




# partners

IN RESEARCH FOR DEVELOPMENT



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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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**Front cover:** Mr Nitesh Nand, SPC Plant Health Field Technician, at the newly upgraded, ACIAR-funded Plant Health Laboratory Facility based at the SPC Campus, Fiji. Plant Doctors can bring insects and pests for diagnosis to the lab (page 8). Photo: Dave Lavaki.

**Back cover:** Taro on sale in market in Samoa.





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## From the CEO

Professor Andrew Campbell

**COVID-19 has emerged as a major threat to global food security, not so much yet because of direct food shortages but because of logistical bottlenecks constraining farmers' ability to get produce to market.**

This is against the backdrop of pre-existing food and nutrition insecurity, with hundreds of millions of people facing acute hunger and two billion people with micronutrient deficiencies. Moreover, locust plagues, African swine fever and fall armyworm are wreaking havoc in some countries, and Tropical Cyclone Harold has badly affected parts of the Pacific.

ACIAR was established to help with all these issues—and they are as important now as they ever were.

As part of our response to COVID-19, we have a team working on a *Food systems security, resilience and emerging risks in the Indo-Pacific in the context of COVID-19: a rapid assessment*. This team has gathered intelligence from our partners and broader network about what is happening in partner countries and what is needed to help cope with the broader impacts of COVID-19. The first stage was a fast, qualitative assessment generated from conversations to help us frame the subsequent stages of the assessment.

The second stage will be led by CSIRO and the Australian National University and will be a more systematic quantitative assessment, with the third stage being a deep dive into countries and/or acute issues needing additional investigation. The aim is to identify intervention options for ACIAR and our partners.



ACIAR meetings have been successfully held via video conference.

In parallel with the rapid assessment, ACIAR has developed the Alumni Research Support Facility to support small research projects (up to A\$20,000) that could be undertaken by ACIAR alumni in their home countries. We are hoping to support up to 30 projects in the first round (applications closed in May). I am very excited at the potential for this program to maintain on-ground momentum across our portfolio, fill critical gaps, build research capabilities within partner institutions, and keep our alumni directly engaged with ACIAR despite travel constraints.

The COVID-19 pandemic has focused the world's attention on zoonotic diseases—diseases that cross over from animals to humans. The scientific community has been aware for many years of the risks of zoonotic diseases like Ebola, SARS and MERS, and the potential for a human health pandemic.

This issue of *Partners* focuses on our One Health research—a strategic approach to managing risks to human health by understanding animal, human and environmental health and how they interact. Articles in this issue cover ACIAR-supported research into antimicrobial resistance in Fiji, African swine fever in Timor-Leste and a suite of plant health and biosecurity projects.

Dealing with a global pandemic further illustrates the importance of partnerships and collaborations. We are going to have to collaborate more deeply and more extensively to develop effective responses that work at a global scale. ACIAR is already working with our partners across the CGIAR system to ensure that donors and scientists are connected and responding collectively. It underlines the value of the ACIAR model of deep bilateral partnerships, complemented by effective multilateral scientific collaboration, to maximise the efficiency and effectiveness of work to tackle such challenges to humanity. 🌱



# On the trail of antimicrobial resistance in Fiji

Fiji has led Pacific island nations in embracing a One Health approach to the emerging problem of diseases resistant to standard antimicrobial drugs. The island nation is now partnering with Australia to put its antimicrobial action plan into practice.

## Key points

- 1 ACIAR has established nine One Health projects to address disease through a multi-faceted approach encompassing human, animal and environmental health.
- 2 A One Health project underway in Fiji is looking at addressing the challenge of antimicrobial resistance (AMR).
- 3 The project will build AMR surveillance, diagnosis and response capacity across Fiji's agricultural and environment sectors.

Mrs Kamlesh Nandini, a small holder livestock farmer in Višama, Nausori, Fiji. Taking a One Health approach encompasses human, animal and environmental health. Photo: Dave Lavaki.





Around 75% of emerging infectious diseases behind epidemics like COVID-19 are caused by ‘zoonotic’ microorganisms—viruses, bacteria and other parasites that can be transmitted between humans and animals (most often livestock).

This ability to adapt to new hosts is not the only trait microorganisms use in their quest to survive. They can also rapidly mutate after encountering antibiotic, antiviral or antimalarial drugs to transform future generations of themselves into antimicrobial-resistant organisms, or ‘superbugs’.

Because superbugs render standard antimicrobials ineffective, the risk of health complications and death to patients and animals is increased and the range of possible treatments is narrowed to a handful

**The ultimate aim is for Fiji to develop a One Health model for addressing antimicrobial resistance, with other Pacific island nations benefiting from the lessons learned along the way.**

of ‘antimicrobials of last resort’.

It is an arms race that, at the moment, microorganisms seem to be winning. Not surprisingly, the World Health Organization and leading health and biosecurity agencies have identified antimicrobial resistance (AMR) as an urgent threat to human and animal health globally.

### One Health, many dimensions

Understanding how microbiota in humans, livestock, other animals and the environment interact is the key to improving management of issues like AMR, zoonotic disease and food safety.

This One Health integrated systems approach is at the heart of nine research projects jointly funded by the Australian Government’s Indo-Pacific Centre for Health Security and ACIAR, in partnership with Fiji, Papua New Guinea, Indonesia, Cambodia, Laos and Vietnam.

‘One Health recognises that, as with many complex problems, if you just approach it from one angle you’re unlikely to have a long-term or significant impact,’ says Dr Francette Geraghty-Dusan, Associate Research Program Manager of One Health at ACIAR.

‘That’s because there are a lot of components that need to be thought about and that interact with each other to create the problem in the first place.

‘The One Health approach is about people with different mindsets and from different backgrounds working together. It takes commitment and investment in time to build strong relationships and trust.’

Dr Dusan says partnerships are the focus of the nine ACIAR–DFAT One Health research projects, with project leaders needing to ensure all stakeholders have been identified and are on board before the project can start in earnest.

### Fiji’s AMR problem

Dr Walter Okelo, a CSIRO researcher with an interest in the socio-economic impacts of AMR, is leading one of the One Health projects which aims to help Fiji sustainably manage the growing threat of AMR in its hospitals, farms, local communities, waterways and environment.

The CSIRO team is partnering in the project with the Government of Fiji and researchers from the University of Technology Sydney, the University of South Australia, the University of the South Pacific and Fiji National University.

Fiji was the first Pacific nation to develop a national AMR action plan. This is now being implemented by a national antimicrobial resistance committee (NARC) whose members represent government, private-sector and community agencies involved in health, agriculture, biosecurity, pharmacy, education, finance and the economy, and the environment.

Fiji’s widespread use of antibiotics and antimicrobials is well documented. Its hospitals have some of the highest rates of bacterial infections in the world, partly due to the high incidence of tuberculosis infections (in both humans and animals) and diabetes-related amputations.

Compounding the problem is the fact Fijian authorities have limited control over the provenance, quality and safe use of antibiotics and other antimicrobials. Products are sourced from different countries and manufacturers by the government and separately by private wholesalers, and are often stored in hot and humid conditions without refrigeration, reducing their potency.

Dr Okelo says microbes exposed to poor-quality or improperly administered antimicrobial drugs can develop resistance within days ‘and the more antibiotics you use, the more you select for resistant organisms’.





Helping livestock farmers in Fiji to use antibiotics will strengthen the overall health system. Photo: Dave Lavaki.

## Baseline surveillance

One of the first tasks facing Dr Okelo's team is addressing the lack of reliable baseline surveillance data on AMR and antimicrobial use in Fiji.

'At the moment no one knows the magnitude of the problem because there is little research that has been done to date,' says Dr Okelo.

