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TRANSFORMING FOOD SYSTEMS
EDITION

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: Cambodian cassava farmer Pou Chanthea (page 18).
Photo: Majken Søggaard.

Back cover: A farmer in Mozambique plants seedlings.



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From the CEO

Professor Andrew Campbell

Over the past fifty years, aggregate levels of global agricultural production have increased substantially, faster than global population growth. As a result, more people have had more food to eat, alleviating hunger for many. But too often, that food lacks important nutrients, and its production has come at a cost of unsustainable water, energy, and other external input usage.

Now, as the world looks to transform its food systems, it is clear that we have to produce more nutritious and healthier food, and we have to do it more sustainably. These concepts are embedded in the *ACIAR 10-Year Strategy 2018–2027* which includes goals to transform food systems that target better human health and nutrition and mitigate climate change, alongside our traditional objectives of reducing poverty and improving food security.

In this edition of *Partners*, as part of our focus on the United Nations Food Systems Summit, we explore ideas behind food systems transformation and stories of how partnering can increase and scale-out our impact across different food systems and geographies.

COVID-19 has of course modified our approach. Social protection measures introduced to reduce the spread of COVID, ideally should be designed in such a way that they don't undermine local food systems. Indeed, they need to support local food production, in particular production of healthy food, and in a way that boosts local food security and food systems resilience.


Building local capacity is key to this. ACIAR has been focused on building agrifood systems science and policy capacity in our region for many years. This has helped us enormously in being better able to respond to COVID. Our Country Network staff have been taking on increasing responsibility, becoming sophisticated partnership brokers and knowledge managers.



They are helping to create a fertile seedbed for the research we are funding and helping ensure that research outputs reach local partners in the right form at the right levels at the right time, to maximise the chances of policy and on-ground impact.

This work runs alongside the ongoing development of our in-country alumni. We have funded around 100 fellows from the Meryl Williams, John Allwright and John Dillon Fellowship programs to implement small COVID-relevant projects to buttress local food systems.

Ongoing capacity building activities have shifted online, and we're now exploring a whole new way of delivering training and support to our in-country project teams and alumni through ACIAR Learn—an interactive and dynamic learning platform accessible via mobile devices, even in low-connectivity areas.

ACIAR Learn is one of the target activities identified in the recently released *ACIAR Annual Operation Plan 2021–22 (AOP)*, which outlines our priorities for the year. The AOP is the single best place to find out what ACIAR is doing where over the coming year. It's a fantastic, forward-looking resource. I encourage our partners to read it via www.aciar.gov.au/publication/aop2021 



Pandemic 're-balances' research focus for ACIAR

For many people working on ACIAR projects, COVID-19 has had a devastating and at times very personal impact. ACIAR recognises the limitations this has placed on project delivery.

Despite the challenges, some partners have had both good luck and good management on their side and have pivoted their work to keep project activities going. The challenge has also been taken up at the ACIAR leadership level, with ACIAR Chief Scientist Dr Daniel Walker looking at the seismic shift as an opportunity to accelerate a re-balance between designing and leading research.

'The capacity to adapt to working remotely differs across regions but in many instances the onset of COVID-19 has meant that ACIAR project teams are increasingly handing over responsibility to in-country partners,' says Dr Walker.

'In many countries even if the local research team are willing and able to take up the challenge, it's not been possible because they've been under very serious COVID-19 restrictions themselves. But where continued research has been possible many of the researchers in-country have risen to the challenge and been very impressive.

'While interacting online is easier with long-established partnerships but more challenging in new areas of research, it doesn't mean we're sticking to our comfort zone. We're moving into new areas of research where building the foundations will take extra time and investment.'

At least one new concept in project management is being adopted as a result of the pandemic, says Dr Walker.

'In the past, for our mid-term and end-of-project reviews, the reviewers, project leader and other Australian researchers would travel to the country to hold the review meetings over a couple of days. That's been happening online and as we learn more about how to work online this has been very efficient.

'When we get back to having the travel, I think we will continue to use online tools wherever possible and reserve travel for those things that really can't happen otherwise—field work, building new partnerships and so on.'

Dr Walker says work is also underway to provide an online learning platform for capacity building activities to offset the impact of travel restrictions on PhD students and recipients of the ACIAR John Allwright and John Dillon Fellowships that provide scientists from partner countries involved in ACIAR research projects with the opportunity to obtain postgraduate qualifications at Australian tertiary institutions.

For two ACIAR projects—one in Laos and one in the Pacific region—teams have tapped into local resources to keep research going.

LAOS: Safety measures support ongoing plywood research

Timber trucks carrying loads of eucalypt logs rumble into Burapha Agro-Forestry Co's mill in Laos while inside the factory 180 local staff trained in wearing masks, social distancing and sanitisation are hard at work preparing the first export shipments of plywood for Australia.

Key points

- 1 ACIAR project teams are leaning into their long-term relationships to enable research to continue in the hands of in-country partners.
- 2 In Laos, ACIAR project work to develop engineered wood products, processing technologies and a skilled workforce continues with support of the local timber mill.
- 3 Research supporting seaweed production development in Samoa and Kiribati is continuing with local leadership and remote support.



Despite the COVID-19 pandemic, Burapha Agro-Forestry continues to work in partnership with ACIAR to develop engineered wood products, processing technologies and a skilled workforce in Laos.

The company has a public-private partnership with ACIAR and the National University of Laos (NUoL), enabling research to be converted into commercial success for the country's burgeoning eucalypt plantation industry.

Senior scientist Dr Adam Redman worked on the project from its beginning in 2017, before leaving his research position to take up the position of Plywood Product Manager at Burapha in December 2019.

Dr Redman says the global pandemic has fortunately had only a minor impact on the project so far, although lockdown in the capital of Vientiane affected Burapha's research partner, NUoL, where the wood technology research centre supported by ACIAR is located.

'About 100 students mostly from rural areas had to stay on campus during lockdowns and both Burapha and ACIAR affiliates donated financial support to help them through,' Dr Redman says.

