate for ACIAR
- » continue to position ACIAR to deliver on our 10-year strategy.

We will continue to participate in key sector events both in person and online to share the results of ACIAR-supported research with a highly targeted audience.

Gender equity and social inclusion campaign

In 2023–24, ACIAR will release a new gender equity and social inclusion strategy and action plan. The Outreach Program will support the release of the strategy and action plan as well as implement an internal and external communications strategy to build awareness and understanding of the key features of the strategy. A key activity will be participating in the CGIAR GENDER conference 'From research to impact: Towards just and resilient agri-food systems' in India in October 2023.

Website

The ACIAR website continues to evolve, with improvements made to enhance user experience and increase visibility with our audiences.

During 2023–24 there will be further development to improve the sharing of project information, including changes to the project pages and interactive map, making them more dynamic and functional to meet user needs.

A website accessibility audit will be conducted in 2023–24, with strategy development to follow. This will help ensure that the ACIAR website meets accessibility standards.

Social media

With an audience of over 96,000 in 2023, the ACIAR social media channels reinforce the awareness of the impact of ACIAR-supported research to an engaged and relevant audience.

In 2023–24, the focus will be on enhancing posts to increase engagement, including visual content and messaging improvements.

Publications

Publications, including annual corporate reports, are an essential part of our outreach and communication work. Publications contribute to ensuring audiences in Australia and our partner countries can access and use our research findings.

The Scientific Publications Committee continues to ensure the quality and relevance of ACIAR scientific publications, so that our scientific and research partners are better served with improved review processes and more timely production of research publications.

During 2023–24, we will continue to work with the Business Systems Unit to further develop an online catalogue of ACIAR scientific publications. We will also continuously improve our publications production and distribution program, strengthening internal production support systems and processes to manage the timely production, distribution and promotion of ACIAR publications.



Corporate publications will be published according to statutory and legislative requirements, and will be available both online and, in limited numbers, as hard copy. The Annual Operational Plan and the Annual Review are published each year, offering snapshots of our plans, activities and impact.

The production of our flagship publication, the *Partners in Research for Development* magazine, continues on a quarterly basis, with ongoing review of content, audiences and delivery modes.

In-country communication

In 2023–24 we will continue to build our network of communication professionals in our Country Offices. Currently, there are communication officer positions in 5 Country Offices: Fiji, Papua New Guinea, Vietnam, the Philippines and Cambodia. There are plans to recruit 3 more officers during 2023–24.

Communication and stakeholder engagement plans and activities will continue to be devised and delivered on a country or regional basis to provide ACIAR Country Offices with communication expertise, ensuring more proactive content is being produced and increasing engagement with our partners and stakeholders.

Media partnerships

We will continue to partner with media organisations, both domestically and internationally, to raise the profile of the impact of our funded work to a wider audience. In 2023–24, we will engage with journalists who have expressed keen interest in ACIAR-funded projects and their impact to identify opportunities for site visits or local media/journalism training. We will also explore renewing our media partnership with the Australian Broadcasting Corporation (ABC) to further extend the reach and work together to generate relevant and engaging content.

We will work closely with the Crawford Fund to generate positive media coverage, especially in regional and agriculture-based media in Australia.

Other activities

ACIAR supports outreach activities delivered by the Crawford Fund. This includes the NextGen project, which aims to raise awareness about careers in international agricultural research. The Crawford Fund also oversees the administration of Researchers in Agriculture for International Development, whose membership contributes to and features in the NextGen campaign.

Monitoring, evaluation and learning framework

In 2023–24, the Outreach Program will start using a newly developed monitoring, evaluation and learning framework. The framework aims to provide a structured approach to the collection, analysis and use of data about the progress, performance and results of activities within the Outreach Program. It clarifies the processes and resources applied to this work, and underpins well-informed and evidence-based program planning and management. The framework will provide the information needed by the Outreach Program to make sound day-to-day and strategic management decisions, based on timely and reliable information. It also supports strong accountability to ACIAR senior management about the use of Outreach Program resources, supports achievement of positive outcomes and enables deeper learning from program activities.

Director, Outreach

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See page 107 for contact details.

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