'If you don't have people who can do the detection work quickly, the response is going to be slow, as we've seen with COVID-19. That leads to more deaths and ineffective use of resources.'

The team is working with researchers at the Fiji National University and the University of the South Pacific to build local capacity in both diagnostics and the collection and analysis of AMR data so that researchers can better map AMR hotspots, determine how AMR spreads and its economic impact, and predict where and when outbreaks might occur.

Eventually, such information will help Fiji's policy-makers prepare for future outbreaks—for example, by educating doctors and pharmacists to take a more considered 'antimicrobial stewardship' approach to prescribing antibiotics or by educating the community to use antibiotics more judiciously in livestock production systems.

'This work, through a strong partnership, is aimed at strengthening the overall health systems in Fiji to respond to other disease outbreaks,' says Dr Okelo. 'AMR is really a platform to develop a national and regional disease response and bring people who work in human health, animal health and the environment together to resolve current and future problems.'

## Surveillance gaps

Dr Okelo says a lack of information about AMR in Fiji's livestock and animal populations represents the most urgent gap in the country's surveillance. 'Most investment to date has been on the human health side, with very little investment in research on animal health or the environment.'

'This means that the agriculture and animal sectors are unable to detect and respond to disease threats when they happen, so your first line of defence, in terms of One Health, is already weak.'

'What we're trying to do is rebalance things—push the animal health and environment side along fairly quickly so they are on a par with the human health side in terms of disease detection and response.'

The preliminary scoping phase of the One Health AMR project in Fiji is complete, with the full project approved for funding and set to commence after Fiji relaxes its COVID-19 restrictions.

## Looking to the future

The CSIRO-led One Health project will involve some innovative research, including partnering with Australian-based SME Xing Technologies to develop bioengineering and nanotechnology laboratory diagnostics tools to boost Fiji's diagnostic and testing capacity.

Dr Okelo says the ACIAR and DFAT investment will help rebalance gaps in the implementation of Fiji's One Health action plan, enabling the agricultural and environmental systems to 'catch up' with the human health system.

The ultimate aim is for Fiji to develop a One Health model for addressing AMR, with other Pacific island nations benefiting from the lessons learned along the way.

Those lessons will also be applicable to Australia, says Dr Dusan. 'The capacity building we're doing in One Health research is applicable to the broader region, which means it's building Australia's capacity as well.'

'When Australia's research organisations partner with other countries on One Health activities, it's mutual capacity building. The lessons we learn along the way can be applied to One Health research globally.' 🌐

**ACIAR PROJECT:** Enhancing the Management of Antimicrobial Resistance (EMAR) in Fiji, LS/2019/119.





Workers process fresh taro harvested on a farm in Samoa. ACIAR-supported work has found that there is a very low risk of taro leaf blight surviving on fresh taro corms transported to Australia.

## Fresh hope for Samoan taro exports to Australia

Samoan farmer Lomitusi Brown is happy to hear research has shown exports of fresh taro to Australia pose a very low risk of transferring taro leaf blight—and adopting the right harvest practices could reduce this further.

While fresh and frozen taro is exported from Samoa to New Zealand and the USA (including Hawaii), only frozen taro is currently permitted into Australia.

‘If the Australian market opened up for fresh taro it would give us as farmers a reason to plant taro at a commercial level,’ says Mr Brown from his farm at Falealili.

The findings come from an ACIAR-funded Small Research Activity (SRA) being delivered by the New Zealand Institute for Plant and Food Research Limited (PFR), the Scientific Research Organisation of Samoa (SROS) and the Samoa Ministry of Agriculture and Fisheries (MAF).

### Key points

- 1 Exports of fresh Samoan taro to Australia are not allowed due to the risk of introducing taro leaf blight.
- 2 ACIAR-supported research has identified harvest strategies that can greatly reduce this risk.
- 3 If fresh Samoan taro is permitted into Australia, it will create an important and valuable new market for Samoan taro farmers.





Taro is the most commonly grown vegetable crop in Samoa, eaten as both flesh and leaves and processed into flour. Taro leaf blight (TLB) is primarily a leaf disease which is capable of totally destroying the canopies of susceptible plants.

Exports of Samoan taro from varieties that are largely resistant to TLB are valued at A\$3.1 million.

Exporting fresh taro to Australia is a priority for the Samoan Government as a more valuable and cost-effective option than frozen taro with its high refrigeration costs.

In 2011 the then Australian Department of Agriculture decided that fresh taro posed too high a risk of introducing *Phytophthora colocasiae*, the causal agent of TLB, and ruled that imports should be permitted only from areas declared free of the disease (in this case, requiring official 'country freedom' status).

But the SRA study completed in May 2019 has provided new information on how long *P. colocasiae* can survive on taro corms.

Joy Tyson, PFR Senior Scientist (Plant Pathology), says the project studied the availability of viable inoculum from *P. colocasiae* in the field, its ability to infect and colonise corm tissue under different scenarios and, in the event corms were infected, its ability to survive the conditions of simulated transport to Australia.

*P. colocasiae* is temperature sensitive and does not grow in conditions below 10°C or above 35°C.

'The only infective propagule of *P. colocasiae* is the zoosporangium, which is produced on leaf lesions at night under wet conditions such as rain or heavy dew, but our studies showed these sporangia are very fragile and die immediately they are dehydrated,' Ms Tyson says.

'Artificial inoculation of harvested corms with *P. colocasiae* showed that it could establish and progress through wounded corm tissue, but in field trials no such infections occurred.

'The likelihood of infections via this pathway at harvesting is dependent on the availability of inoculum at harvest time, which is very low if harvest is carried out under dry conditions to eliminate viable sporangia in the canopy.'

Project leader Dr Bob Fullerton says that by adopting a systems approach to producing, harvesting and handling taro, Samoan farmers could reduce the risk of corm infection to negligible levels.

This includes only using varieties that are tolerant to TLB; reducing the sources of infection by regularly removing affected taro leaves; harvesting for export only during dry weather; and preliminary washing

and cleaning of taro in an area that's remote from plantations and any infected crops,' Dr Fullerton said.

Other actions that would further minimise the risk of *P. colocasiae* surviving include washing with high-pressure water as soon as possible after harvest; using a hot water dip—something that is already being evaluated as a treatment to eliminate mites and nematodes; and drying taro after treatment.

'Existing import conditions for large-corm taro into Australia require topping to remove all leaf bases and growing points to prevent the corms being propagated, and this is also a vital component of the systems approach,' Dr Fullerton says.

Dr Seesei Molimau-Samasoni, SROS Head of Plant and Postharvest Technologies Division, says the Samoa MAF has submitted a copy of the report to Biosecurity Australia and is seeking its opinion on the level of risk and the proposed systems approach for reducing this further.


Dr Molimau-Samasoni says the need for more research on some of the critical steps in the pathway will depend on Biosecurity Australia and what it sees as being necessary to eliminate the risk of *P. colocasiae* entering Australia either on or inside fresh taro corms from Samoa.

These steps may include investigating the temperature/time tolerance of *P. colocasiae* to define the conditions required for successful heat treatment; conducting further studies on the survival of sporangia under different conditions in the growing environment; and verification that the corms cannot become infected during the growing season.

'Ultimately, having the ability to market our taro into Australia means more opportunities for our farmers, which translates to better monetary returns,' she says.

Dr Tyson says the Samoan community is already benefitting from the research as it has increased the capacity of Samoan scientists to study plant pathology of all crops, not just taro.

'The ACIAR funding enabled us to upgrade the capacity of the SROS laboratory and install good-quality microscopes, cameras and other equipment, and reference books,' she says.

'The team of Samoan scientists are now very capable in general plant pathology and their ability to research post-harvest diseases, not just those that apply to taro, has been massively increased.' 