'We are fortunate that the Burapha mill is in an isolated area of the Hinheub district, 90 kilometres north of Vientiane, and we haven't had any COVID cases so we can keep operating. This is very important for 14 graduates of the university's Faculty of Forestry who we employ as production supervisors.

'During the first lockdown in 2020, our head office staff in Vientiane had to work from home. When we had a second, more severe lockdown earlier this year, we put social distancing measures, sanitation and masks in place for field staff and mill workers here, and in June and July Burapha organised for most workers to be vaccinated on site by the provincial hospital.'

To offset the impact of the first lockdown on research, Dr Redman worked with ACIAR project partner the Queensland Department of Agriculture and Fisheries (DAF) to identify desk-based tasks that could be done online or within the university.

Two tasks produced valuable results. Burapha sent a shipment of plywood to the DAF testing facility so it could test H2 preservative treatment for termites and its potential as a fire retardant; and researchers identified a certifying body that could approve the



ACIAR partner in Laos, Burapha Agro-Forestry Co, has been able to operate during COVID-19, with its 180 staff trained in wearing masks, social distancing and sanitisation allowing them to continue production and collaborative research. Photo: Adam Redman.





company's in-house production programs to allow it to export timber products.

'We needed to find a body to certify that our quality assurance and quality control for testing and strength, stiffness and glue bond testing meets Australian standards. The desktop study identified BSI, the British Standards Institute, which has done a virtual audit of the factory that's being finalised now,' Dr Redman explains.

'That means we can meet F17 structural grade standards and sell to builders in Australia. We have already sold and shipped 15 containers to a customer in Brisbane who was confident that it would meet certification. These are all reportable and significant impacts for the ACIAR project.'

While the desktop studies proved fruitful, Dr Redman says the second and third phases of the project, which require people onsite to study forestry plantings and disease monitoring of the eucalypt plantations, will be more difficult in a pandemic.

In the future, he says, it may pay to have research staff on ACIAR projects living onsite in-country, depending on the nature of the project.

'It depends how much time is needed onsite in factories or on farms, but one or two weeks fly in, fly out is not enough for this type of project. Now that we know the impact of a global pandemic, we can include it in risk assessments for future projects and have a contingency plan for how to shift focus,' says Dr Redman.

Australian forester and consultant to the Laos project, Mr Stephen Midgely, agrees. Mr Midgely usually spends eight months of the year working in Vientiane but has been caught in Australia in the COVID-19 lockdown.

He says based on the success of ACIAR's public-private partnership with NUoL and Burapha, another three companies have begun producing laminated beams and timber veneers and are actively expanding plantations with a view to supporting associated industries.

'This is very timely given the shortage of timber products due to the pandemic,' says Mr Midgely.

'Another plus is that graduates of NUoL are in demand for highly paid jobs in the forestry industry. One of the brightest young students from the ACIAR project has been selected to complete his Masters at the University of Queensland, but because he can't travel, he is working at Burapha and developing a very good command of technical English.'

PACIFIC: Trust, texts key to maintain seaweed research

Digital communication via text and tablets has proven key to coordinating research remotely in Samoa and Kiribati during the COVID-19 pandemic for first-time ACIAR project leader Dr Libby Swanepoel.

'At times we're receiving 200 WhatsApp messages a day—there's amazing engagement,' says Dr Swanepoel, Senior Lecturer in Nutrition and Dietetics at the University of the Sunshine Coast (USC) in Queensland.

'Working remotely has meant lots of forgiveness and the freedom to try things in different ways, and with digital communication we can provide instant support or reassurance to our teams in the field.'

'It also breaks down barriers. Even if we're there in person some of the junior staff may not feel comfortable approaching us, but they're very competent and confident speaking digital language.'

With travel from Australia and within countries severely restricted to limit the spread of the coronavirus, the relationships developed between ACIAR and in-country researchers has also been



A man wraps seaweed for sale. An ACIAR-supported research team is supporting gender inclusive development of seaweed industries in Samoa and Kiribati and has pivoted in response to COVID-19 to ensure help is provided to support in-country leadership and delivery of the project. Photo: University of Sunshine Coast.



integral. Dr Swanepoel is leading an ACIAR project that is developing gender-inclusive seaweed production for long-term health, income and wellbeing in coastal communities of Kiribati and Samoa.

‘One of our Samoan researchers has been working on ACIAR projects for more than 10 years and with that longevity comes trust, which means that even if the project leader is not on the ground to see what’s happening, they value the researchers’ experience and opinions,’ says Dr Swanepoel.

‘We’ve been really lucky to have an ACIAR John Dillon Fellow and John Allright Fellow, Ms Sapeti Tiitii, working as principal fisheries officer in Samoa. Sapeti studied her Masters at USC and her knowledge of research, methods for data collection and ethics has been invaluable, both as a conduit and as a communicator between the teams in Australia and the Pacific.’

"Investing in human relationships is core to our success during, and after, COVID times."

Dr Libby Swanepoel, ACIAR project leader

The project is seeking to transform seaweed fisheries as part of a nutrition-sensitive coastal food system comprised of short supply chains, village-based processing, targeted sustainable use of natural resources and marketing for family consumption.

‘A lot of the work we do is participatory—working with communities from the bottom up—which is more difficult remotely, so we’ve relied on the in-country teams a lot,’ says Dr Swanepoel.

She explains that together they looked at the project’s original aim and method to achieve it, then worked together to adapt the project and co-create solutions.

‘It definitely took time for the in-country teams to trust themselves but that co-creative process identified gaps they might have had or barriers they’d face and, with time, they felt really comfortable to speak openly about their ideas and plans,’ she adds.

‘We also developed interactive online training modules that could be applied to other research projects. We’ve been able to train more people, because when you’re teaching online, numbers are less of an issue.’

Tablets sent from Australia proved invaluable in collecting data and Samoan researchers responded to the technology enthusiastically, learning online how to do surveys and interviews in communities and collecting data from 200 households rather than the original 100 target.

‘Previously they would have done the surveys on paper, taken them back to the computer in the office and entered the data.

‘Lots of steps are involved that are time-consuming and that involve more opportunities for error or losing data.

