



Australian Government
Australian Centre for
International Agricultural Research

ISSUE 4 2021
aci-ar.gov.au

CAPACITY BUILDING
EDITION

partners

IN RESEARCH FOR DEVELOPMENT

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building

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shared

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About Partners

Partners in Research for Development is the quarterly publication of the Australian Centre for International Agricultural Research (ACIAR). *Partners* presents articles that summarise results from ACIAR-brokered research projects and puts ACIAR research initiatives into perspective.

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This publication has been funded by the Australian Government through ACIAR. The views expressed in this publication are the author's alone and are not necessarily the views of the Australian Government.

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ISSN 1839-616X (Online)
1031-1009 (Print)

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Front cover: Indonesian researchers from the IndoDairy project visit an Australian dairy (page 10). Photo: Patrick Cape, ACIAR.

Back cover: Bees and honeycomb.



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From the CEO

Dr Daniel Walker



Building research capacity in our partner countries has always been a core activity for ACIAR. Indeed, it is one of the specific functions of ACIAR laid out in the ACIAR Act 1982.

As we approach the 40th anniversary of ACIAR in 2022, it is timely to reflect on the role, delivery, impact and future capacity building – the theme of this edition of *Partners*.

The state of the agricultural research innovation systems of many of our partner countries is very different to what it was in 1982. Many now have increasingly well developed and strongly performing agricultural research capability and ACIAR is proud to have contributed to that.

The alumni of ACIAR fellowship and scholarship programs are testament to this. Many have forged successful scientific careers, become ACIAR research partners, and contributed to agricultural research for development in their home countries and beyond. In this edition we explore the success of our alumni and the fellowship and scholarship programs that have supported them. These programs have formed the basis of our capacity building program. How they are delivered has changed significantly and will keep changing as needs and opportunities change.

In the past 2 years, the occurrence of the COVID-19 pandemic has resulted in distinctive new challenges and opportunities in how we deliver capacity building programs. We've relied more than ever on our in-country partners to deliver training and mentoring, alongside online learning, an important transition that is likely to have a lasting impact.

Adapting our capacity building effort so that it continues to respond to emerging needs and new opportunities in our partner countries is always front of mind for ACIAR. We need to support capacity building at the individual level, but also at the organisational level and at the agricultural innovation system level.

In this edition we look at farmer capacity building efforts, the concept of institutional capacity building and explore 'South-South' capacity building where our partner countries share knowledge and expertise among themselves.

I'd like to take this opportunity to let you know that early next year we will participate in a mid-term review of the 'ACIAR 10-Year Strategy 2018–2027'. The review will be conducted by an external panel. This review will explore the progress we have made against our strategic objectives, including around strengthening our capacity building activities. It will help to assess whether how we are approaching our objectives is effective and whether our objectives are still the right ones. The review will help ensure we are on track and identify opportunities for improvement. We will be calling on our partners to make submissions to help with the process and will welcome your contributions.

In our final edition for 2021, may I take this opportunity to thank our entire network for all your support in what has been another unique year. It has only been through your commitment and dedication that work on ACIAR projects has been maintained. Despite the challenges, progress has been made to support more productive and sustainable agricultural systems with our partners. Thank you. 🌱

A handwritten signature in black ink, appearing to read 'Daniel Walker'.

Dr Daniel Walker
Chief Executive Officer (Acting), ACIAR



Sweet success in farm tourism and beekeeping

Key points

- 1** An ACIAR-supported project is mentoring and training farmers, and building capacity for farmer organisations, to develop agribusinesses in the Pacific region.
- 2** Development of business skills in agritourism and beekeeping is supporting farm business sustainability and profitability.
- 3** Connecting new and expanding businesses to mentors and advisers is building knowledge and facilitating industry development.

Fijian tilapia farmer Ms Katarina Baleisua has ventured into beekeeping to diversify her farm income, with the support of mentoring and business skills training through an ACIAR supported-project. Photo: Lorima Vueti.



Agritourism and beekeeping have weathered the COVID-19 pandemic in the Pacific region to emerge as key strengths of the second phase of the Pacific Agribusiness Research in Development Initiative, PARDI 2.

The successor to PARDI 1, which aimed to develop tools, training and capacity to grow agribusiness in the Pacific region, PARDI 2 has identified the agritourism, beekeeping and tilapia fish industries as having the potential for positive impact on community livelihoods.

'We're starting to see tangible industry outcomes from PARDI's long-term investment in mentoring, capacity building in farmer organisations and training support to develop agribusinesses, and this is beginning to influence local policy and strategies,' says Project Manager Dr Inez Mahony from the Australian Centre for Pacific Island Research at the University of the Sunshine Coast.

'The COVID-19 pandemic has delayed progress in some sectors but overall it has forced creativity and diversification, which has always been one of our goals to ensure sustainability.'

Agritourism revives local pride

Agritourism is one of the industries the PARDI 2 project is focusing on, by working in partnership with businesses and applying a mentoring approach to develop their capacity to conduct research and apply the results to improve and sustain livelihoods.

The production of food and fibre as well as opening farms up to holiday makers is proving to be a sustainable management strategy to offset the loss of international tourists due to the pandemic, says PARDI 2 Agritourism Program Manager Ms Marita Manley.

'In Fiji, agritourism has opened up spaces for smaller, locally led businesses – Bulaccino Farm in Fiji is an example of how degraded land can be restored; Namosi Eco Retreat engages guests in planting and harvesting activities as part of their regular activities; and Paradise Taveuni, a dive resort, found that during the COVID-19 pandemic its hobby farming expanded into a fully fledged part of the business operations and is of interest to guests,' says Ms Manley.

'Waitika and Cegu Valley Farm provide beekeeping mentoring and educational experiences to other beekeepers and guests interested in learning more about honey, and Bula Coffee has a network of hundreds of suppliers and has set up a coffee experience to show visitors how the bean reaches the cup.'

Locals return to the land

Listed by the World Bank as the seventh-most-tourism-dependent country, Vanuatu was bracing for significant social and economic impact from border restrictions and the loss of international tourists as a result of the COVID-19 pandemic.

But PARDI 2 Agritourism advisor for Vanuatu, Dr Cherise Addinsall, says while many businesses have experienced financial hardship, locals have displayed typical resilience in adapting and diversifying.

'This resilience comes from the ability to implement "Plan B", which many Ni Vanuatu describe as a return to the ground and social support systems,' Dr Addinsall explains.

'During the pandemic, many people returned to the land as part of a coping strategy and the country is now building a thriving agritourism sector while at the same time raising the profile of Vanuatu's cuisine and cultural food and farming heritage, which is empowering Ni Vanuatu.'

Growing agritourism as a sector of the economy requires political will and the support of national marketing agencies, and PARDI 2's work has already assisted in attracting more donor support for agritourism development.

The piloting of the Produktif Turism Blong Yumi Initiative and the Agritourism Product Development and Business Support Program as part of the Vanuatu Sustainable Tourism Strategy (2021-2025) has attracted increased government and donor support for agritourism through the European Development Fund and the New Zealand Ministry of Foreign Affairs as well as organisations such as the Pacific Community, the South Pacific Tourism Organisation and Pacific Island Food Revolution.

'In both Fiji and Vanuatu we are working with the ministries responsible for tourism and national marketing agencies, as well as supporting industry associations, to deliver changes at the policy level that can support the private sector to grow,' says Ms Manley.

'It's critical that new and expanding businesses are connected to mentors and advisers who understand and can share their knowledge of regulatory, marketing and industry practices.'



Vanuatu's National Agritourism Coordinator, Ms Votasi Mackenzie-Reur, says 30 agritourism ambassadors are working to strengthen their businesses so that these farms become their primary source of income.

'Their educational and immersive agritourism experience then becomes an added strategy to drive sales of their products and provide an authentic experience to better connect people to Vanuatu's cultural food heritage,' says Ms Mackenzie-Reur.

'By increasing the pride in our food and how it's produced we can provide better health outcomes for our people, support livelihoods in our rural areas and raise the profile of Vanuatu's cuisine internationally to make it an attraction in its own right.'

Value-added bee products

One of the core commodities identified in a PARDI agribusiness masterclass as having potential for the Pacific region was honey production, and the project has rapidly advanced the skills of beekeepers in marketing, branding and labelling of local product.

Dr Cooper Schouten from Southern Cross University's Bees for Sustainable Livelihoods program says research findings on consumer preferences for honey were provided to industry stakeholders and resulted in improved packaging and marketing.

Dr Schouten leads a 4-year ACIAR-supported beekeeping project in Fiji and Papua New Guinea as well as the implementation of PARDI 2's agribusiness focus in the industry.

He says beekeeping offers a prime opportunity for people of the Indo-Pacific region – it's profitable and productive in a range of climates, is environmentally friendly and has the capacity for climate change adaptation, and honey doesn't readily perish so farmers can sell it in times of need.