#### ACIAR SMALL RESEARCH ACTIVITY:

Defining the biotic constraints to fresh taro from Samoa gaining market access to Australia, HORT/2017/014.



# Plant Doctors available to farmers during COVID-19

With COVID-19 wreaking havoc around the globe, a team of 'Plant Doctors' in the Pacific islands is finding new ways to help farmers diagnose and treat plant disease remotely while in-person clinics are on hold.

In Pacific island countries, steps have been taken by authorities to limit the spread and impact of COVID-19, including citywide or nationwide lockdowns, the closure of international borders, physical distancing and allowing only essential services to operate.

In good news for farmers, a new cadre of plant health specialist—the Plant Doctor—has been deemed an essential service and continues to provide expertise and services to local farmers, albeit remotely.

Plant Doctors comprise a mix of local agriculture extension officers and members of civil society groups and agricultural non-government organisations who have been trained under a project supported by ACIAR. The project is a partnership between ACIAR, the University of Queensland and the Pacific Community (SPC) Land and Resources Division. Together they support Plant Doctors to deliver plant health services to farmers in Fiji, Tonga, Samoa, Papua New Guinea and Solomon Islands.

## Building skills

In Fiji, Agricultural Fieldman Specialist Maca Vakaloloma works at the Lakena Agriculture Office in Nausori, in Eastern Viti Levu, and attended preliminary plant health clinic training to become a Plant Doctor.

Ms Vakaloloma says the plant health training has been life-changing for her in terms of her everyday work.

'From these trainings I can identify common pests and diseases affecting crops. I have led my team to carry out plant health clinics in rural and remote areas which are very useful as farmers who live in these communities cannot access agricultural offices in their districts,' Ms Vakaloloma says.

The training introduces participants to different innovative tools and specifically designed technologies that make finding answers to plant health problems easy. This includes training manuals; the *Pacific Pest*



By offering plant health clinics in remote and rural areas Plant Doctor Maca Vakaloloma says she can help farmers who would otherwise not have access to agricultural officers. Photo: Dave Lavaki.

and *Pathogens* app for mobile devices; the *PestNet* app; a global plant health advisory network; the Plant Doctor Network on WhatsApp; and factsheets on Pacific-related plant health issues.

Trainees such as Ms Vakaloloma are provided with interactive training in carrying out basic diagnosis, symptom description, establishing and managing clinics, keeping records, and preparing samples for diagnosis. The diagnosis is backed up by national, regional and international diagnostic centres.

Ms Vakaloloma says she's amazed at how quickly she can now provide efficient and effective services and advice to local farmers in a short period and remotely.

'Before the training I would visit a farmer who would be having issues with his crop. I would have to take samples and then go back to my office and spend a few weeks researching and trying to diagnose the problem. Now, after this training I can easily search the symptoms of a diseased plant on an app or upload a picture on the WhatsApp group and I can discuss the problem and solutions with other Plant Doctors in Fiji and Australia,' she says.





### Key points

- 1 Plant health specialists from across the Pacific region have been trained as Plant Doctors.
- 2 Plant Doctors help farmers to diagnose and treat plant health problems.
- 3 Building on their experience with in-person plant health clinics, Plant Doctors are now providing remote plant health services to farmers.

Newly trained Plant Doctor Maca Vakaloloma (rt) is now running clinics in Fiji to help farmers diagnose and treat their sick horticultural plants. Photo: Sunayna Nandini, ACIAR.





## Before and after COVID-19

Under normal circumstances, farmers would take their unhealthy plants to farmer-friendly plant health clinics for a diagnosis and recommended treatment from a Plant Doctor in person.

Associate Professor Mike Furlong from the University of Queensland's School of Biological Sciences says the concept of plant health clinics is relatively new in agricultural extension in the region but is similar to the way in which human health clinics operate.

**Since the onset of COVID-19 in-person plant health clinics have been cancelled so Plant Doctors are helping farmers by remotely diagnosing and recommending treatment for plant health problems.**

due to disease, insect attack or nutritional issues—can be tackled,' Associate Professor Furlong says.

But since the onset of COVID-19, in-person clinics have been cancelled. Consequently, Plant Doctors are using innovative tools and specifically designed technologies

'Essentially, farmers bring their damaged crop plants to a plant health clinic, where trained Plant Doctors diagnose the problem and provide the farmers with a written prescription that advises on how the problem—which may be

(including remotely identifying plant health problems) to support farmers.

'We realise that our farmers, who are the heart of our nation, don't and can't stop working and we are now providing our expertise and services to them remotely,' Ms Vakaloloma says.

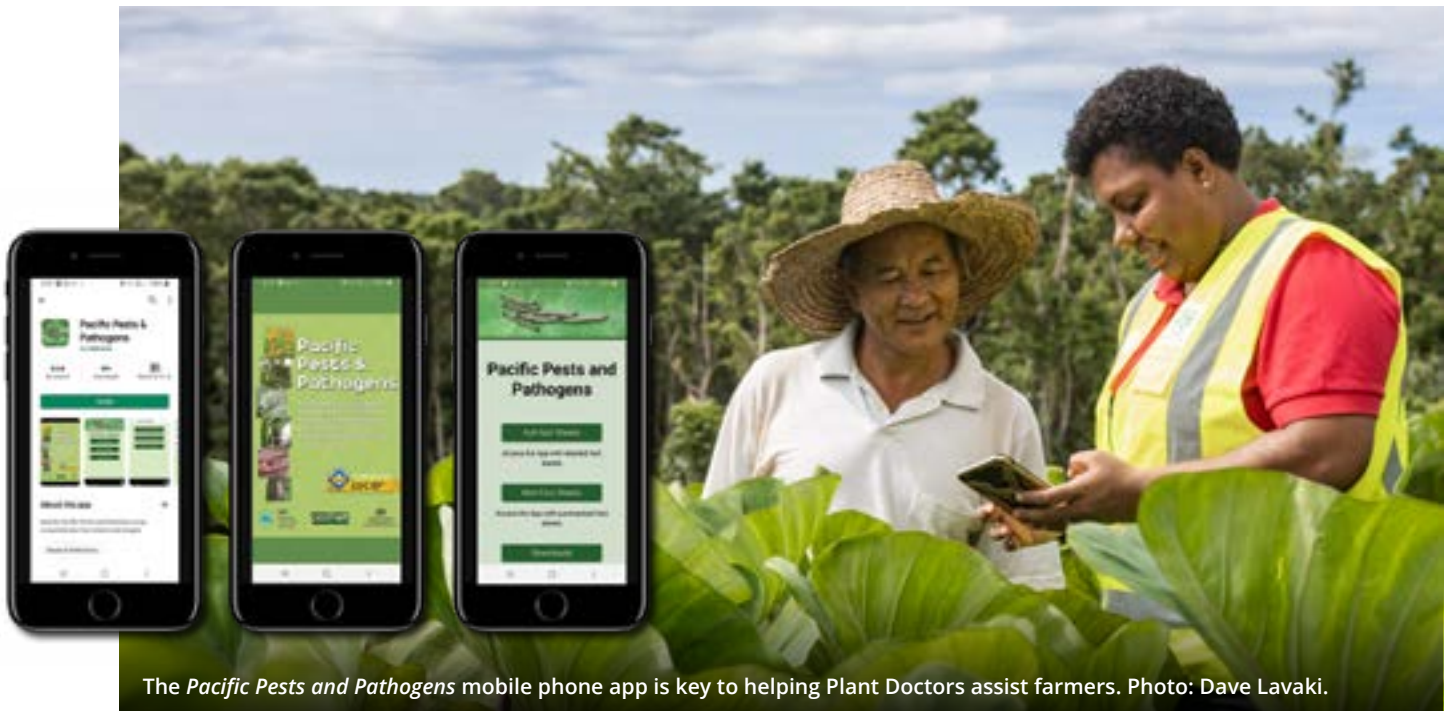
She adds that the Pacific Pest and Pathogens app for mobile devices and the Plant Doctor Network on WhatsApp have been major tools in supporting farmers remotely.