‘But the teams are very enthusiastic about using the tablets for fieldwork and have suggested other ways to streamline field audits and market surveys to process the data much faster,’ says Dr Swanepoel.

‘Also, I would normally take final-year students with me to the Pacific to act as buddies to local researchers and support dietary data collection, but because we couldn’t do that, we created an online app for the in-country teams with intuitive prompts to guide them through the interview and survey process.

‘We synched the app with the Pacific island food composition tables and we workshoped foods commonly eaten in Samoa and Kiribati to help collect accurate dietary intake data.

‘We’ll be able to use this data to model the contribution of different seaweeds to the diet when eaten in different amounts.

‘The team said they loved the app, particularly because it is intuitive where if a participant answers a question it brings up prompts for what to ask after that.’

While communication was ‘a breeze’ in Samoa—‘they could have been next door’, Dr Swanepoel says—it has been much more of a challenge in isolated Kiribati.

‘Physically just sending tablets to Kiribati has meant trying several global couriers to fly packages to Fiji and then ship them to Tarawa. The Zoom connections are highly unreliable. We email training modules and ask for feedback and researchers say, “Emails haven’t downloaded since last week”.’

Dr Swanepoel says it is also important to take extra time in online meetings to acknowledge the core of all conversations in the Pacific: humour and family.

‘We forward plan to have extended meetings to accommodate time for the all-important chat with researchers about family and personal happenings outside work. Investing in human relationships is core to our success during, and after, COVID times.’

ACIAR PROJECTS: Advancing enhanced wood manufacturing industries in Laos and Australia, FST/2016/151 and Improving nutrition through women’s and men’s engagement across the seaweed food chain in Kiribati and Samoa, FIS/2019/125.



Mapping the impact of agricultural research investments

Key points

- 1 Researchers are capturing data on the impact and capacity-building benefits of agricultural research investments in South-East Asia.
- 2 The data, which feeds global indicators to compare countries, shows positive impacts and agricultural growth but declining investment.
- 3 Progress varies by country, with different national-level opportunities emerging. The Pacific region is next in line for assessment.

Countries including Myanmar are already using the data generated from the agricultural research investment report in their strategic planning for agricultural research investment frameworks. Photo: Conor Ashleigh.



A four-year project to map the state of public sector agricultural research capacity in South-East Asia and the Pacific region has given research funders and policymakers a window into the future, flagging challenges for public and private investment, staffing levels and policy direction.

The project marked the first time the global Agricultural Science and Technology Indicators (ASTI) data collection system has been used in the region to provide cross-country analysis of agricultural research in 10 countries, assessing resource allocation, performance and impact on productivity.

Project leader Mr Gert-Jan Stads from the International Food Policy Research Institute (IFPRI) says while there was historical data for the region from the 1980s, ACIAR funding allowed the ASTI project team to identify current key trends through surveys of more than 350 individual government agencies, non-profit organisations and higher education centres.

Country-level involvement

Key analysts were involved from each country to ensure the surveys reflected national circumstances and priorities, he says—a task made easier by assistance from the Asia-Pacific Association of Agricultural Research Institutions (APAARI) as a project partner.

‘Some countries wanted to be self-sufficient in a larger number of commodities to reduce their import bill, others said they had too many staff and needed to make their research more efficient, and the ageing of highly qualified researchers was an issue for many,’ Mr Stads explains.

‘Through the partnership with APAARI we also focused on teaching countries the methodology to collect this data themselves, because by devolving responsibility to the region, the type of information collected is much more relevant to the demands of each country and becomes a valuable advocacy tool.’

Positive signs

The project found that South-East Asia strengthened its agricultural research and development capacity during 2000–17, with all countries reporting higher numbers of researchers, improvements in their qualifications and a higher proportion of women in agricultural research and development.

But spending on agricultural research remained stagnant, despite considerable growth in

agricultural output. South-East Asia’s research intensity—agricultural research spending as a share of agricultural GDP—steadily declined, from 0.50% in 2000 to just 0.33% in 2017.

The report concluded that more ambitious policy measures are needed to tackle the region’s underinvestment in agricultural research. This will ensure that research institutions stay adequately staffed into the future and strengthen research linkages, both in-country and at the subregional level, as well as target well-defined priority areas.

Changing times

ACIAR Chief Scientist, Dr Daniel Walker, says the organisation’s capacity-building team has been assessing the ASTI data and will use it as a guide to check and calibrate current programs and priorities.

‘Capacity building is one of ACIAR’s core mandates so to have these metrics across countries is very valuable. The challenge is how we use that information to make decisions and help partner countries to better target their investment in research,’ says Dr Walker.

‘We need to guard against the real risk of investment in ag research decreasing because of the lag between having capacity and achieving productivity, profitability and sustainability outcomes.’

The pattern of agricultural research investments globally has changed significantly in recent years, he says, and policy and investment needs are very different to those of the past.

‘There is an increasing proportion of private versus public sector activity, more research in middle income countries—particularly in Asia—and therefore declining proportional activity in OECD countries, but still very limited research conducted in the least developed countries.’

‘The nature of the system changes over time. For example, when ACIAR first started working with Vietnam in the 1970s the country had limited research and innovation capacity by global standards. Now it’s an emerging economy with a very capable and entrepreneurial ag system. Having the current ASTI data is critical to inform our decisions.’



Tracking national progress

Updating the data is also important, Dr Walker says.

'We need to update ASTI data as efficiently and effectively as possible so that it remains accurate and relevant. It's expensive to do regularly but by building partnerships with government departments so that they own this, it will increase the ownership and efficacy of the information,' he says.

Although the extent of underinvestment in agricultural research differs across countries, the report concluded that the region needs to increase its investment substantially to address future challenges more effectively and ensure productivity growth.

South-East Asia's least developed agricultural research systems (in Cambodia, Laos and Myanmar) are characterised by low scientific output and researcher productivity as a direct consequence of severe underfunding and lack of sufficient well-qualified research staff.

While Malaysia and Thailand have significantly more developed agricultural research systems, they still report key inefficiencies and resource constraints that require attention.

Indonesia, the Philippines and Vietnam occupy intermediate positions between these two groups.