A key benefit of focusing on the agribusiness element of honey production has been the development and marketing of value-added products and the opportunities for research capacity building for more productive and sustainable beekeeping systems that benefit Fiji, PNG and Australia.

'We've had a lot of success with community-based mentorship programs and initiatives to generate new income opportunities in the beekeeping value chain, especially from beeswax, which was previously discarded in the apiary and exacerbated pest and disease issues,' Dr Schouten explains.

'More than 80% of participants are now turning beeswax into candles, soaps, body balm, lip balm

and other items and some are already selling their products for cash.

'They're also calculating the time and money spent on these products to ensure they're not just fun to make but that they're profitable and provide income diversification within their bee businesses.'

The PARDI 2 honey team has brought together industry stakeholders with researchers and beekeepers to identify solutions to local problems, prioritise areas for development, and improve incomes and participation along the value chain.

'We're working with beekeeping trainers and extension officers to improve the effectiveness of beekeeping training and create opportunities

for more inclusive honey value chains,' Dr Schouten says.


Honey production has been identified as having potential for the Pacific region. The ACIAR project has rapidly advanced the skills of beekeepers in marketing, branding and labelling of local product.

'We're trying to not just do more beekeeping but to understand how we can do it better.'

President of the Fiji Beekeepers Association, Mr Nilesh Kumar, says PARDI 2 has provided the local industry with the ability to work together in the same way as bees in a hive.

'The training has shown us that we can have the same number of

beehives but expand our incomes by making more value-added products and creating more demand,' says Mr Kumar.

'Coming together to exchange ideas and share knowledge gives us the confidence to do a lot and we learn from the bees – it's not one bee that produces the honey, they work together.' 

ACIAR PROJECT: Pacific Agribusiness Research in Development Initiative Phase 2 (PARDI 2), AGB/2014/057.



Forestry capacity building: a personal perspective

Dr Nora Devoe, ACIAR Research Program Manager, Forestry

Re-entering Australia from a trip to Nepal, I was surprised when a young officer examining my quarantine declaration looked at the “occupation” space and asked, ‘What’s a forester?’. ‘In the lower order of the angels,’ I quipped. ‘On a mission from God.’ Seeing her puzzlement, I added, ‘We look after forests.’

What does it mean to look after a forest? Southern Hemisphere foresters are generally either natural forest managers or plantation managers. Globally, foresters often straddle both, and while the 2 endeavours are very different, the principles are the same.

Start anywhere in the cycle: establish, tend, harvest. Protect from disease, fire or other damaging agents at all times. Understand and fulfil the owners’ objectives.

In the seminal forestry textbook *The Practice of Silviculture* (1962), Smith states, ‘The forester works for the good of the forest as an entity, not for the sake of the forest itself, but to ensure that it remains a permanently productive source of goods and benefits to the owner and to society.’

Key points

- 1 Across Australia and Pacific island countries there are very few professional field foresters per area of forested land.
- 2 Tertiary education and mentoring of junior foresters support knowledge transfer and basic skills development to ensure forests are managed to maximise their benefits for communities.
- 3 ACIAR is supporting both voluntary and project-based efforts to support the professional development of budding foresters across the region.

Balancing competing demands

Wood is only one of very many goods obtainable from forests, and soil and water conservation only 2 among very many benefits. Owners typically have a main objective and many secondary objectives.

During the first part of my career, I helped national forestry departments generate foreign exchange through sawlog sales. From this, I learned about the competing demands upon forests.

For people directly dependent on forests – for house-building materials, foods, fuel, medicines and all the many other requirements of daily life – sawlog production was too often disastrous.

I became a specialist in a type of forest management that aims to enable having one’s cake (a forest) and eating it too (sawlogs and other products). We are imperfect stewards, but foresters attempt to serve society through the maintenance and management of forests.

How foresters are made

A good forester has knowledge, skills and a service ethic.

Tertiary education is essential. Forestry is an applied science resting on more fundamental natural and social sciences. The more general courses include topics like ecology, soil science and economics. Specialist subjects like fire protection, harvesting and mensuration (measuring) are also required. Rural sociology is a useful elective course.

In Australia, specialist forestry courses have become less and less available. Only one undergraduate forestry degree remains on offer, at Southern Cross University. Recently this been reduced from a





specialist 4-year degree to a 3-year program with a higher proportion of more general sciences.

The loss of specialist training has consequences.

Consider this example. As the ACIAR Forestry Research Program Manager, I was asked to assist a Pacific national forestry department with a basic forest inventory. I interviewed 2 very articulate, thoughtful Master's graduates with a view to sending them overseas for the task. Neither had the faintest idea how to conduct a forest inventory and had never held the most basic forester's tool, a diameter tape.

Regional training needs

In terms of training our partners in the Pacific region and elsewhere, Australia has strong post-graduate forestry offerings. However, a more critical need is for fundamental skills taught at the undergraduate level.

Oceania – including Australia, New Zealand and Pacific island countries – has a high number of PhDs relative to Bachelor's degree graduates and a very low number of foresters per forested hectare. Moreover, a generational and demographic divide between students and professionals, and growing demands on professionals' time, has reduced early-career on-the-job training and mentoring.

As increasing pressure is placed on foresters to provide essential wildfire mitigation, carbon sequestration and water yield regulation, in addition

to traditional wood products, the demand for boots-on-ground professionals is at an all-time high.

Opportunity to grow

We can grow the capacity we need in Australia and in our region first by ensuring that professional specialist education remains available at undergraduate as well as post-graduate levels

Personalised mentorship is the second requirement. Young foresters learn the values and norms of the profession from senior foresters. Interpersonal relationships can open doors to career and professional development. This is especially important in island nations with few foresters and limited networking.

The bigger economies, like Indonesia and Vietnam, are very advanced in their forestry practice. Through John Allwright Fellowships (JAFs) for post-graduate study in Australia, ACIAR develops research capacity and forestry leadership. JAFs have benefitted many countries large and small. But the Pacific region

“A good forester has knowledge, skills and a service ethic. Tertiary education is essential.”

Dr Nora Devoe

in particular needs all-arounder, broadly competent foresters disposed to serve the needs of their people.

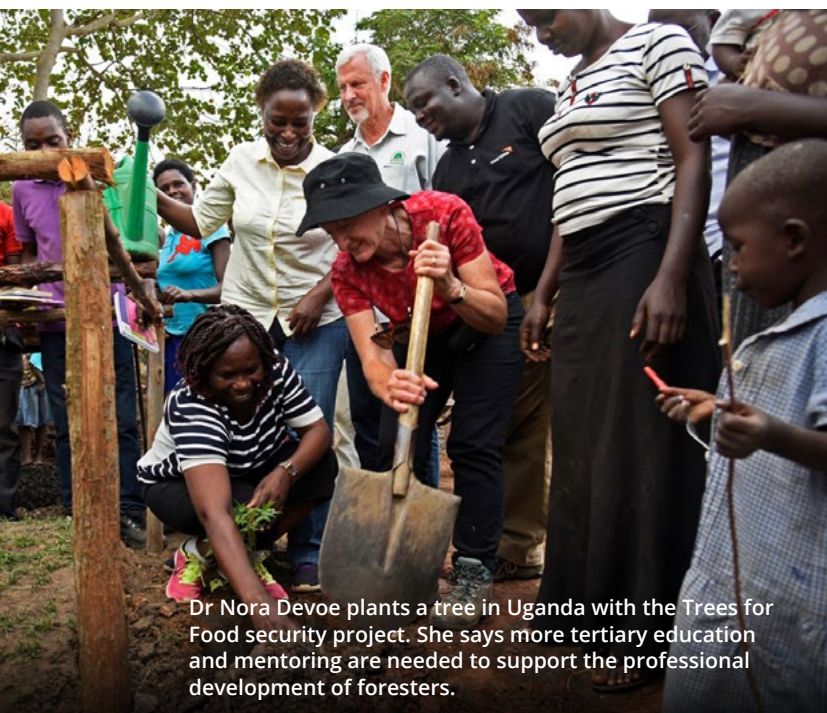
Forestry Australia's (formerly the Institute of Foresters of Australia) Foresters without Borders is the sort of volunteer

effort that can place highly experienced professional foresters into national forestry departments to mentor and develop staff. Professional associations like the International Society of Tropical Foresters (ISTF) also help connect developing and developed country professionals.

I am now organising an Australian ISTF chapter in the hope that this chapter will foster a chapter for Pacific islands countries.

ACIAR forestry projects are increasingly emphasising research leadership from in-country partners and formal educational opportunities for project staff. Cross-cultural, 2-way mentoring is now a feature of all projects.