ACIAR Research Program Manager for Horticulture Ms Irene Kernot says, 'Everyone is finding new ways to communicate, and the Plant Doctors are getting on with the job online rather than face to face. It shows that even when we are isolated there are ways to connect that can still provide practical support to farmers.'

Ms Vakaloloma adds that for the Fijian Ministry of Agriculture it's a priority to ensure farmers continue to feel supported while adhering to safety measures.

'We need to comply with the health and safety requirements for us and for the farmers, and we will continue to strive to support our farmers the best way we can,' she adds. 'Once this pandemic is over, we will continue with our health clinics. We are a resilient nation and together we will get through this.'

**ACIAR PROJECT:** Responding to emerging pest and disease threats to horticulture in the Pacific Islands, HORT/2016/185.



The *Pacific Pests and Pathogens* mobile phone app is key to helping Plant Doctors assist farmers. Photo: Dave Lavaki.





Allowing pigs to scavenge is facilitating the spread of African swine fever. Photo: Tarni Cooper, University of Queensland.

## Second epidemic threatening Timor-Leste

While the world continues to battle COVID-19, Timor-Leste has been dealing at the same time with an outbreak of a fatal livestock disease that threatens to further undermine the social and economic wellbeing of its people.

African swine fever (ASF) is a highly contagious disease with a near-100% mortality rate and no vaccine or treatment. In its march from Africa to Europe and, most recently, to Asia, it has left hundreds of millions of the world's pigs dead in its wake.

The first recorded outbreak of ASF in Asia was in China in August 2018. Since then, it has appeared in a dozen other Asia-Pacific countries, including Timor-Leste.

### Key points

- 1 African swine fever (ASF) has ravaged the regional pig population and is now present in many Asian countries.
- 2 Pigs are valuable culturally and economically in Timor-Leste and the country now has occurrences of ASF.
- 3 New ACIAR-supported research will use an impact assessment tool to help ensure investments to control ASF consider smallholders alongside commercial farmers, contributing to a coordinated and effective regional effort to reduce ASF's impact.





## High economic, cultural and social value

To date, much of the research on ASF has focused on technical aspects of disease surveillance and response. But for nations like Timor-Leste, where most pigs are raised by smallholder farmers, the disease also threatens to undermine the fabric of entire communities.

In Timor-Leste, for example, a family unable to provide a pig for cultural ceremonies incurs a ‘debt’ that may prevent restocking and may have to be carried by the next generation as well.

Dr Joanita Bendita da Costa Jong from Timor-Leste’s Ministry of Agriculture and Fisheries says that in her country a typical household owns at least one

**Boiling food scraps before feeding these to livestock or building small household pens to contain animals are practical options for smallholder farmers in low-income countries.**

pig. Large animals are valued at up to US\$1,000 (A\$1,500)—a significant asset in a country where 75–80% of the population makes a living through subsistence farming and where the annual GDP per capita is around US\$1,200 (A\$1,800).

Pigs in Timor-Leste are tied to social status, particularly for women, and often provide a

cash reserve or livestock ‘bank’ to pay for healthcare, education, food or other out-of-pocket costs.

Farmers are finding it increasingly difficult to restock after having lost animals, says Dr Jong, because eight of Timor-Leste’s 13 municipalities have already tested positive for ASF and further testing has been put on hold until coronavirus movement restrictions are lifted.

## Problems of swill feeding

ASF spreads when healthy pigs come into contact with infected sick or dead pigs or with contaminated farm equipment, clothing or meat scraps.

The hardy virus can survive in chilled, dried and frozen meat and in cured pork products and pet food—for months or even years. There is, however, no evidence that ASF affects humans and infected meat is not considered harmful for human consumption.

Experts say one factor facilitating the rapid spread of ASF in Timor-Leste is the practice of allowing animals to roam freely and scavenge for food scraps and of feeding them with swill (food scraps that



Understanding the impacts of African swine fever will help to target investments to address the disease in Timor-Leste where pigs are an important cultural and economic asset for many smallholder farmers. Photo: Conor Ashleigh.



A piglet is loaded into a truck with roofing thatch as part of a ceremony to repair a traditional Timorese sacred house. Pig-ownership is important in Timor-Leste’s culture. Photo: Tarni Cooper, University of Queensland.





contain animal material or have been in contact with animal materials).

A further challenge for Timor-Leste's agricultural agencies is that ASF symptoms mimic those of classical swine fever (CSF): a disease that has been in the country for many years. Unlike ASF, however, CSF outbreaks tend to abate seasonally, giving local stocks time to recover.

Dr Jong says Timor-Leste will need help addressing the under-resourcing of its veterinary services and capacity in order to carry out definitive diagnostic testing to generate a more accurate picture of ASF distribution within its borders.

### **A strategic, regional response**

A new ACIAR-supported project—based at the University of Queensland (UQ) and led by Dr Dominic Smith—is coordinating a strategic effort in partnership with regional and international stakeholders to develop a tool to assess the impact of ASF on livelihoods and the broader national economy.

The hope is that this tool will allow governments, agencies and donors to better inform policy decisions around the long-term approach to ASF control in the Asia-Pacific region, drawing together epidemiological information and socioeconomic data on the disease's impacts so that investments to control ASF in the region can be better coordinated.

At a forum held by ACIAR and UQ in Canberra in early March, Dr Smith and Dr Jong discussed the challenges and impacts of ASF in the region with economics and animal disease experts from Indo-Pacific nations, ACIAR, the Food and Agriculture Organization of the United Nations, the World Organisation for Animal Health, the International Livestock Research Institute, Australian government agencies and universities, CSIRO and Australian Pork Limited.

Veterinary scientist Dr Tarni Cooper, a member of the UQ team, says Australia's pig-farming sector is protected by good biosecurity, surveillance and monitoring systems, particularly at airports, and stricter pig-farming practices. In Australia, swill-feeding is illegal, she notes; disease risk is further reduced by containing animals in piggery sheds or pens.


Smallholder farmers in low-income countries, however, cannot afford such practices. More practical alternatives, says Dr Cooper, might include educating smallholders to boil food scraps before feeding these to livestock or to build small household pens to contain their animals.

'This is the crux of our research: how to help authorities and investors in neighbouring countries assess the economic, cultural and social impacts of ASF control on smallholder farmers so that they have better information and resources for decision-making,' she adds.

### **ASF work 'not stopping for coronavirus'**

With the Timor-Leste ASF outbreak having occurred only six months before the COVID-19 pandemic hit in mid-March, life for Dr Jong—a member of her country's COVID-19 and ASF taskforces—is incredibly hectic.

She says the Timor-Leste Government remains firmly committed to controlling ASF, despite movement restrictions that will delay plans to begin pilot testing the UQ framework in July and to collect and test samples from municipalities designated as negative for ASF.

'Food security underpins the future security of our country,' Dr Jong explains. 'If we don't invest in sustainable agriculture now, the next time a pandemic such as COVID-19 hits we will become even more unstuck.'

**ACIAR PROJECT:** Developing a regional African Swine Fever socioeconomic and livelihood impact analysis tool, LS/2019/187.



# Don Heatley: Six years contributing to the ACIAR legacy

After six years as Chair of Australia's Commission for International Agricultural Research, Don Heatley is reflecting on his tenure.