The project found that South-East Asia strengthened its agricultural research and development capacity during 2000–17.

Investing for impact

ASTI's projections reveal that prioritising investment in staple crops will still trigger the fastest agricultural productivity growth in Laos. However, Indonesia, Malaysia and Vietnam could achieve faster growth over the next 30 years by prioritising investment in research focused on fruit, vegetables, livestock and aquaculture.

In Cambodia, Myanmar and Thailand, the choice between focusing on staple crops versus high-value commodities was less pronounced, but projections did indicate that prioritising investments in oil crop research would trigger significantly lower growth in agricultural productivity.


Dr Walker says APAARI's mandate for working across agricultural research institutes with more than 80 members in the region is invaluable in raising awareness and understanding of the value of this research.

APAARI Executive Secretary Dr Ravi Khetarpal says the ASTI project has built on strong partnerships to provide a platform for skilling up and scaling out research outputs, innovation and technology, and this could be carried into the broader Pacific region.

'As part of the project we did a lot of outreach and communications and I could see that there was a whole-of-government willingness for this qualitative progress to be translated into actions,' Dr Khetarpal says.

'APAARI is in discussions with the Pacific Community (SPC), to carry this mission to islands of the Pacific to quantify the impact of agricultural research there and deliver programming to better harmonise research with South-East Asia.

'While there is a funding crunch in most of the developing countries, ASTI provides a rationale to help members strengthen investment in ag research as part of their planning process and increase their capacity to contribute to sustainable development goals.'

Mr Stads says there is already evidence that the ASTI information is being included in strategy planning for agriculture investment frameworks in Laos, Myanmar, Papua New Guinea, the Philippines and Vietnam. 

ACIAR PROJECT: Monitoring Agricultural Research Investments, capacity and impact in South-East Asia and the Pacific, GP/2016/093.



From beta-testing to global roll-out

What started as a small ACIAR research project to better assess solutions to land, soil and water degradation is now expected to go global with the support of the Food and Agriculture Organization of the United Nations (FAO).

The project is focused on creating a digital Comprehensive Framework of Response Assessment (CFRA) to better understand the effectiveness of technical, institutional and policy responses to mitigate and adapt to land, soil and water degradation.

CFRA is currently undergoing beta testing in the Philippines and if everything goes according to plan it is expected to play a key role in transforming FAO's flagship decadal report on land and water resources, called SOLAW, into a real-time decision-making tool tentatively called SOLAW Live.

'We seem to have found a bit of a sweet spot,' says Dr James Quilty, ACIAR Research Program Manager for Soil and Land Management. 'There's quite a bit of interest in CFRA and FAO has been very engaged.'

Dr Anik Bhaduri, the project leader and an associate professor at Griffith University, points to two reasons why CFRA could be critical to the development of SOLAW Live.

The first is that the framework enables decision-makers to easily assess the quality of potential responses to land, soil and water degradation. This is a big step up from current



A framework to assess the effectiveness of responses to land, soil and water degradation aims to help decision-makers in the Philippines to implement more successful interventions. Photo: James Quilty, ACIAR.



practices where ‘the solutions that come out of any report are really ad hoc’, adds Dr Bhaduri.

The second is that CFRA enables real-time decision-making, which reduces the fatigue affiliated with decadal reports while simultaneously making the content in those reports more dynamic.

Testing first

The digital tool is now in beta-testing in the Philippines. While phase one of CFRA back in 2020 focused on compiling huge global data sets, phase two now is more about getting into the country level. This is important because global data is inherently biased due to the fact that generally only successful responses to land, soil and water degradation are reported. Therefore, any recommended responses need to be validated on the ground and data gaps must be filled.

In order to get a nuanced country-level perspective, Australian researchers are collaborating with Philippine government agencies particularly the Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) as well as the Department of Agriculture—Bureau of Soil and Water Management. Dr Bhaduri says the Philippines was a natural choice for a project partner.

‘First, our relationship with them is strong enough that they co-invested in the project, and second, if you look at their research capacity, it’s actually very high,’ says Dr Bhaduri. ‘We were confident that if we engaged DOST-PCAARRD on this they would give us an honest assessment.’

Dr Rey Ebor, Executive Director of DOST-PCAARRD, welcomes the project. He says that about 70% of Philippine land has been degraded due to soil erosion, making this one of the most serious forms of land degradation in the country. As a result, DOST-PCAARRD has funded several technologies related to soil and water resources over the years and is now in need of a tool like CFRA and SOLAW Live to assess local technologies and their impacts.

‘Among other things, we envision CFRA to achieve improved decision-making for sustainable management of land, water and soil in the Philippines, including private- and public-sector investments to address degradation,’ says Dr Ebor.

At the moment the researchers are focused on collecting country-level data before validating it by testing their analysis on the ground at five or six

monitored sites. CFRA has 60 categories of responses and, among other things, the researchers want to know if a response works under certain conditions in one region, can it work in another region with similar conditions? What is the probability that farmers in both regions will adopt the response?

Scaling out

‘If the whole project is successful then we can roll out at a much bigger level in the Philippines and other countries,’ says Dr Bhaduri. ‘Of course, the actual rollout should be done by the Philippines and other implementing organisations.’