The ACIAR forestry portfolio includes new projects on forest restoration – a priority for partner countries across our footprint. Foresters are keen to address issues affecting the future resources of their countries and ACIAR is keen to support their abilities to do so. 🌱



Dr Nora Devoe plants a tree in Uganda with the Trees for Food security project. She says more tertiary education and mentoring are needed to support the professional development of foresters.

Think you're doing 'institutional' capacity building? Think again

Ask most people what they think of when they think of institutional capacity building and it often boils down to training individuals. More people, with more knowledge or skills, equals better organisations.

But the evidence to support this does not exist, says Graham Teskey, Principal Global Lead of Governance at Abt Associates. While individual capacity building is a valuable endeavour – and in most cases, necessary – it is not the same thing as 'institutional' capacity building.

As the author of a report to ACIAR outlining a series of recommendations to improve the approach to institutional strengthening, Mr Teskey explains the widely misunderstood concept.

Defining an institution

'The words "organisation" and "institution" are used synonymously in everyday use,' Mr Teskey says. 'But they are very, very different.'

'An organisation has a budget, it has staff, it has a building, it has chairs and tables.'

'Whereas institutions are the formal and informal drivers that influence, and possibly determine, what



An ACIAR-supported project that has successfully improved 'institutional' capacity building is a project supporting community forestry in Nepal (FST/2011/076). Photo: Conor Ashleigh.

happens within that organisation and what people actually do.'

These drivers create the sense of the 'way things are done around here', he adds.

Examples of formal institutions include the organisation's constitution, policies, rules and regulations. Informal institutions include the social norms and values embodied in how people behave, such as whether a handshake upon greeting is appropriate, or if leaving the lab or office for a lunch break is considered acceptable behaviour.

Mr Teskey explains it is insufficient to measure the capacity of an organisation purely by counting the number of people it has trained. What if those people are not managed sufficiently well to apply their knowledge and skills? What happens if there are no incentives to apply them – for example if promotion is based on patronage and 'who you know' – so why bother? Or what if they do apply that knowledge but it does not result in improved outcomes for the organisation, or for smallholder farmers?

Key points

- 1 ACIAR has established effective individual capacity building activities based on skills and competencies and is exploring its role in improving institutional capacity building.
- 2 Institutional capacity building relates to the formal and informal drivers that affect how people behave, such as organisational rules or internal cultures.
- 3 A shared understanding and approach to institutional capacity building will help ACIAR define and deliver the outcomes it seeks.



This is key to the work ACIAR does, because these institutional and organisational limitations can significantly and negatively affect the application of research results. A trained expert may be thwarted if they are not given time or supported by others to apply their skills. Or government policies or regulations may inadvertently prevent an organisation extending the benefits of research to smallholder farmers.

Previously ACIAR didn't differentiate between training individuals and improving organisations. But, according to Mr Teskey, the work of the individual must be aligned with the incentives created by the organisation if it's to have an impact.

A positive example

Only one out of 5 projects scrutinised for the report included a focus on the institutional environment and improving organisational capacity.

'The way the community-based forestry project in Nepal defined the challenge demanded an institutional approach,' says Mr Teskey.

'The forest was not being managed for the benefit of the forest owners – the local people. Many stakeholders had an interest in the forest, including the private sector and government, each with competing demands.

'The project team pulled the stakeholders together to negotiate a way forward around the institutions and the incentives that were driving the use of the land. It required negotiation, mediation and compromise.'

Improving standards

One of the key recommendations of the report was for ACIAR to apply a coherent and consistent approach to organisational capacity building.

As a starting point, Mr Teskey says ACIAR must have a common understanding and use of language around institutional strengthening and organisational capacity building.

'This will ensure everyone is on the same page and talking about the same thing,' says Mr Teskey.

New guidelines, now published on the ACIAR website (aciarcapacitybuilding.gov.au/project-tools), define organisational capacity building and seek to establish a common understanding of the role of institutions.

ACIAR Manager of Capacity Building Mr Geoffrey O'Keefe says, 'The new guidelines help define how research projects can begin to address organisational capacity and leave a sustainable legacy of research improvement long after the project has ended.'

The space for ACIAR

Mr Teskey adds that there are 2 simple steps ACIAR project leaders and proponents can take right now to improve the chances of a project succeeding.

First: be absolutely clear regarding the precise nature of the organisational problem. Is it that research quality is poor? Is it that policymakers are not interested in research results? Or is it that policy is not put into practice?

Second: apply critical program logic in preparing, planning and implementing projects. This will help to ensure the activities completed as part of projects leads to planned outputs. And, in turn, those outputs lead to desired outcomes.

The critical ingredient here is for there to be a causal relationship between the outputs produced (for example, the number of farmers trained) and a desired outcome (for example, farmers applying that knowledge learnt to their farm management and benefitting from that application).

'If ACIAR wants more security in getting the results it seeks, partners need to design projects using rigorous and tested program logic,' says Mr Teskey.


Training individuals delivers benefits but may not necessarily lead to improved organisational performance.

The bigger challenge for ACIAR posed in the report is for ACIAR to define the role it sees for itself in organisational capacity building. Training individuals through its fellowships delivers key benefits but these may not necessarily

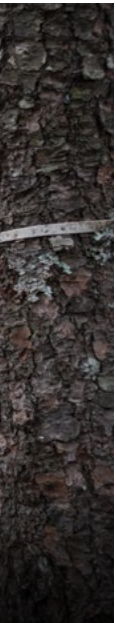
lead to improved organisational performance and functionality. For this, ACIAR needs to know what the problem is.

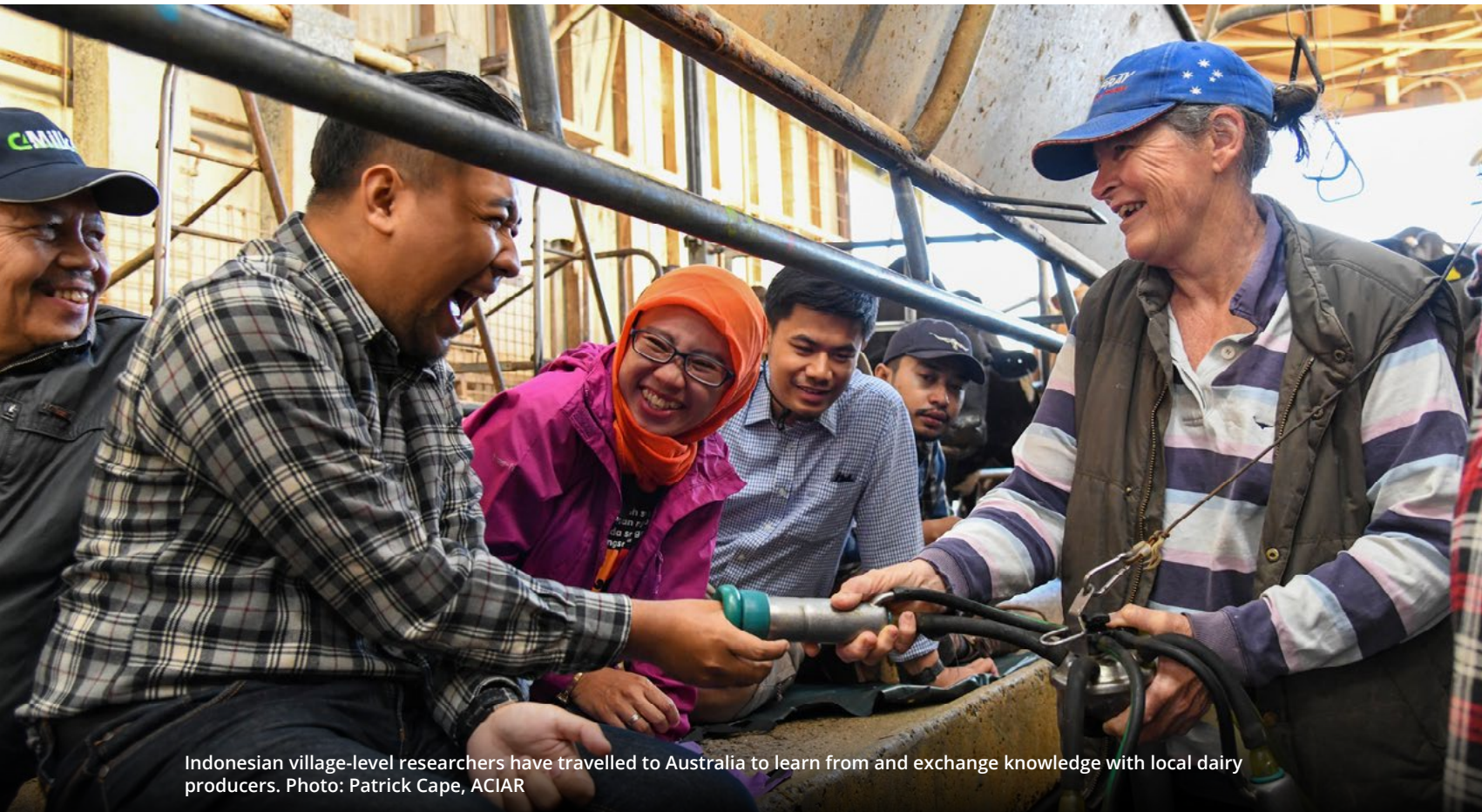
'The work on organisational capacity building has led to a significant shift in our thinking about building capabilities with our partners,' says Mr O'Keefe.