Mr Don Heatley. Photo: Conor Ashleigh.

The role, offered to him by Australia's then Minister for Foreign Affairs, Ms Julie Bishop, was one he could not reject, because of his respect for both Minister Bishop and the work of ACIAR in research for development.

'I felt very attracted to the notion of chairing a Commission that conducts agricultural research for development in developing countries,' Mr Heatley says. 'ACIAR is an organisation that epitomises the values Australia has to offer other countries—

including support and friendship. To not want to be part of something like that, well, your values would have to lie somewhere else.'

On entering the role Mr Heatley was able to combine his experience in cattle production with his board experience, which included roles on state livestock councils and the Cattle Council of Australia and as Chair of Meat & Livestock Australia.

'Through this I felt I had enough background, both personally and from previous broader industry experience, to make a worthwhile contribution to ACIAR,' says Mr Heatley. 'But I'm just one among equals when it comes to the Chair's role. The Commission is a tight-knit group and we regularly cover a vast array of issues.'

## Guiding ACIAR through change

The six-year tenure for Mr Heatley occurred in a period that saw many changes within ACIAR, ranging from the appointment of a new CEO and new Commissioners to the implementation of a 10-year strategy.

'I arrived at a time in which there were major changes in the way Australian foreign aid was being delivered,' he explains. 'There were funding cutbacks and folding back of various entities but ACIAR remained in a positive place due to a strong base built on solid historical foundations and unwavering support from Minister Bishop. It also possessed a level of credibility developed by former CEO Dr Nick Austin that was the envy of every similar agency.'

The past six years, Mr Heatley says, have seen ACIAR refine its approach but continue to build on its foundation of research partnerships with developing countries.

'By its very nature, ACIAR understandably faces continuing requests from many directions by virtually every partner country with which it engages. Unfortunately, there is never enough money to undertake all the work that requires attention.





Through the implementation of the 10-year strategy, ACIAR has been able to establish what we think is important, what we think we can deliver and how we can initiate delivery within limitations of budgets and the foreign aid framework.

This has added clarity to the way research program managers operate. It has redefined their boundaries and made it easier for them at times when it is very difficult to say no. The 10-year strategy has created clear goals for everyone to work towards.'

## Ambitions for ACIAR

Mr Heatley says he hopes that, despite any future external changes, the focus of ACIAR will remain its people-to-people engagement. Throughout its history, that engagement has seen ACIAR gain invaluable credibility, along with the vital trust and respect of its partner countries.

'Until becoming Chair of the Commission I didn't realise what an enormous impact ACIAR has had in partner countries,' he says. 'It's the people who really, really matter. It is a people organisation—people in Australia working with people in developing countries. You don't realise the depth of that relationship until you become directly engaged.'

Historically, some partner countries have experienced a level of political volatility and, while other similar agencies have chosen to depart, ACIAR has remained. This is always remembered by ACIAR's partners, Mr Heatley says.

'I feel very privileged to walk into a room with people from partner countries who remember that ACIAR stayed the distance in both good and tough times,' he says. 'As a result of these actions the strength and depth of our working relationships is enormous. This has been important for ACIAR's past and will remain so for the future.'

COVID-19 has presented a global challenge to humanity and has moved the control of zoonotic disease into the spotlight. To highlight the depth and breadth of capacity within ACIAR, it should be noted that a dedicated team of researchers was considering this issue under the One Health research program at ACIAR long before the pandemic reached its current proportions.

'ACIAR possesses practical experience and a deep understanding of the interaction between humans and animals in developing nations,' says Mr Heatley. 'We can provide an important perspective to other

agencies that may also want to step into this arena of activity.

**'ACIAR is low on process, high on delivery, and punches well above its weight.'**


Don Heatley

'The trusted research team that engages directly with partner countries is critical to delivering this support. They will also help

ACIAR through future challenges that will come from the impact of COVID-19—including potential budget constraints and an increased need to support research and knowledge in the One Health space.'

## A parting message

'If I thought about what I have learnt during my time with ACIAR it would certainly be what an amazing organisation it is,' he says. 'It adopts a low-key, extremely pragmatic approach to solving a plethora of food supply and security issues, facing vast populations in the developing countries of the Indo-Pacific. ACIAR is low on process, high on delivery, and punches well above its weight on a small fraction of the Australian aid budget.'

'I thank my fellow Commissioners, CEO Professor Andrew Campbell and the entire ACIAR team for their support and wish them the very best of good fortune as they work to resolve the many issues faced by our partner countries.' 

### Key points

- 1 Departing Chair Don Heatley has helped ACIAR to refine and strengthen its approach to developing research partnerships.
- 2 Focusing on relationships between people is key to the capacity of ACIAR to have an impact.
- 3 The ACIAR 10-year strategy has created clear goals to work towards and added clarity to the way research program managers operate.



# Professor Stuart Blacksell: Success is invisible in zoonoses research

More than 30 years since his relationship with ACIAR began, Australian virologist Professor Stuart Blacksell is sharing his expertise with the international community in the fight against COVID-19. His infectious diseases research comes into sharp focus when outbreaks occur but is equally important when the spectre of a global pandemic does not loom large.

In his capacity as an expert in biosafety and laboratory practices, Professor Blacksell was recently appointed to the World Health Organization's International Health Regulations Emergency Committee for Pneumonia due to the Novel Coronavirus 2019-nCoV. The committee advises the Director General—who is the ultimate decisionmaker—on COVID-19-related public health issues and mitigation options.

Having started his career with CSIRO, Professor Blacksell has been researching infectious diseases since 1989 in Thailand, Laos, Cambodia, Vietnam and China. He became a member of the Nuffield

**'Ongoing fundamental research... is vital to inform global efforts to control infectious diseases.'**

Professor Stuart Blacksell

and affordable interventions to improve human health in resource-limited parts of the world.

Much of Professor Blacksell's work has focused on diseases that are transmitted from animals to humans (known as zoonoses). The public health risks from zoonoses have been put under the spotlight during the COVID-19 pandemic because many experts hypothesise that the outbreak originated when the disease passed from a captive animal to a human.

Department of Medicine at the University of Oxford in 2001 and is now a senior research scientist at the Mahidol-Oxford Tropical Medicine Research Unit (MORU) in Bangkok, Thailand. MORU conducts clinical and public health research to develop appropriate, practical

In the 2000s Professor Blacksell worked on ACIAR-funded research with colleague Dr Jamie Conlan into pig-borne zoonoses in Laos, including trichinella, cysticercosis and Japanese encephalitis. He has also worked on goat-borne brucella and Q fever in Laos and Cambodia. Ongoing fundamental research like this—rather than purely reactive research—is vital to inform global efforts to control infectious diseases.

## Artillery is fundamental research

'Understanding the usual patterns of spread can help identify when a disease is showing worrying characteristics,' Professor Blacksell says. This fundamental research indicates where zoonoses tend to take hold and what factors contribute to their spread and severity. For example, maintaining lower densities of humans and limiting interactions between wildlife and people can reduce the emergence and spread of zoonoses.

In addition to zoonoses, Professor Blacksell also works on improving the diagnosis of tropical diseases such as dengue fever and scrub typhus. In particular, he is interested in developing accurate and rapid testing that can be done at the point of care—making testing more accessible and efficient than traditional laboratory-based methods. Such research into rapid diagnostic methods, developed over many years, has given scientists a head-start in tackling COVID-19. 'With COVID-19, developing an accurate and cheap rapid test is extraordinarily important because currently we are bound to traditional laboratory methods which are very accurate but slow,' Professor Blacksell says.