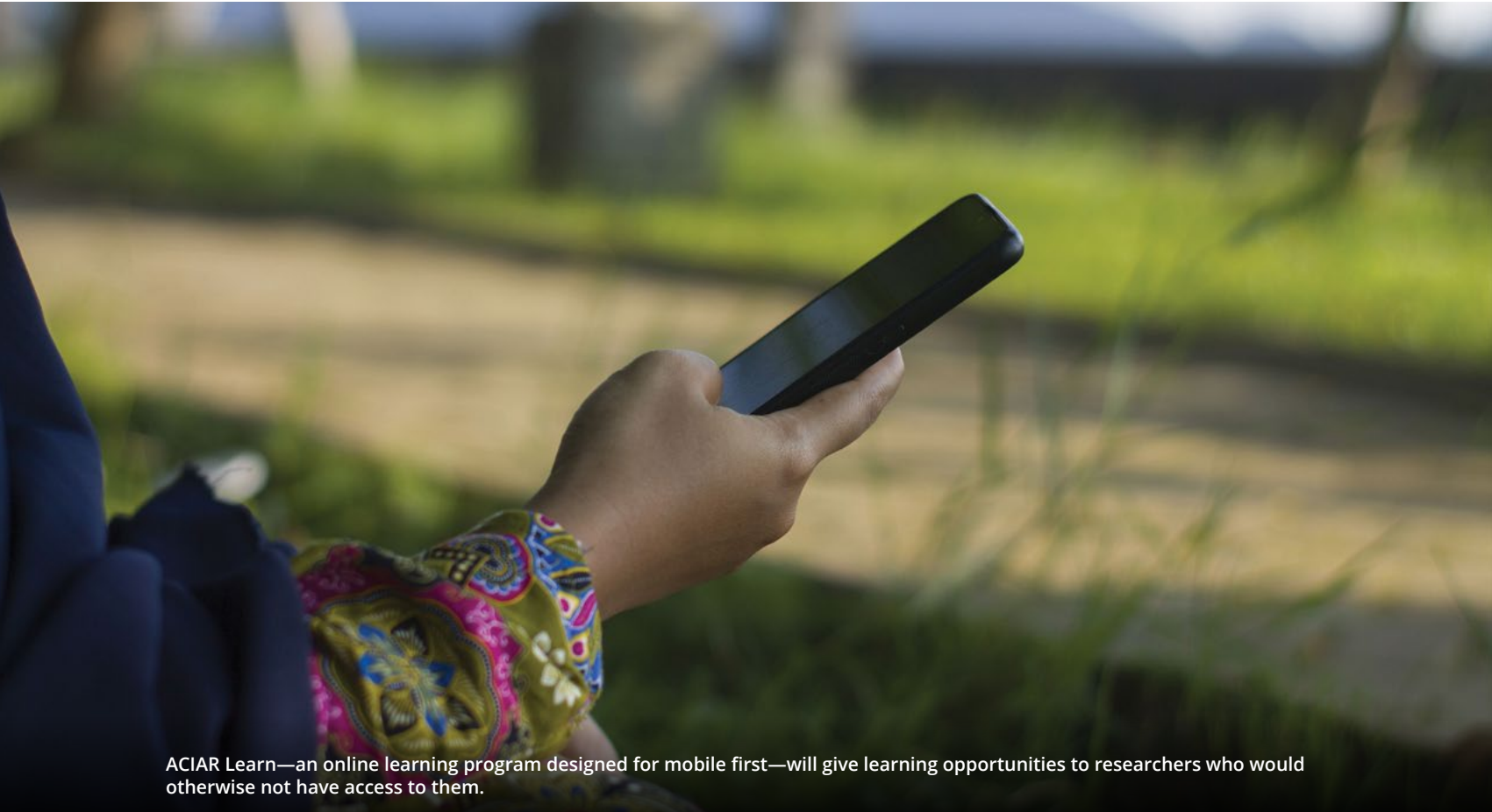
The researchers hope to present the progress they’ve made with CFRA at the annual United Nations Climate Change Conference (COP26), which will be held in Glasgow, Scotland, this November. FAO has expressed strong interest in the tool and other development agencies are also taking notice.

‘We’ve been talking to the Australian Government Department of Foreign Affairs and Trade and others wherever we get the opportunity,’ says Dr Quilty. ‘There’s potential for the World Bank, or Global Environment Facility (GEF) Funds, or any of those big multilaterals that are trying to look at how they invest funds to overcome soil and land degradation as well as improve the sustainability of food production systems. Overall, there seems to be a lot of interest in [CFRA] quite broadly.’ 

ACIAR PROJECT: Development of a cost-benefit assessment framework in support of the State of Land and Water (SOLAW) report 2021, SLAM/2020/138.

Key points

- 1 ACIAR is supporting the development of a framework to better understand the effectiveness of responses to mitigate and adapt to land, soil and water degradation.
- 2 The Comprehensive Framework of Response Assessment is being beta-tested in the Philippines and, if successful, could be rolled out globally with FAO support.



ACIAR Learn—an online learning program designed for mobile first—will give learning opportunities to researchers who would otherwise not have access to them.

Mobile-first learning—a first for ACIAR

A new learning initiative is promising to change how ACIAR researchers build their skills and knowledge. The aptly named ACIAR Learn will introduce an innovative approach to online learning as part of ACIAR capacity-building efforts.

ACIAR Learn will provide training to agricultural researchers across ACIAR partner countries, targeting existing in-country project teams and the alumni network. In a change from lengthy online courses that aim to replicate a face-to-face experience, the new initiative is designed for mobile first and will deliver learning in bite-sized chunks. It's a completely fresh approach according to ACIAR Capacity Building Manager, Mr Geoffrey O'Keefe.

'Prior to March 2020, almost all our capacity-building activities were delivered in person in Australia. The COVID-19 pandemic meant we had to shift to online

learning. We found that many courses were struggling with retention and there were persistent connectivity challenges in some countries. It also became apparent that we were entering a new normal where remote learning would become increasingly expected. This led to a rethink of the way we were delivering training,' says Mr O'Keefe.

'We endeavoured to come up with a project that would address these shortcomings. We were looking for something that would be game-changing for us and I think we landed in the right place.'

Users first

The technology and method of teaching behind ACIAR Learn is underpinned by two core principles: micro-learning and mobile-first.

Micro-learning means providing bite-sized teaching through small lessons that can often be completed in 5–10 minutes, and examples that can be scaffolded onto a broader learning program.

Mobile-first means people can access their courses through their phone in low-bandwidth environments, which is especially important for those in remote areas with poor connectivity. After the initial download they are also able to access courses offline.

Together the two principles mean users can learn anywhere at any time at their own pace—at home, on the bus or during their lunch break.

Expert delivery

The University of Queensland (UQ) and Catalpa International—an organisation that develops technology for social impact—are partnering to design, develop and deliver ACIAR Learn. ACIAR Learn will start with selected project teams in-country over a four-month period. If successful, full implementation will begin in early 2022. The project is being led by UQ's Ms Alessia Anibaldi.