'We have put this research into practice in the new John Dillon Fellowship Program that specifically addresses organisational capacity through collective action.

'All future capacity building programs will be aware of the institutional environment in which they are operating and seek opportunities to deploy sustainable organisational approaches through strong partnerships.' 

MORE INFORMATION: ACIAR Capacity Building, aciarcapacitybuilding.gov.au/capacity-building





Indonesian village-level researchers have travelled to Australia to learn from and exchange knowledge with local dairy producers. Photo: Patrick Cape, ACIAR

Dairy extension work extends benefits to more farmers

A project to improve dairying knowledge and skills in Indonesia has delivered lasting practice change for thousands of farmers and improved business profits. But the local village-level researchers, trained to work with local farmers, now also have the confidence and education to lead farm extension work themselves.

Armed with teat-dip cups, bottles of iodine and knowledge about cattle health, 3 farmer groups representing about 44 different farms in the far-flung Garut district, West Java, Indonesia, instigated a movement that improved milk quality in their region.

These farmers were part of the ACIAR IndoDairy project – a 5-year program aiming to increase milk quality and quantity by 25% for at least 3,000 dairy farmers in West Java and North Sumatra.

Led by Professor Wendy Umberger from the Centre for Global Food and Resources (GFAR), University of

Adelaide and President of Australia's Policy Advisory Council for International Agricultural Research (PAC), the project included farmer discussion groups.

It was through these educational meetings that farmers learnt how teat-dipping improves milk quality.

For one group of 15 farmers in the Garut dairy cooperative KPGS Cikajang the milk quality improvement was so significant that their cooperative issued its 1500 farmers with the tools they needed to achieve the same result.



Teaching this one practice resulted in better quality milk, fewer sick cows and more milk production. The project's work on improving milk quality through financial incentives continued in Bogor district in 2021.

This was just one example of the far-reaching effects of IndoDairy, according to project co-ordinator Mr Jack Hetherington from the University of Adelaide's GFAR.

Extending extension

Part of IndoDairy included expanding dairy extension services to regions up to 8 hours from Jakarta, reaching farmers who hadn't received continuity in their learning from existing services.

IndoDairy also changed the delivery of dairy extension, catering to farmers' needs – addressing current on-farm challenges.

'We were doing it differently to the extension delivered by government or research agencies, which have a very technology-[based] push with their approach to training,' Mr Hetherington says. 'A common example of this is demo-farms.

'We opted for a participatory farmer-led approach. So, instead of telling farmers what we thought they should learn, we asked, "What do you want to do now?'. Then it was about finding that knowledge and delivering it in a way that suited.'

Alongside the discussion group activities, the project also facilitated 2 "Focus Farms" in Bogor District.

Village-level researchers

Critical to the success of IndoDairy were 5 village-level researchers (VLR). These were animal husbandry

university graduates embedded in dairy communities to facilitate learning. Part of the VLR training included a trip to Australia to visit dairy farmers in Queensland.

Mr Hetherington says the VLR-facilitated farmer meetings were a contact point for farmers and cooperative staff to engage in informal information exchange while providing continuity for the project.

The VLR work was especially crucial when the COVID-19 pandemic hit, as Mr Hetherington and his colleague IndoDairy extension leader Ms Zita Ritchie were unable to travel to Indonesia.

Ms Ritchie says IndoDairy helped the VLRS improve their dairy farming knowledge, build relationships with local farmers and develop confidence to run workshops.

Now 3 VLRS have transferred these skills to an Asian Development Bank (ADB) project, training 1,000 female dairy farmers during the next 12–18 months.

Training women


VLR team leader Mr Rio Muhammad Fauzan is part of the new women's training project.

One of his favourite parts of IndoDairy was training small dairy cooperatives and witnessing improved farming practices. A stand-out was a turnaround in profit and production for a farmer called Endang.

'[Endang] used to feed his cows with traditional farming practices, which resulted in low milk production, low reproduction performance as well as low profit,' Mr Fauzan says.

'When he joined the IndoDairy activities, his mindset changed. He understood the fundamentals of how to feed his cows properly and how to choose feed appropriately. Consequently, it changed his farm performance to a high-yield farm and high-profit business.'

Confidence, understanding farm financials, feed and forage management and extension techniques were just some of the skills VLR Ms Atin Syahnurotin learnt through IndoDairy.

She's also working with the ADB project and already has experience in empowering female farmers thanks to the IndoDairy women's discussion group. 

ACIAR PROJECT: Improving milk supply, competitiveness and livelihoods in smallholder dairy chains in Indonesia, AGB/2012/099.

Key points

- 1 A project in Indonesia has helped farmers produce more milk and better-quality milk – all with fewer sick cows – to support higher incomes.
- 2 The result has been achieved through a farmer-led approach that trains village-level researchers to train farmers in improved dairy practices.
- 3 Dairy extension services are now reaching regions and farmers not serviced previously.

ACIAR fellowship seeds global innovation network

For researchers from developing countries participating in ACIAR's longest-running capacity building program – the John Allwright Fellowship (JAF) – the experience can often be a pivotal point in their personal and professional lives, according to a recent study.

ACIAR established the Fellowship in 1986 to offer overseas scientists who have worked on ACIAR research projects the opportunity to gain a Masters or PhD qualification at an Australian tertiary institution.

The program is administered through the Australian Government Department of Foreign Affairs and Trade (DFAT) Australia Awards scholarship system.

The broad aim of the Fellowship is to enhance the research capacity of local institutions and organisations in partner countries, by creating a network of highly qualified and motivated alumni with the expertise to help improve food production and agriculture in those countries.

In partnership with the University of New England, ACIAR has also established a John Allwright Fellowship Executive Leadership Program, which scholars can access while studying in Australia. The program covers leadership training, people skills, communication skills, finance and project management.

Key points

- 1 ACIAR's John Allwright Fellowship supports agricultural professionals to complete postgraduate qualification in Australia.
- 2 Between 2010 and 2019, 268 participants achieved a postgraduate qualification under the Fellowship.
- 3 The Fellowship continues to grow with the Executive Leadership Program, and inspire other capacity building activities including ACIAR Learn.

Higher-than-average completion rate

In 2019, ACIAR commissioned a follow-up – or 'tracer' – study of John Allwright Fellows to gauge the outcomes of investing in the program and gather insights for future improvements.

ACIAR Capacity Building Manager, Geoffrey O'Keefe, says the program's high graduation rate – with 92.6% of scholars completing their degrees – compares favourably with the 90.5% rate for DFAT scholarships generally, and around 70% for domestic Masters and PhD students at Australian universities.

'ACIAR is also pleased at how its investment in people is building a network of agricultural researchers with partner countries. Most alumni are still involved in research up to 10 years after the fellowship, and most are also still connected with ACIAR and with the Australian universities where they studied,' says Mr O'Keefe.

'So, the fellowship appears to be playing a key role in building an agricultural innovation network throughout partner countries and participating organisations.'

Duniya Consulting's Sara Webb, author of the tracer study report, says ACIAR's in-country networks were critical in identifying and locating 201 alumni from 27 countries for the study's survey component.

A team from social research company, the Wallis Group, carried out the first stage of the study, a survey, in early 2020. The team achieved a 75% response rate, thanks to their persistence and 'the highly engaged network of alumni who seem to still feel quite connected to ACIAR', adds Ms Webb.

The second part of the tracer study – a series of 13 case studies representing a range of countries and agricultural research areas – occurred in 2020, after the survey and the onset of the global pandemic.



Wood researcher Dr Ratih Damayanti is one of the alumni of the ACIAR John Allwright Fellowship – she now heads the Lignocellulose Anatomy Laboratory and is Curator of Xylarium Bogoriense – the centre of wood collections in Indonesia.

Dr Ratih Damayanti: ‘improved confidence and capability’

One of the case studies documented the experience of Dr Ratih Damayanti, now regarded as one of Indonesia’s foremost experts on wood and wood quality.

Dr Damayanti has been with Indonesia’s Ministry of Environment and Forestry since 2006, where she began working in the xylarium, or ‘wood library’.

Through that early work on wood anatomy, Dr Damayanti came into contact with Australian forest sciences expert, Professor Barbara Ozarska from the University of Melbourne, who suggested Dr Damayanti apply for a JAF and do her PhD at the university.