He further emphasises that the importance of ongoing fundamental research and surveillance should not be forgotten when infectious diseases are not in the global headlines. 'The challenge is that, when our work prevents outbreaks starting in the first place, success can be effectively invisible and easy to take for granted. It's important that funders and

partners recognise that and continue to support this work,' he says. 'We've been able to build strong and effective networks of local capacity throughout South and South-East Asia, providing essential surveillance for infectious diseases. This work is an insurance policy—it means you can respond more rapidly if a problem arises.'



Professor Stuart Blacksell.

### Key points


- 1 **Virologist Professor Stuart Blacksell's research helps to provide an understanding of how to prevent the emergence and reduce the spread and impact of infectious diseases.**
- 2 **Building capacity in research, surveillance and diagnosis through partnerships between countries is key to building global resilience to infectious disease.**
- 3 **ACIAR-supported work has been a key training ground for professionals building knowledge, partnership and cooperation in biosafety and biosecurity.**

### The power of partnerships

According to Professor Blacksell, ACIAR has long understood the importance of this work, and the organisation's contribution has left a lasting global legacy of knowledge, partnership and cooperation. 'The impressive thing about ACIAR is how it emphasises partnership. When I was in Thailand and Laos I could set up labs and train local staff in best scientific practices while also learning from them,' he says.

He reflects that this partnership focus means ACIAR-supported work has been a key training ground for professionals in his field. 'Those of us who worked together on these projects remain friends today. ACIAR invested in us through funding, scholarships and in-country training—and that investment has been well and truly repaid by our ongoing cooperative work,' he says.

He cites as an example his counterpart in Laos, Dr Syseng Khounsy, who trained at the University of Sydney with ACIAR support. Dr Khounsy is now Deputy Director General of the Laos Department of Livestock and Fisheries. And his friend Dr Peter Horne, with whom he worked in Laos in the 1990s, is now ACIAR General Manager of Country Partnerships.

For Professor Blacksell, it is the international partnership approach ACIAR uses that is the path to future success—especially as Australia's biosafety relies on effective surveillance and control measures in the broader Australasian region. He advocates for partnerships between ACIAR, international agencies and regional partners to support an international surveillance network. He says he hopes that by 'working together as a global community, countries can share the burden of global biosafety and biosecurity to serve the collective good'. 





# Protecting income-generating cassava from virus duo

While the world worries about the global impacts of the coronavirus pandemic, smallholder cassava farmers in South-East Asia are being affected by other diseases with significant impacts on livelihoods.

Cassava witches' broom disease (CWBD), which can cause yield reductions of up to 90%, and the more recent cassava mosaic disease (CMD), which can slash yields by as much as half in the first year of infection alone, are sweeping across South-East Asia. With more than two million households throughout the region engaged in cassava farming, this largely commercial or 'cash' crop is the feedstock for a variety of everyday products ranging from sweeteners to paper.

'This is really a pro-poor crop since it can grow in poor soils and requires limited inputs,' says Dr Jonathan Newby, an agricultural economist at the International Center for Tropical Agriculture (CIAT). 'When the yield goes down, poor farmers in these marginal areas don't really have flexibility in what they do.'

## Regional approach required

Dr Newby leads a new ACIAR-supported project that started in September 2019 aimed at establishing sustainable solutions to cassava diseases in mainland South-East Asia. The four-year project is directly funding research partnerships in Laos, Vietnam,

Cambodia and Myanmar with in-kind support and collaboration from Thai and Chinese institutions. Dr Newby says recent events have driven home more than ever how important these partnerships are.

'The current global coronavirus pandemic has highlighted to the general public how quickly diseases can spread across national borders and the need for a regional plan that both manages the short-term impacts and provides long-term solutions,' he says.

Cassava diseases, if left unchecked in South-East Asia, could devastate the lucrative multi-billion-dollar cassava industry. To stem losses to both CWBD and CMD, Dr Newby and his colleagues are implementing a multi-pronged strategy that has a holistic approach. It includes breeding for disease resistance; diagnostics and surveillance; agronomy and seed systems interventions, looking at how to effectively deliver solutions into farmers' hands; and policy and partnerships with the government and private sector. The approach will ensure a coordinated approach for the mass production and distribution of disease-resistant cassava created by researchers.

In the short term, the researchers have identified cassava varieties that are already grown in the region and are less susceptible to CMD, such as KU50, developed in Thailand. These varieties will be scaled up in rapid-multiplication tunnels with the help of public-sector institutions and private-sector stakeholders. That way, more farmers will gain access to healthy, relatively more-disease-resistant plant stems. Multiplication tunnels have already been set up in Laos and will be replicated throughout the region. At the same time, screening and breeding work is ongoing in Vietnam, Cambodia and Thailand to develop medium- and long-term solutions.

'In the short term, if people multiply and maintain a clean source of planting material, the impact of the disease can be managed until new varieties can be developed, which is a longer-term prospect,' says Dr Newby.

## Key points

- 1 Cassava is a valuable cash crop generating an income for more than two million smallholder farmers in South-East Asia.
- 2 Two viruses are slashing cassava yields dramatically.
- 3 ACIAR-supported research aims to give smallholder farmers rapid access to improved cassava planting material and develop locally suitable virus-resistant varieties.



A rapid multiplication tunnel in Laos where healthy, relatively more disease resistant cassava plant stems are being reproduced. Photo: Laothao Youabee, CIAT.

Developing a new cassava variety usually takes at least six years from start to finish. So, in the medium term, the researchers are testing disease-resistant cassava varieties developed in Africa by the Nigeria-based International Institute of Tropical Agriculture (IITA) to see how these will perform in Asia. Dr Newby and his colleagues have already planted these varieties in Vietnam and Thailand and say they expect to harvest them this October, along with other varieties from CIAT's headquarters in Colombia.

### Fostering relationships

Given that cassava diseases are a cross-country problem, a cross-country collaborative approach is needed—and ACIAR has played a key role in brokering these relationships. The project involves a wide array of researchers, institutes, industry associations and NGOs from six Asian countries contributing diverse perspectives to help tackle a critical problem. 'Building and strengthening the formal and informal networks and trust between different stakeholders is as critical

as the technology development,' says Dr Newby. 'While the current COVID-19 travel restrictions are certainly making this more challenging, the project team is using social media and online communication platforms to stay connected.'

But, while a regional approach and multidisciplinary nature are the strengths of the project, they are also some of its biggest challenges, acknowledges Dr Newby.

'You have multiple stakeholders [with] different ideas on what's more important and the politics around diseases can be cumbersome. It's challenging, but it also makes the project really interesting and, hopefully, sustainable,' he says.

The current project is slated to end in 2023 and is also being supported by the CGIAR program on roots, tubers and bananas. 🌱

**ACIAR PROJECT:** Establishing sustainable solutions to cassava diseases in mainland South-East Asia, AGB/2018/17.





JAF recipient and SPC Plant Health Coordinator Mani Mua (right) conducts a plant health field visit in Nuku'alofa, Tonga, with participants in Pacific Seeds for Life Training. Photo: Simione Tukidia, SPC.

## Postgraduate fellowships support One Health

Ranging from a plant health champion in Fiji to a Tanzanian PhD candidate researching the interface of chicken and human health, recipients of the John Allwright Fellowship (JAF) are supporting a One Health approach to attaining optimal health for people, plants, animals and the environment.

A capacity-building initiative of ACIAR that is supported by the Australian Department of Foreign Affairs and Trade, JAFs provide scientists from ACIAR partner countries involved in ACIAR research projects with the opportunity to obtain a postgraduate qualification from an Australian institution.

Established in the late 1990s, the fellowship program has seen 495 people graduate with PhD or Masters' degrees. And, since 2017, in alignment with the ACIAR Gender Equity Policy and Strategy 2017–2022, women comprise at least half of all JAF recipients.