'This is the first time that UQ and Catalpa have partnered together. We share similar values and objectives around teaching. We both strongly believe in education that is inclusive and bespoke, has enhanced engagement and ongoing support, and provides motivation to learn. We bring together the best of two worlds. UQ is a global leader of teaching

in agriculture and Catalpa is a leader in delivering education technology that is fit for purpose around the world,' says Ms Anibaldi.

'We're looking forward to combining our international development teaching experience with Catalpa's e-learning expertise.'

Catalpa is leading the development of the learning technology. Head of Partnerships and Programs at Catalpa, Mr Ben Miqueu, says the learner will be at the centre of the design.

'We use human-centered design to guide the way we support learners and the technology/content development process,' says Mr Miqueu.


'Practically, this means that we build with people, not for them, taking into account their lived experience, indigenous knowledge and daily work life. This process, sometimes called "persona mapping", helps us to understand the day-to-day challenges our learners experience.'

Better learning

The approach and technology have seen past success through the Matenek program that was funded by Australia's Department of Foreign Affairs and Trade. This program provided professional development for primary school teachers in Timor-Leste. A key area for improvement was time spent preparing before classes. Those who went through the program more than doubled this preparation time (to 4.5 hours a week) compared to those who didn't. Program participants also saw higher levels of teacher readiness, lesson planning and on-pace delivery.

Ms Anibaldi says better learning outcomes will be just one benefit of ACIAR Learn.

'We're discovering that there are real benefits to online learning when it's done right. It's far more flexible and accessible. You can do it in your own time and you don't have to leave the country, which enables many more people to access the opportunity to learn. It makes learning more equitable for different genders around the world and is far more socially inclusive,' explains Ms Anibaldi.

Over the course of the project, ACIAR Learn is expected to become available to in-country project team members of all levels and ACIAR alumni. Mr O'Keefe has highlighted that content will be centred around ACIAR work so it is relevant and relatable to all learners. 

Key points

- 1 ACIAR Learn is an online learning program designed for mobile first that supports the professional development of ACIAR-supported researchers.
- 2 Covering a range of topics, ACIAR Learn will share expertise from across the ACIAR network to improve the delivery of research projects.
- 3 The University of Queensland and Catalpa are partnering to develop and deliver ACIAR Learn.

MORE INFORMATION: ACIAR Learn, www.aciar.gov.au/ACIARLearn



Dr Beth Woods: working to grow Australia's research impact in global food systems

For Dr Beth Woods, eliminating food waste is a key challenge to overcome in improving global food systems and reducing their carbon footprint. But while research is the starting point for finding solutions, partnerships—particularly helping partner countries develop better policy—is where ACIAR can have its biggest impact.

The word 'policy' is one of the least exciting words in the vocabulary of international research. But for ACIAR, helping partner countries to develop effective, evidence-based policy to improve agricultural and food systems is a critical aspect of its development work in poorer countries.

In fact, working with agencies in partner countries to translate research into policy around issues like water use or sustainable fishing is an effective way by which ACIAR—with its relatively modest funding base compared to large international NGOs—can 'scale out' its research to smallholder farmers and other target groups around the globe.

This point was made by Dr Woods—one of the seven members of Australia's Commission for International Agricultural Research—during a recent interview.

The Commission's role is to provide strategic advice to the Australian Minister for Foreign Affairs on Australia's international agricultural research and assistance program.

Dr Woods was appointed to the Commission in late 2020, bringing to it immense experience and deep insights gained in three decades working in international research for development, including chairing two major agricultural research centres headquartered in the Asia-Pacific region: the International Rice Research Institute and WorldFish.

In Australia, Dr Woods served as Director-General of Queensland's Department of Agriculture and Fisheries until recently, as well as in high-level board and advisory roles in research and agriculture organisations nationally.

Dr Woods is no stranger to ACIAR, having chaired its board in the mid-1990s, and the Policy Advisory Council in the early 2000s. She says coming back to



Dr Beth Woods, recent appointee to Australia's Commission for International Agricultural Research.

Key points

- 1 Dr Beth Woods has identified the opportunity for ACIAR to have a bigger impact through its partnerships, including with the private sector and other development organisations.
- 2 Reducing food loss and waste must be a focus to improve the efficiency of global food systems, according to Dr Woods.



the organisation has brought an opportunity to reflect on the changes in food systems she has seen.

The food-waste challenge

'There are some big issues the world needs to get better at,' says Dr Woods. 'For example, we waste an enormous amount of food—in the paddock, in transport and distribution systems, and in households, particularly in richer countries.'

'Each bit of food waste has a cost, not just in food foregone but in terms of greenhouse gases that have been produced for no food outcome. That drives up the average emissions per unit of food consumed.'

'If we're to feed the world's projected population of nine billion people a satisfactory diet by 2050, food waste becomes a target, along with understanding where the systems are leaking carbon.'

During visits to Indonesia earlier in her career, Dr Woods noted how small-scale food drying units enabled farmers and villages to reduce wastage from crops such as bananas, with unsaleable fruit or vegetables being made into a nutritious, marketable dried product.

'These technologies tend to involve the private sector—the company that makes the small-scale dryer, for example, or that builds rodent- and insect-proof storage units for holding the dried product.'

'There are many opportunities where ACIAR research can intersect with commercial expertise.'

'It gets back to that partnering question. To underwrite the development process that sits beside the agricultural research, ACIAR's job is also to seek partnerships with larger development organisations and aid programs.'

Disruption and innovation

Dr Woods says disruptions to food systems during the COVID-19 pandemic offer insights into the challenges the world will face in producing and distributing more food to a future, larger population.

'The pandemic has demonstrated that agricultural systems and food systems are remarkably resilient.'

'That's not to underplay how bad it's been for the millions who've slipped into food insufficiency, but the numbers could have been worse, and what we saw was how interconnected food systems are. When COVID closed an industry in one country, it created an opportunity somewhere else.'