She says the fellowship ‘...changed me to be a more confident person...My capability in research improved a thousandfold.’

After returning to Indonesia in 2016, Dr Damayanti was appointed head of the only Indonesian laboratory internationally accredited for wood-identification testing. She has produced more than 80 publications, and more than 10 patents and copyrights.

Dr Damayanti and her team have also created a mobile app that enables rapid, onsite wood identification, with a focus on Indonesian species. The app is aiding environmental and forestry law enforcement in Indonesia and has provided wider public access to information contained within the xylarium collection.

Teaching, capacity building, and ‘ACIAR Learn’

Dr Damayanti’s story illustrates 2 other key findings from the tracer study, which point to the broader benefits of the JAF for employer organisations in partner countries:

- 85% of the postgraduates were still involved in agricultural research 10 years after the fellowship, and
- 72% had remained with the same organisation during that time.

‘The question is, how can ACIAR build on these stable alumni networks and linkages within and between organisations and countries?’ says Mr O’Keefe.

‘We would like to leverage these strong connections to find ways of helping local employer organisations achieve broader, longer-term organisational goals.’

The tracer study also revealed that 71% of John Allwright Fellows had become more involved with teaching and mentoring – creating a ‘multiplier effect’ for local capacity-building in their home countries.

Mr O’Keefe notes that through a new ‘ACIAR Learn’ program alumni will be able to access resources for further professional development, including strengthening their teaching, mentoring and supervisory skills.

ACIAR Learn is a ‘mobile-first’ online learning platform that allows people in partner countries to access courses through their phones in low-bandwidth environments. It was introduced in 2021 to provide capacity-building access for researchers unable to travel across borders to attend workshops and other education programs due to COVID travel restrictions.

Gender-equity awareness

Both Ms Webb and Mr O’Keefe were surprised to find that 92% of the scholars surveyed – most of whom were men – said the experience of living and studying in Australia helped increase their understanding of gender equality.

One of the scholars, Dr Ronnie Dataona from Papua New Guinea (PNG), commented: ‘If we look at women scientists, especially in agriculture, it’s one-sided. We have a lot of male scientists, but not enough women.’

Dr Dotaona lives and works at the PNG University of Technology in Lae. He first came across ACIAR as a university student at Unitech and, after winning an ACIAR Pacific Scholarship to do his Masters, applied for a JAF to pursue a PhD at Charles Sturt University.

The subject of Dr Dotaona’s thesis was the biological control of the sweet potato weevil. Following the fellowship, he worked with farmers in PNG’s Highlands region to reduce pesticide use in controlling the weevil.

Since his return to Unitech, Dr Dotaona has become more involved with teaching and supervising postgraduate students, including a comparatively higher number of female students, compared with numbers supervised by his colleagues.

He says: ‘My greatest achievement is mentoring the next, up-and-coming generation of researchers, both men and women.’

Dr Dotaona said his time at Charles Sturt University – when he lived and worked alongside many women – helped to change his perspective on gender equality. ‘I think everyone should have fairness in every way – in the workplace, in schools and everywhere,’ he says.



JAF scholars are highly dedicated to their studies

92.6%

JAF scholars complete their higher qualifications through the program



94.6%
of women
graduated



93%
of men
graduated

Where to next?


Mr O’Keefe says that, in line with ACIAR’s commitment to gender equity, ACIAR is ensuring that women will comprise at least half of future John Allwright Fellows.

The next intake is tentatively scheduled for next year, depending on whether pandemic-related travel restrictions have been lifted.

‘One of the few benefits of the pandemic – and we see evidence of it in the case studies – is that many of our alumni and in-country contacts have stepped up and shown themselves to be capable of developing and leading research projects,’ says Mr O’Keefe.

Ms Webb agrees that the pandemic has brought mixed blessings for JAF alumni. ‘On the one hand, we know of the great advantage for researchers of spending time in a partner country, alongside research colleagues, properly understanding the context in which the research is happening. That doesn’t happen by just reading about it.

‘On the other hand, international conferences went online and became more accessible, and there were more opportunities for people to take a leading role in research because international collaborators couldn’t travel.

‘Maybe this is an opportunity to ask, what additional support could be provided to national researchers to take the lead in their own countries? Maybe that support would allow them to do a lot more than they have, perhaps, been able to do in the past.’ 

MORE INFORMATION: John Allwright Fellowships, www.aciar.gov.au/scholarships/john-allwright-fellowship



PASS scholars participate in an induction session before commencing their study. Photo: Richard Markham.

Pacific region researchers shine with extra support

The ability of the Pacific region to retain its skilled agricultural researchers has been boosted by a fresh approach from the ACIAR Pacific Agriculture Scholarships and Support program (PASS).

Increased commitment to pastoral care and mentoring of students, as well as training of university supervisors, has been key. Both elements have lifted achievement rates of PASS scholars to more than 90% in gaining postgraduate diplomas, master's degrees and PhD qualifications.

Formerly known as the ACIAR-University of the South Pacific (USP) Postgraduate Scholarship Scheme, PASS has included Fiji National University (FNU) as a second partner. PASS is now a multi-pronged program to engage master's and PhD students, strengthen priority areas of research, and build academic networks between Australia and the Pacific region.

Former ACIAR Research Program Manager for Horticulture, Dr Richard Markham, was one of the authors of an external review of the ACIAR-USP scheme, which was used to inform the broader and more ambitious PASS program.

Key points

- 1 The ACIAR Pacific Agriculture Scholarships and Support (PASS) program supports Pacific islander students to gain master's and PhD qualifications.
- 2 With the support of the PASS program, the completion rates for master's and PhDs are 94% and 80% respectively.
- 3 The program is helping to build and retain agricultural, forestry and fisheries research expertise and networks in the Pacific region.

'We've had some really successful people graduating from the program who are doing great work but the review findings have shown us that we can't take positive outcomes for granted,' says Dr Markham.

Success in numbers

Between 2008 and 2020, the ACIAR-USP Postgraduate Scholarship Scheme supported 91 students from 7 Pacific island countries to complete 108 courses for postgraduate diplomas, master's degrees by research or PhDs in a range of agricultural fields.

From a low in 2012 when completion rates at USP were sitting at around 10% for PhDs and 15% for master's degrees, achievement rates among ACIAR scholarship awardees have jumped to 93% for postgraduate diplomas, 94% for master's degrees and 80% in gaining PhD qualifications.

'A graduate officer was appointed for the sole purpose of administering the scholarships within the university, supporting and encouraging the scholars, and the program also focused on building the skills of academics to supervise postgraduate research,' says Dr Markham.

'Rather than ACIAR administering funds, student research grants are managed via their university. The research funds pay for travel to field sites for data collection, data analysis costs and research consumables. Funds are approved and overseen by the universities.'

Long-term benefits

Ms Joy Hardman, ACIAR Capacity Building, says a thriving agricultural research education system will help sustain the careers of Pacific region researchers, with the hope they can continue to contribute to solving agricultural research problems within their own Pacific context over the longer term.

'There's a high level of ag researchers exiting the Pacific islands region so we hope to make the proposition of staying more attractive and encourage peer-to-peer support networks, including international networks, through academic research centres like the Australian Centre for Pacific Islands Research (ACPIR) at the University of the Sunshine Coast (USC) in Queensland,' Ms Hardman says.

ACPIR provides additional support to PASS scholars and academic staff in the form of professional development, peer-to-peer learning, research collaboration and higher degree research supervision training. Student work placements and career development are included under the program to build ongoing industry connections.

ACIAR connectivity

'It requires working in partnership to offer scholarships in developing countries to meet the requirements of participating universities and operate in complex environments. The unique factor in PASS is that the postgraduate student must be connected to an ACIAR research project in the region and address a research theme or question identified by the project,' says Ms Hardman.


'That gives connectivity for the scholar to the whole project team – both Pacific and Australian project members.'

The pandemic has both constrained and enabled the PASS program. Working online has enabled monthly online student supervisor progress meetings. Scholars across the region also have access to a large number of seminars and workshops and in general it has improved communication. However, there has been a lack of face-to-face time to build even stronger rapport and establish friendships across the oceans.

'It's our first year offering scholarships at FNU and together we are undertaking an opportunities analysis of the university's forestry curriculum, with the majority of the 5 FNU scholarships in forestry. Clustering scholarships around a research theme and updating curriculums can strengthen a discipline within a university,' says Ms Hardman.

'At USP, where the ACIAR program is the university's longest and most successful scholarship scheme, we will work together to strengthen the soils faculty and make that field of research a priority when selecting students for scholarships.'

Dr Markham says PASS offers opportunities for mutual learning and more strategic planning between Australian and Pacific region universities, governments and business to offset the challenges facing the region's small, scattered economies.