### Championing Pacific plant health

Fijian plant health champion Mr Mani Mua has been selected to receive a JAF in 2020 in recognition of his work responding to emerging horticultural pests and diseases in the Pacific.

Mr Mua is one of four successful applicants from the Pacific who were awarded a JAF as part of the 2020 intake. In total 12 people were awarded JAFs to begin this year; however, with the world now battling COVID-19 most of these fellows will commence their studies in 2021.



JAF recipient and PhD candidate at the University of Sydney Elpidius Rukambile (left) conducts a focus group with project participants in Tanzania.

For Mr Mua, 2020 will nonetheless hold special importance because it is the International Year of Plant Health, providing a platform to reinforce the need to better protect the Pacific region from biohazards and other threats to regional agriculture.

'I am very grateful to be selected as a JAF recipient through ACIAR to pursue my doctorate on plant health and insect resistance management,' he says.

It is this passion and dedication that drive the 33-year-old, who is based in Suva, Fiji. A Plant Health Coordinator with the Pacific Community (SPC), Mr Mua has been part of an ACIAR project with the University of Queensland and the SPC Land and Resources Division for the past five years and is at the forefront in responding to emerging horticultural pests and diseases in Fiji, Samoa, Tonga and Solomon Islands.

With ACIAR support, Mr Mua is designing training activities to build the capacity of plant health trainees within these countries to identify common pests and diseases that affect horticulture.

'It is very inspiring to work with scientists and specialists from ACIAR and various Australian universities,' Mr Mua says. 'I have learnt a lot from ACIAR specialists, the project team leaders and the regional network of farmers and plant health trainees. The peer-to-peer learning approach encouraged me to apply for the JAF.'

SPC Regional Plant Health Advisor Mr Fereti Atumurirava adds that SPC is very proud of Mr Mua for being accepted to complete a JAF.

'Mani is a great asset and we are very grateful that ACIAR has given him the opportunity to formally enhance his skills by pursuing a doctorate,' Mr Atumurirava says.

'ACIAR is a unique partner because it not only focuses on the projects but also formally builds the capacity of its partners in agricultural research, therefore ensuring that local and regional organisations retain upskilled staff.'

## Healthy chickens, healthy people

For JAF recipient and University of Sydney PhD candidate Mr Elpidius Rukambile, the thrust of his research has been improving human health by examining chicken health and husbandry in Tanzania.

When he applied for a JAF Mr Rukambile was working on the ACIAR-supported project 'Strengthening food and nutrition security through family poultry and crop integration in Tanzania and Zambia' (FSC/2012/023). The focus of the project was to improve poultry and crop production through working with the local women. However, Mr Rukambile observed another problem.

### Key points

- 1 ACIAR builds the capacity of individuals and institutions in developing countries to carry out agricultural research projects.
- 2 The John Allwright Fellowship (JAF) provides scientists from partner countries involved in ACIAR research projects with the opportunity to obtain postgraduate qualifications at an Australian tertiary institution.



'Children were getting diarrhoea but the people did not recognise that the faeces of the chickens may have been the cause. They also thought that diarrhoea was just a normal part of growing up—they didn't realise it was preventable and that hygiene played a role,' Mr Rukambile says.

'I saw that the chickens were living inside the houses of the people—inside the kitchens and where they were sleeping—and sharing water from the same source.'

Mr Rukambile applied for and was granted a JAF, which he commenced in 2016. He focused on three wards located in the semi-arid zone in the Dodoma and Singida regions in central Tanzania, where he organised focus groups and interviews to explore people's knowledge of hygiene and to create a better understanding of the animal husbandry challenges they faced. Screening for some diarrhoea-related pathogens in chickens was also part of the study to determine the public health risk associated with living close to chickens in environments with poor sanitation and hygiene.

He discovered that one reason people didn't want to put their chickens outside was that they could be stolen and/or preyed on.

Instead, practical strategies like setting aside a room inside the house for chickens and cleaning it daily, concealing kitchen utensils inside a plastic box so chickens didn't touch them, and storing water inside a container with a narrow opening and lid so chickens couldn't access it—are all options that are more feasible. Importantly, helping people to understand the causes and occurrence of diarrhoea, and the role sanitation and hygiene plays, is an important preliminary intervention towards controlling childhood diarrhoea.

## Future outlook

Mr Rukambile will soon complete his PhD and return to Tanzania to work for the Ministry of Livestock and Fisheries, but this time he wants to integrate animal husbandry research into human health research to improve people's living conditions and health outcomes.

'While it's good to increase poultry production, if children are suffering from diarrhoea, the benefits are limited,' Mr Rukambile says. 'We need to look at the bigger health picture and improve poultry husbandry and human health hand in hand; they go together.'

'We've been missing a lot of opportunities to improve people's life because we segregated our research. We need to think and work differently and take a multi-disciplinary approach.'

Mr Rukambile has also been invited to join the JAF Executive Leadership Program that helps to build participants' leadership, people, communication, finance and project management skills.

ACIAR General Manager of Outreach and Capacity Building, Ms Eleanor Dean, says the goal of the JAFs is for 'fellows to return to their home country with both their postgraduate qualification and the skills they need to be leaders in their employing institution'.

Ms Dean says it's a great privilege to meet fellows during their time in Australia and to learn about their chosen areas of study.


'Fellows live in Australia and experience the Australian way of life while completing their studies,' she says. 'However, for the 2020 batch of fellows, their arrival in Australia will be postponed due to travel restrictions caused by COVID-19. We will nevertheless stay in touch with them and look at how we can support their development in the meantime.'

Mr Mua plans to undertake his doctorate at the University of Queensland and is expected to complete his studies and research within four years.

'The future is indeed exciting for me. I can't wait to learn more about plant

health and I look forward to coming back and sharing my knowledge and skills with the regional network,' Mr Mua says.

He says he hopes his JAF studies will help farmers and plant health specialists address issues such as two-spotted spider mite—an arachnid pest which is gaining resistance to pesticides and affecting most fruit crops in the Pacific region.

ACIAR is also set to commence a 'tracer' study to look back at the progress of the careers and broader lives of past JAF recipients and trace their trajectories since their participation in the program. Through a survey and interviews with past fellows, ACIAR hopes to build a picture of the impact of these fellowships. ACIAR will be in contact with individuals who have completed a JAF in the past decade. 

**ACIAR PROJECT:** Responding to emerging pest and disease threats to horticulture in the Pacific Islands, HORT/2016/185.

### John Allwright Fellowships

495

participants

50:50

male:female ratio  
since 2017

20+

years of  
operation



ACIAR



# Fresh vegetables delivered to Filipino communities affected by COVID-19

With ACIAR support, the Visayas State University (VSU), is distributing free vegetables to students and families in communities in central Philippines affected by the COVID-19 pandemic.

VSU launched the initiative to help ensure a steady supply of different vegetable crops in response to stresses on food supply caused by the pandemic. This activity is part of an ACIAR-VSU project assisting farmers acquire accreditation to market 'safe vegetables' under the banner of the Philippines Good Agricultural Practices (GAP) certification. The project has established model farms within VSU and other areas in Leyte where healthy vegetables are being produced with the safe use of pesticides.

Harvested vegetables from the ACIAR-VSU model farms are now being included in the food packs distributed by VSU to stranded students and families in neighbouring communities. As of mid-May, more than 2,000 food packs have been distributed by VSU.

'This initiative is a quick response activity, which is based from our experience after Typhoon Haiyan,' says Dr Othello Capuno, VSU Vice President for Research and Project Coordinator for the ACIAR-VSU GAP project. 'At that time, short-term vegetable crops were grown to ensure food security, food safety and improved nutrition of affected communities.'