'That experience will help sharpen some of the planning about how the global food supply could adapt to meet the pressures of 2050 or even 2030 [the target for the United Nations' Sustainable Development Goals, or SDGs].'

A major challenge in the future will be getting food from rural areas to the growing number of people migrating to towns and cities.

'Now we have to think about all the logistics—the storage and transport questions—and how to deliver a desirable, quality product to a poor consumer in an urban environment at a price that they can afford,' says Dr Woods.

'A great example of a technology that will grow in coming years will be the urban farming set-ups we're seeing in developed countries: fast-growing annual

Building partnerships with development organisations, aid programs and where research intersects with commercial expertise is part of ACIAR's job.

vegetables and fruits produced in vertical farming structures in cities, with great efficiencies in terms of energy, water and nutrient use, waste and transport.

'The challenge for ACIAR is to identify how these technologies impact both the urban and rural poor as they're taken up—as they inevitably will be—in developing countries.'

'What happens to the small-scale farmers who provide those sorts of products for cash income to pay their children's school fees or the doctor or anything else they need to buy from selling the excess produce?'

The ground-zero perspective

Dr Woods says she hopes to be able to meet face to face with researchers and project leaders in those countries at some time in the future when the COVID-19 risks are under better control.

'It will be critical to hear firsthand from people in other countries what their real needs are post-pandemic, because it's easy for us to imagine what they might be.'

'Apart from anything else, food is an incredibly cultural part of our lives and economies. You can't think about food systems transformation without thinking about the local cultural nuance that always sits under everything related to food, in whatever locality you're in.'



Indonesia forges new innovation pathway

In a first for the country, Indonesia is reviewing its agricultural research, development and extension sector with a view to transforming how it operates to get better results.

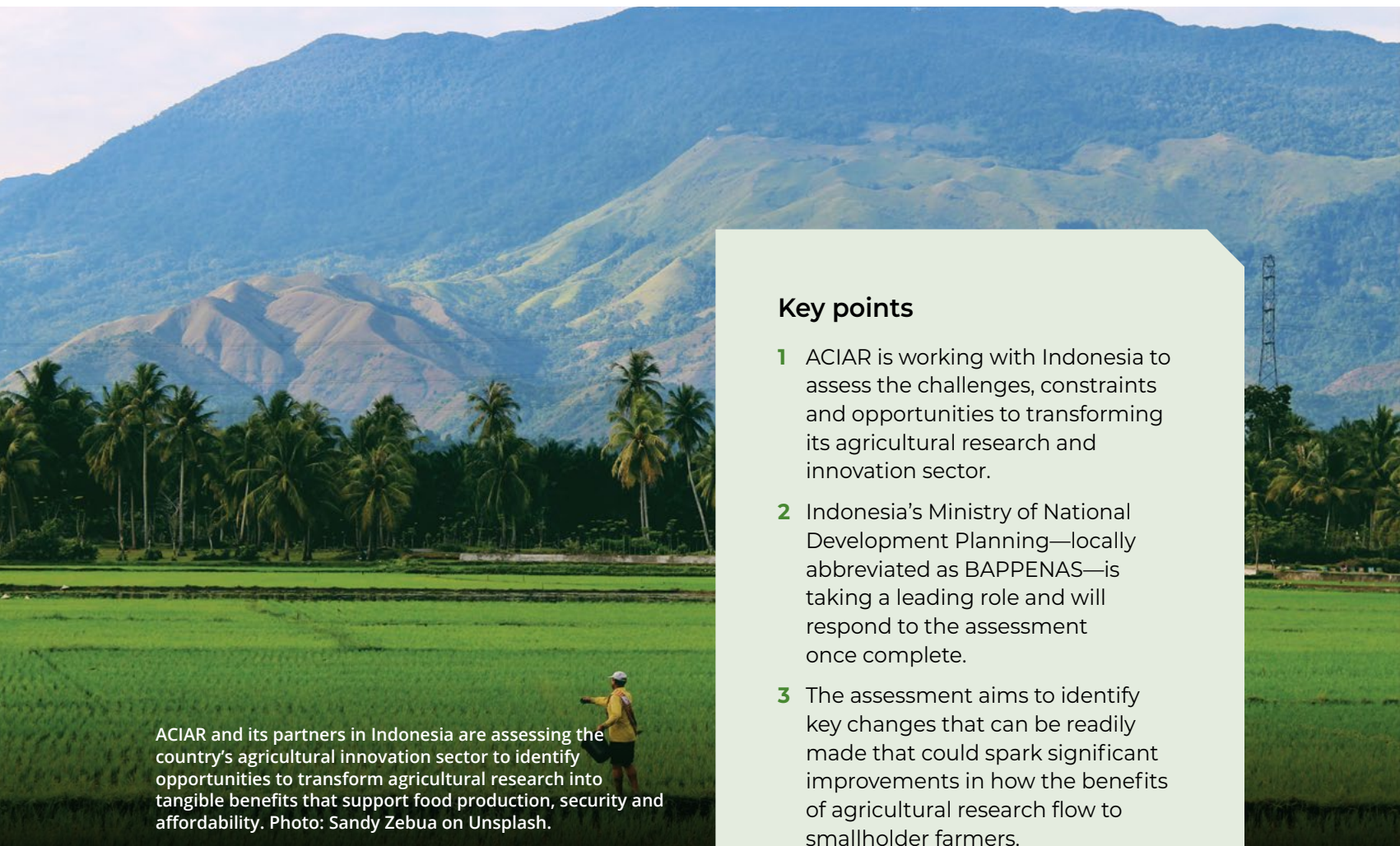
Indonesia was the first country that ACIAR struck up a relationship with nearly 40 years ago, in 1982. ACIAR and its various ministry and government partners in Indonesia have subsequently built a network of close ties and more than 115 projects have been completed together.

With the establishment of the latest shared body of work to assess the challenges, constraints and opportunities of agricultural research and innovation, the relationship has taken an even bolder partnership approach.

'We've always dreamed that we might have a higher-level relationship with Indonesia and particularly around strategic engagement on research approaches,' says Dr Peter Horne, General Manager, Country Partnerships, ACIAR.