'One of the gratifying things is that PASS graduates have become very enthusiastic about solving issues at home. By linking them up with viable government-funded research projects, they actually see a future and a career and build professional networks,' he says. 

MORE INFORMATION: Pacific Agriculture Scholarships and Support (PASS) Program, <https://www.aciar.gov.au/scholarships/aciarpacific-agriculture-scholarships-and-support-program>

Skills boosted by mentoring and networks

Dr Salesh Kumar grew up on a cattle and sugar cane farm in Tavua, in Fiji's Western Division, and gained his master's at Fiji National University (FNU). He then successfully applied for a scholarship under the ACIAR Pacific Agriculture Scholarships and Support (PASS) program, graduating with a PhD in 2015.

Dr Kumar is an Assistant Professor, Agricultural Economics and Agribusiness at the College of Agriculture, Fisheries and Forestry (CAFF) at Fiji National University. As the Head of School, Agriculture and Forestry at CAFF, he is passing on his skills and enthusiasm to a new generation of agriculture students.

The President of the Fiji chapter of ACIAR alumni is quick to acknowledge the 'prestigious' scholarship as a key contributor to his success.

'The scholarship provided formal training and informal networking opportunities, enabled me to publish my work in local and international journals, and gave me the skills to manage budgets and people,' says Dr Kumar.

'Because it's attached to an ACIAR project, students benefit from networking with the project leader and other research scientists from the Pacific and Australian faculties, such as the University of Queensland, University of the Sunshine Coast (USC) and the University of Adelaide.

'You get to really experience how applied research is conducted in the field, and you are given the opportunity to gain in-depth knowledge in specific subject areas through access to the libraries of other universities or through travelling to Australia for short courses.'



Through his PASS scholarship and relationships within ACIAR, Dr Salesh Kumar (left) has built new expertise in postharvest research and development in Fiji, Samoa, Tonga and Vanuatu. Photo: Richard Markham.

To make the scholarship journey successful, a student needs to take the time to find the right supervisor who is willing to help not only as an academic advisor but also as a mentor and friend, says Dr Kumar.

He teamed up with his supervisor, Professor Steven Underhill, Director of the Australian Centre for Pacific Islands Research (ACPIR) at USC, and another researcher to produce his PhD on 'Post harvest physical risk factors along the tomato supply chain: a case study in Fiji', which provided a baseline for postharvest vegetable research in the region.

Dr Kumar describes Professor Underhill as 'exemplary, and very supportive'.

'Professor Underhill changed my way of thinking. He was there to support me, respond to my emails, give advice and visit every 2 to 3 months over the 3 years of my scholarship, and he is still my mentor,' says Dr Kumar.

'As an administrator I'm trying to connect the FNU staff with locals through collaborations in a number of ACIAR projects, from a coconut project with the University of Queensland, to studying the value chain of sheep and goats with the University of Sydney, and a number of completed COVID-19 projects with USC. It's great.

'I'm very grateful to the ACIAR Capacity Building team who have worked to help us. Last year we organised a symposium to network with locals and talk about results of research, and that networking helps us all to move forward.'

Dr Kumar says he expects greater retention of agricultural researchers through the provision of PASS scholarships and sees the potential to involve organisations outside the universities, such as the Scientific Research Organisation of Samoa and the Pacific Community.

'These organisations know the knowledge gaps and where research is needed so we can involve Pacific islanders and government bodies like Fiji's Ministry of Agriculture to identify their research expectations and narrow it down to get to the crux of what we should be doing,' says Dr Kumar.

Results flow from alumni support provided during pandemic

The COVID-19 pandemic continues to pose novel and dynamic challenges for agriculture globally. The rapid, targeted partnership response from ACIAR is supporting research projects that build resilience and respond to challenges the pandemic has presented to agriculture in partner countries.

Since the pandemic began, the ACIAR Alumni Research Support Facility (ARSF), in partnership with Australia's University of New England (UNE), has been backing alumni to conduct 66 research projects supporting agriculture in the pandemic-affected world. The support includes grants of up to A\$20,000, as well as mentoring and collaborating partnerships with Australian researchers.

The projects cover a diverse range of topics designed to address issues of importance to communities in the partner countries. Example research topics include reverse migration of agricultural workforces, gender considerations in agricultural policy, home gardening for food security, virus detection in sweet potato crops, crop seed availability, and e-commerce for small enterprise.

Professor John Gibson, UNE's Director of International Development Activities, has been following the progress of the alumni closely.

'The ARSF is a novel innovation of rapid project funding to support ACIAR alumni,' Professor Gibson says.

'It has delivered remarkable outcomes in terms of research results, impacts on communities, support of policy and career development of the alumni – all at a time when COVID-19 pandemic restrictions have forced so many other activities to be put on hold.

'Awardees have reported that the personal and professional support and advice from their Australian mentors was very valuable to them and most intend to continue collaborating with their mentors in future.'

Local issues, regional capacity

Beyond addressing specific locally relevant issues, the program aims to build the capacity and networks of researchers, as well as build cooperative partnerships between countries, organisations, communities and researchers.

'The program has demonstrated Australia's commitment to supporting countries to address the impacts of the COVID-19 pandemic. It has maintained momentum in key research areas across agricultural research in our partner countries, ensuring key researchers were able to secure funding and their employment in research organisations, and expanding international collaboration throughout the crisis,' says Ms Eleanor Dean, General Manager of Outreach and Capacity Building at ACIAR.

With the first projects having begun in September 2020 and new projects having started throughout 2021, ACIAR is pleased with how the program is progressing. Ms Dean cites the example of Dr Nurul Hilmianti of the Indonesian Agency for Agricultural Research and Development. Early results of Dr Nurul's

Key points

- 1 The ACIAR Alumni Research Support Facility (ARSF) has supported 66 alumni to undertake research to help with the pandemic recovery.
- 2 Starting in 2020 and continuing in 2021, the ARSF projects cover a range of topics designed to address issues of importance to communities in the partner countries.



ongoing research have identified intersections between the impact of COVID-19 pandemic lockdowns on migrant workforces, reliance of different agricultural enterprises on migrant labour, and food security and prices in Indonesia.

'The ARSF's novel way of deploying the depth and breadth of Australian expertise to support researchers across partner countries has unlocked their power to develop innovative solutions in a crisis,' says Ms Dean.

For example, for his ARSF-supported project, ACIAR John Allwright Fellow Dr Van Touch is working with cropping systems specialist Professor Daniel Tan and human geographer Dr Rebecca Cross, from the University of Sydney. Their work is examining what might help turn small-scale rice farming enterprises in Cambodia into profitable and sustainable businesses to improve livelihoods and food security.

Dr Touch, who grew up on a small rice farm, is concerned people are increasingly moving to cities due to the challenges of farming. 'The whole countryside is changing. Rural villages are now emptying of people. This worries me,' he says. The problem has been exacerbated by the economic impacts of COVID-19 pandemic, with many remaining farmers unable to afford necessities like seed and fertiliser.



Supported by the ARSF in Cambodia, Dr Van Touch (left) is helping small-scale rice farmers become more profitable and sustainable.

Dr Touch is bringing farmers together through village workshops and farm value chain networking to connect and share knowledge. 'By understanding their experiences and integrating research into a model for resilience I hope we can encourage farmers to keep farming,' Dr Touch says. 'I want to help them to improve their livelihoods and quality of life so they perhaps don't have to move to the city.'

Leadership through partnerships

Two other researchers supported under the program are Dr Sonnthida Sambath and Ms Sophornthida Lim, both alumni of the ACIAR Meryl Williams Fellowship, and researchers at the Cambodian Agricultural Research and Development Institute. Their project is examining the impact of the COVID-19 pandemic on the price of fresh vegetables supplied through the main wholesale distribution centres in Cambodia. They are examining the effectiveness of the Cambodian government's response to ensuring food security (for example, by doubling vegetable production) and the intersection with gender issues such as the role of women in decision-making and crisis planning.

'The findings from this study will inform future crisis planning,' says Dr Sambath. 'It will allow the Ministry of Agriculture Forestry and Fisheries – especially ground-level staff – to understand the potential economic impacts of doubling vegetable production and the gender dynamics of this.'

Leadership and collaboration skills learned through the ACIAR Meryl Williams Fellowship have been vital to the ongoing success of their project, bringing together their individual knowledge and skills. They hope the success of their partnership will inspire other female researchers to build success through teamwork, mutual support and networking. Dr Sambath says, 'Together, we can inspire other women in our organisation to work and produce something that... contributes to sustainable development in Cambodia.'