'When the enhanced community quarantine was implemented due to the COVID-19 pandemic, our access to our primary source of vegetables was restricted so we decided to implement the project,' he says.



Assorted vegetables (Chinese cabbage, water spinach, eggplant, red and white onions) being turned over by the ACIAR-VSU Good Agricultural Practices Project team to families within the vicinity of VSU.

On average, a Filipino family of five can spend up to 40% of its household income on food consumed in the home, a burden increased by the pandemic.

'With many families contending with loss of income due to the community quarantine and limited access to markets, receiving free, fresh and nutritious vegetables is a great help,' says Mai Alagcan, ACIAR Philippines Country Manager. 'We are pleased to be providing support during this challenging time to help ensure that people have access to healthy and safe food.'

Among those who received the vegetable food packs were staff of the VSU Hospital who are among the frontliners in the university's preventive measures against COVID-19.

ACIAR and VSU have long been partners in agricultural research. From keeping soils healthy to improving market access, ACIAR has been working with VSU for a decade to support farmers to produce greater quantities of high-quality and safe vegetables, ensuring food security and better incomes. 🌱

## Key points

- 1 The Visayas State University (VSU) is distributing fresh vegetables to those in need in the Philippines.
- 2 The vegetables are being harvested from model farms set up as part of a project supported by ACIAR.





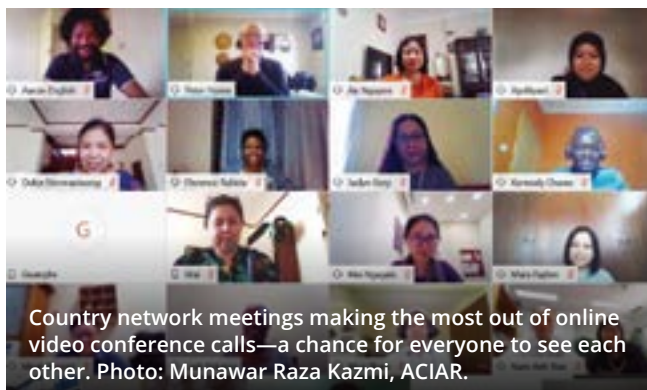
# Regional roundup

## ACIAR Country Network

ACIAR staff in regional and country offices are now mostly working from home, with arrangements remaining flexible as different countries respond to their local situations.

The ACIAR Country Network has contacted all major partners in-country to reassure them of ACIAR's steadfast commitment to its partnerships but also to explore opportunities for ongoing collaboration as ACIAR rolls out a range of responses to COVID-19.

The Country Network will be undertaking advanced partnership broker training between June and August to prepare for re-engagement with all key partner agencies.



Country network meetings making the most out of online video conference calls—a chance for everyone to see each other. Photo: Munawar Raza Kazmi, ACIAR.

## Commission visits Indonesia



Members of Australia's Commission for International Agricultural Research met in Indonesia in March 2020. Photo: Suzie Gaynor, ACIAR.

In March, Australia's Commission for International Agricultural Research met in Indonesia.

The four-day program of field visits, engagements and meetings allowed Commissioners the opportunity to see first-hand a small sample of ACIAR-funded research in Indonesia including the lobster aquaculture projects in west Lombok and beef cattle projects in north Lombok.

While in Jakarta, ACIAR CEO Andrew Campbell signed a Memorandum of Understanding (MoU) with a new partner, the Eijkman Institute for Molecular Biology. The MoU will strengthen the relationship between Indonesian and Australian researchers and support broader One Health-related multidisciplinary collaborative research activities.

## ACIAR Alumni Research Support Facility

In response to COVID-19, ACIAR is providing new funding to support research led by ACIAR alumni in ACIAR partner countries.

*The Alumni Research Support Facility* is providing up to A\$20,000 for small research activities that build resilience and respond to the emerging challenges that COVID-19 has placed on agricultural systems in our partner countries.

The funded projects will be led by ACIAR alumni of the John Allwright Fellowship, ACIAR University of the South Pacific Scholarship Program, Meryl Williams Fellowship, and John Dillon Fellowship. Research will be aligned and supportive of their institution's research strategies and ACIAR country strategies.

Funding will be granted to around 30 projects that:

- Provide input into post-COVID-19 research needs, both for their own research institute and for the broader agricultural sector in the researcher's home country.

- Build the scientific capacity of individual researchers, enhance their career progression, and strengthen links with both organisations and experienced researchers through academic mentoring.
- Build the capacity of partner organisations to undertake high-quality research that addresses contemporary challenges in agriculture for development.
- Support strengthened international agricultural research collaboration where interdisciplinary research is highly encouraged.

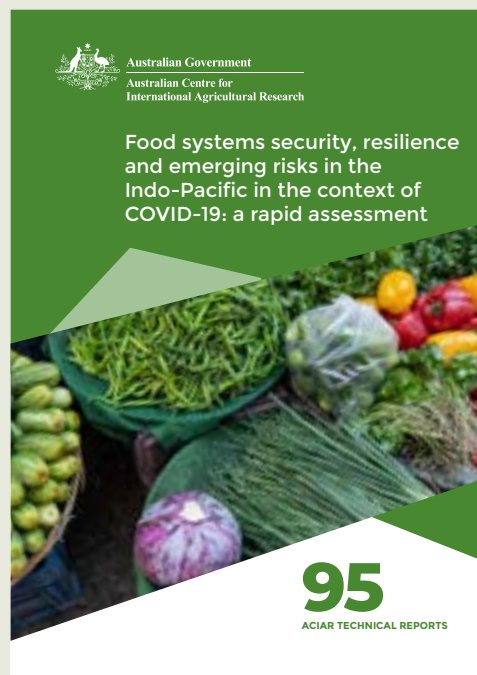
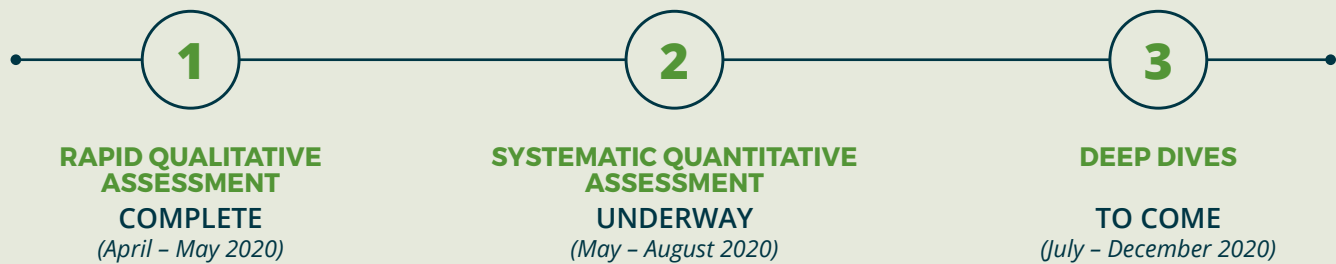
Research projects will have to align with institutional and country-level research objectives and one of the following four research themes: impact of COVID-19 responses on regional food supplies response (and recovery post-COVID19); One Health; food system resilience; or research to policy.

Applications for this opportunity closed in May.

# ACIAR responds to COVID-19

As the world responds to COVID-19, ACIAR is doing its part to identify intervention options that ACIAR and its partners can implement to help.

## Three stages



### STAGE 1: RAPID QUALITATIVE ASSESSMENT

A fast, qualitative assessment generated from conversations that identified ten impact areas, which will help ACIAR frame the subsequent stages of the assessment.

For detailed information on the impact areas and to access the full ACIAR report go to:  
[www.aciar.gov.au/publication/Food-systems-rapid-assessment](http://www.aciar.gov.au/publication/Food-systems-rapid-assessment)





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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.