Partnerships like this are exactly the kind of capacity building ACIAR hopes to nurture through the ARSF. And as Ms Dean notes, at its heart, the project harnesses participants' drive to improve the lives of people in the community. 'The program has demonstrated the resilience of researchers in our partner countries and their passion and commitment to enhanced outcomes throughout the COVID-19 crisis,' she says. 🌱

MORE INFORMATION: Alumni Research Support Facility, <https://www.aciar.gov.au/funding/alumni-research-support-facility>

Cambodia and Indonesia share finfish expertise

For Indonesian finfish mariculture researchers, sharing their knowledge and skills with counterparts in Cambodia was primarily about equipping that team with the information and capacity to grow a valuable local aquaculture sector.

But for the Indonesian researchers, becoming teachers was the catalyst to create educational resources which will now be used to assist with supporting local students, scientists, and farmers.

There were wins for all involved in the Cambodian, Indonesia and Australian project, but the biggest gain was knowledge empowerment and capacity building.

Learning to train

Thanks to this unique, 3-way collaborative 'South-South' ACIAR project, the first 2 Cambodian-authored reports have now been published in international and regional aquaculture industry publications.

Improvements were witnessed across every sector, including mariculture skills, problem solving, English language, report writing, teaching and delivery.

Dr Asda Laining from the Research Institute for Coastal Aquaculture in Indonesia says, 'This was an opportunity to deliver our knowledge and at the same time we were able to improve ourselves.'

With the aid of University of Tasmania Professor Janelle Allison, the Indonesian aquaculture industry developed educational modules to ensure there was efficient knowledge transfer between the 2 countries and application of the required information back at their workplace.

As an education specialist, Professor Allison helped the Indonesian researchers to create teaching modules – the framework for an educational curriculum – for on-site and online learning. The latter proved crucial for a quick "pivot" during the COVID-19 pandemic.

'We learnt and understood how to make a module, how to structure a module and how important modules are to guide learning,' Dr Laining says.

'It enabled us to make training more systematic.'



After returning to Cambodia following training in Indonesia, the participants have been able to make their own experimental feeds for finfish.

The modules were designed to ensure both the science and other vital workplace experiences were included in learning outcomes, according to Professor Allison.

'For the Cambodians, if it wasn't working, they had to make contact and feel confident and comfortable with the Indonesians to ask for help.'

'It was building really good scientific communication and confidence. Confidence, mentoring and team building are all essential to good science and good research.'

Finfish learning modules

Collaborative discussions between the 3 project partners resulted in integrated learning modules covering fish nutrition, disease and larval rearing.



However, other core skills including research conduct and ethics, publication writing, and occupational health and safety were also taught.

With skills to create a curriculum and the knowledge to teach, Indonesian mariculture researchers plan to structure educational experiences for research centre visitors, and school and university students, Professor Allison says. The Cambodians had access to learning resources they could return to again and again.

'The Indonesians can agree to take other people on placements and they know how to structure the learning and what to do,' Professor Allison says.

Key points

- 1 Cambodian and Indonesian researchers are collaborating to share finfish knowledge to build their respective industries.
- 2 The ACIAR-supported project involves equipping Indonesians with the skills to develop learning modules for their Cambodian counterparts.
- 3 Both countries have benefited through a mix of improved self-confidence, South-South research collaboration, industry knowledge and teaching capacity.

'By designing something above a Bachelor they are getting ready for Master's, and the fact it was all in English was another part of the empowerment.'

Support from Indonesian and Australian scientists helped Cambodian researchers to investigate the use of locally available products as ingredients for Asian seabass (barramundi) feed.

Proposed as a more sustainable local aquafeed option to replace the current diet of small "trash fish", this work underpinned the first report by Cambodian scientists published in the *World Aquaculture Society* magazine.

Mr Somony Thay from the Cambodian Department of Aquaculture Development, Fisheries Administration, says the Cambodian researchers acquired the skills to complete this research through work-integrated learning.

'That's why we encourage interaction with Australian and Indonesian scientists because they learnt how to use the lab and analyse the nutrition... the protein, fibre and produce a report,' says Mr Thay.

Empowering local Cambodian researchers will encourage other university students to work in the mariculture sector: an industry with huge economic potential.

Mr Ao Veasna, Vice Director of Cambodia's Marine Aquaculture Research and Development Centre, was 'motivated' by the project and now has a Japanese scholarship to compete a PhD, according to Mr Thay.

Benefits beyond finfish

Dr Mike Rimmer from the University of the Sunshine Coast, who is leading the project, has worked with Indonesian research institutes since 1998.

He says building capacity within Cambodian mariculture will help to grow the industry nationally.

Empowering local Cambodian researchers will encourage other university students to work in the mariculture sector: an industry with huge economic potential.

'There's big industry demand and the industry wants it met locally, but problems in the hatchery are causing the shortfall in production,' says Dr Rimmer. 'We're trying to develop the skills they need to solve these problems themselves instead of being reliant on outsiders all the time.'

In addition to solving issues within the local mariculture industry,

Dr Rimmer says the 'generic' skills developed in this project could transfer to other sectors.

'Some of the training we've done in relation to fish nutrition, developing better and more sustainable feeds for the fish and some of the skills and approaches they have learnt from our training – which has been focused on mariculture – they are actually using for freshwater aquaculture,' he says.

'So that means the impact is much broader than the project originally targeted.' 🌱

ACIAR PROJECT: Accelerating the development of finfish mariculture in Cambodia through South-South research cooperation with Indonesia, FIS/2016/130.



Professor Achmad Suryana: strengthening research expertise

For Professor Achmad Suryana, nothing has highlighted the importance of agricultural self-sufficiency and resiliency in Indonesia more than the COVID-19 pandemic.

Virus case numbers and deaths have been devastatingly high across the archipelago, and in 2020, Indonesia experienced its first full-year economic contraction in more than 20 years, with GDP falling 2%.

Agriculture wasn't as hard hit by the pandemic as other sectors, says Professor Suryana, who sits on Australia's Policy Advisory Council for International Agricultural Research (PAC) and is internationally recognised for his leadership of Indonesian agricultural research and development.

However, the sector wasn't ready for the widespread fallout on its workforce and distribution chain. Producer prices fell, many farmers couldn't get their produce to market and there was evidence of a fall in access to high-quality food.

'We were not prepared for the pandemic. It was a shock,' says Professor Suryana, speaking from Bogor where he is a Senior Researcher and a Research Professor in the Indonesian Center for Agriculture Socio Economic and Policy Studies and an adjunct professor at the Graduate School Bogor Agricultural University specialising in food and agribusiness policy.

Professor Suryana says ACIAR has a role to play in helping developing countries to prepare for such external shocks.

'The systems were there [in Indonesia] but we need to further strengthen them so that we are prepared for the next shock like the one caused by the COVID-19 pandemic. We have to make sure this sector can continue to grow in any situation.'

That support could be anything from strengthening rural institutions such as farmers' associations, to empowering farmers to practise smart farming using digital technology.

Professor Suryana has been involved in agriculture in one way or another all his life. As a child, he played in the rice fields in a remote town in West Java where his father was headmaster of the local primary school.

After he completed his final undergraduate exam at Bogor Agricultural University, he joined the Research Center for Agro-Economics in Indonesia's Ministry of Agriculture. Several more civil service milestones followed, including his appointments in 1995 as Director of that same centre; as Director General (DG) of the Indonesian Agency for Agricultural Research and Development (IAARD) in 2004; and, later, as DG of Indonesia's Food Security Agency.

Key points

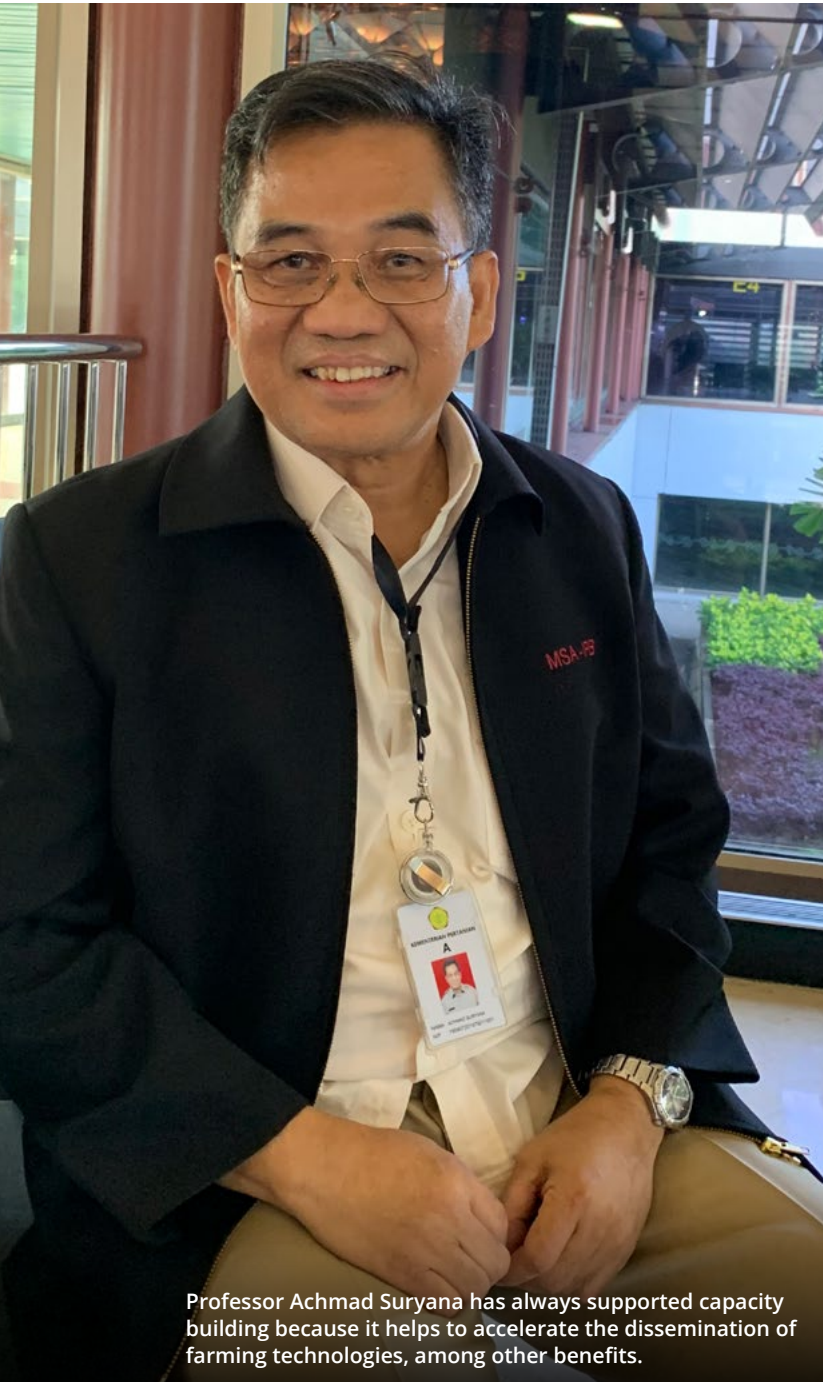
- 1 Indonesia's Professor Achmad Suryana is serving his second period on Australia's Policy Advisory Council for International Agricultural Research.
- 2 Professor Suryana says strengthening the capacity of ACIAR partner countries to undertake research and deliver it to farmers will increase impact.

Vision for ACIAR

This is his second stint as a PAC member, and he brings with him years of research, expertise and influence on food security policy. He has written or co-written more than 135 scientific articles and edited numerous books and seminar proceedings about agricultural policy.

Indonesia has a large population – 273 million – but its agricultural sector is characterised by small-scale farming, with holdings, on average, each of less than half a hectare.





Professor Achmad Suryana has always supported capacity building because it helps to accelerate the dissemination of farming technologies, among other benefits.

‘Because of that big population we can’t depend too heavily on imported food; we must be able to feed ourselves and so we must continuously increase food production through productivity increases, farming efficiency and product competitiveness, but all in a sustainable way,’ says Professor Suryana.

‘When we discuss things in PAC meetings, that is always in the back of my mind.’

He says technology can play an important role in food production efficiency and higher yields and incomes for small-scale farmers.

‘But we have to deliver that technology to farmers in a timely way,’ he says. ‘I believe ACIAR is in a good position to help developing countries do that.’

Professor Suryana says he would also like ACIAR to help its partner nations implement the hundreds of recommendations made by the United Nations (UN) Framework Convention on Climate Change, especially Sustainable Development Goal 2 No Hunger.

He cites the UN’s recommendation to reduce food loss and waste as an example. If Indonesia could substantially reduce its food waste it would not have to clear as much land for farming.

Demand for capacity building

Capacity building has always been part of Professor Suryana’s remit. At IAARD he oversaw a program that

“...we have to deliver that technology to farmers in a timely way. I believe ACIAR is in a good position to help developing countries do that.”

Professor Suryana

every year sent about 100 young researchers in-country and abroad to study for their Master’s and PhD degrees and for short-term training on specific topics.

‘We also implemented a program to accelerate dissemination of farming technologies from IAARD to farmers, assigning researchers to work in rural areas for several months at a time,

working with the farmers to identify problems and helping solve them.’

The support from organisations such as the World Bank and ACIAR has been invaluable, he says. For example, to date Indonesia has benefitted from 87 John Allwright Fellowships, 29 John Dillon Fellowships and 4 Meryl Williams Fellowships.

He says he hopes ACIAR will continue with in-country research, and he wants to see more multi-country research projects so that developing countries can learn from each other’s experience and expertise.

‘Australia and ACIAR have played an important role in this area, increasing the capacity of agricultural research in developing nations. Some of the young Indonesian researchers who have gone through these programs now hold important positions in our agricultural sector.’ 🌱



Regional roundup

Pakistan: alumni meet-up

In October, ACIAR held an in-person networking, mentoring and professional development session for 16 Pakistan alumni and project officers. They represented various national research system, academic institutes, international organisations and the private sector. Each alumni gave a presentation about their expertise and how they could assist the projects and collaborate.

Support given to Pakistan focuses on a collaborative approach for the long-term security of food, water and energy by providing research and development and building technical capacity. It was great to see these researchers doing just that and remaining connected to ACIAR.




Pakistan alumni and project officers met for a professional development and mentoring session.

PNG: masterclasses

In July and August, Masterclasses were held to train staff from ACIAR-supported projects to conduct Family Farms Team training. The farmer learning and extension model was developed through ACIAR research. It combines financial literacy education, agricultural planning techniques, and banking and savings training to help improve livelihoods and reduce gender inequalities in farming communities. The Masterclasses were held in Bougainville, Goroka, Kokopo and Lae.

Vietnam: fellowship launch, newsletter

The 2021 John Dillon Fellowship in Vietnam has officially started. Australia's Ambassador to Vietnam Robyn Mudie and representatives from Vietnam's Ministry of Agriculture and Rural Development expressed support for ACIAR capacity building during the launch. This year the Fellowship attracted the most diverse and largest Vietnamese cohort ever with 19 fellows who are scientists and managers from 13 agencies in the agricultural sector.

The 'ACIAR in Vietnam' November newsletter has been published and distributed to almost 600 Vietnamese and Australian research partners. This issue focuses on creativity and resilience amidst the pandemic and climate change. 

Africa: project and book launches

In September, the book 'Sustainable Intensification of Maize-Legume systems for food security in Eastern and Southern Africa (SIMLESA): Lessons and way forward' was launched. The online event covered the project's journey and explored taking findings to scale.

Two new AfricitiesFood projects focused on tackling food loss in growing cities in Zambia and Malawai, and another project set to address abiotic stress in lentils in Ethiopia were all launched in October.



Following the launch of the John Dillon Fellowship in Vietnam, Australia's Ambassador to Vietnam Robyn Mudie (centre front) launched joined the Vietnamese Fellows for a lunch meeting.



Australian Government
Australian Centre for
International Agricultural Research

Key ACIAR reports for 2020–21

ACIAR Annual Review 2020–21

Featuring key achievements and outcomes of the work of ACIAR and its partners from 1 July 2020 to 30 June 2021, through quick facts and case studies.

ACIAR Annual Report 2020–21

The ACIAR Annual Report reviews ACIAR performance for the period spanning 1 July 2020 to 30 June 2021 in 3 key areas of work:

- global research collaborations
- bilateral and regional research partnerships
- scientific and policy capacity-building activities

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The Crawford Fund: e-mentoring program

In 2022, the Crawford Fund will run its second year of its successful e-mentoring program to support agricultural researchers, scientists and policy makers across the Asia-Pacific region.

The Australian not-for-profit organisation launched the program in response to COVID-19 in 2020. The program builds on the Fund's existing capacity building efforts to develop the research, technical and organisational skills and expertise of the mentees.

The early-career mentees from developing countries are linked with experienced Australian agricultural scientists. The virtual program ensures support for the mentees when travel and in-person contact is restricted.

Through the program, the Crawford Fund aims to facilitate new and fruitful scientific relationships across international borders. The Fund's past efforts around mentoring, master classes and training meant it had a good crop of Australian mentors at the ready, and in canvassing a range of partners, such as ACIAR and the Asia-Pacific Association of Agricultural Research Institutions, e-mentees were easily identified around the globe.



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The Australian Centre for International Agricultural Research (ACIAR) is part of Australia's international development cooperation program. Its mission is to achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia. ACIAR commissions collaborative research between Australian and developing-country researchers in areas where Australia has special research competence. ACIAR also administers Australia's contribution to the international agricultural research centres.