Deeper ties

The turning point came when Indonesia's Ministry of National Development Planning—locally abbreviated as BAPPENAS—approached ACIAR to discuss how the two organisations could work together to



ACIAR and its partners in Indonesia are assessing the country's agricultural innovation sector to identify opportunities to transform agricultural research into tangible benefits that support food production, security and affordability. Photo: Sandy Zebua on Unsplash.

Key points

- 1 ACIAR is working with Indonesia to assess the challenges, constraints and opportunities to transforming its agricultural research and innovation sector.
- 2 Indonesia's Ministry of National Development Planning—locally abbreviated as BAPPENAS—is taking a leading role and will respond to the assessment once complete.
- 3 The assessment aims to identify key changes that can be readily made that could spark significant improvements in how the benefits of agricultural research flow to smallholder farmers.



transform the country's agricultural innovation system. BAPPENAS plays a centralised leadership role with capacity and planning authority to influence all national ministries and local government.

According to Dr Horne, BAPPENAS wanted to enable significant change to Indonesia's agricultural innovation and delivery system. It wanted to review how the system works now, and it wanted to invest resources in implementing changes to that system based on the assessment.

'It took me about a microsecond to respond,' says Dr Horne. 'This is literally what we've been looking for, for a long time: a partner country reaching out to us, building on a trusted relationship, to work with them around how they want to invest their resources in changing their agricultural innovations systems.'

The Ministry of Agriculture was immediately looped into the work as ACIAR's formal local partner.

Assessing impact, identifying opportunities

Another partner working on the project is agribusiness consulting company PT Mitra Asia Lestari.

It has identified that there has been a significant amount of research in Indonesian agriculture over the past 40 years but there is uncertainty whether that has truly translated into productivity gains.

The report being prepared as part of the project will assess whether the system of translating research into outputs and benefits for smallholder farmers is working.

For Dr John Ackerman, Director of PT Mitra Asia Lestari, sharing and implementing knowledge gained from research is always a challenge, but it is central to making the most out of that research.

'Indonesia's size, diversity and physical nature—an archipelago country of more than 17,000 islands—makes it all the more difficult to share information with farmers,' Dr Ackerman says.

'But it's not only about sharing knowledge gained with farmers; it's also about how other information flows can be improved—including to improve market information and yield forecasts.'

Dr Ackerman says he hopes the assessment will identify any critical bottlenecks in the current agricultural research innovation system and ways to streamline it to make it more efficient and effective to help improve people's lives and increase farm productivity.

'I'm hopeful that, given this is a rapid assessment on what is a very complex system of agricultural research and innovation involving multiple agencies, the report will be able to identify some simple policy aspects that Indonesia could implement without changing major components or regulations,' Dr Ackerman says.

'Just implementing some simple aspects that would improve efficiencies for communication, how research is actually performed and the results disseminated could be key.'

Local impact

ACIAR Country Manager for Indonesia Ms Mirah Nuryati sees the potential for this work to directly support the advancement of smallholder farmers too, and it could also help to build their resilience.

'Indonesian farmers are in a difficult situation,' says Ms Nuryati. 'COVID has limited their ability to transport their produce, and this in turn has affected the supply of food to city-dwellers.'

'Even before COVID, it was recognised that farmers did not have access to the knowledge and resources they needed to develop their farms and their business.'

She adds that opportunities like e-commerce are emerging as fundamental to local food systems. Yet, the complexity of the country's agricultural research and extension system may not be optimally positioned to assist farmers transforming how they operate and upgrading their farm enterprises.

National commitment

Indonesia is looking to strategically improve food production, food security and food affordability and this assessment is part of that process.

Ms Nuryati emphasises how dedicated the country is to transforming its agricultural sector and aligning all future research plans and projects to a national strategy.

BAPPENAS is uniquely positioned to help—and its leadership in the assessment and its response could be a game-changer.

Its ability to coordinate and lead change could result in research being effectively scaled 'up' to support policy decision-making and 'out' to support technology uptake and practice change by farmers.

The report covering the assessment is expected to be submitted later this year. 🌱

ACIAR PROJECT: Assessment of Indonesia's Agricultural Innovation System, SSS/2021/100



A tale of two diseases: Cassava and COVID-19

Cassava starch—a key ingredient in some of Australia’s favourite foods and consumer products—is increasingly being threatened by rampant diseases in South-East Asia.

Cassava witches broom disease (CWBD) and cassava mosaic disease (CMD) have infected a total of more than 653,000 ha or 24% of the total cassava area across Cambodia, Vietnam, Thailand and Laos. This devastation represents a 105% increase from 2020 and millions of dollars in lost revenue for smallholder farmers.

‘Cassava diseases are continuing to move into new areas and it’s important to get on top of it early and before it gets out of control,’ says Dr Jonathan Newby, an agricultural economist at the International Center for Tropical Agriculture (CIAT.)

Dr Newby is the leader of a project now in its second year which aims to enhance smallholder livelihoods and economic development in mainland South-East Asia. The project is focused on improving the resilience of cassava production systems and value chains by addressing the rapidly evolving disease constraints.

Cassava is a multi-billion-dollar industry and, despite the ongoing COVID-19 pandemic, demand for cassava-based products remains strong, with reductions in some segments offset by growing demand in China.

COVID highlights regional needs

Dr Newby says the project has made ‘significant progress’ over the past year but the situation in each partner country is different. For instance, in Laos the incursion is just getting started so a short-term response focusing on locating small outbreaks and then eradicating the disease is slowing expansion.

In Cambodia the disease is rampant but trials have shown that establishing a crop with disease-free planting material of less susceptible varieties can still generate a ‘very good yield’ if the disease pressure is not too high. The issue is that disease-free stems are becoming hard to find so early disease detection buys researchers and farmers time to adapt.

In contrast, results in southern Vietnam show that if the disease pressure is too high then starting with clean planting material of less susceptible varieties doesn’t solve the problem and farmer incomes and industry suffer as a result. In these cases, disease-resistant varieties become key. Such varieties are now being multiplied in Vietnam and will soon go through multi-location trials throughout the rest of Vietnam, Laos and Cambodia.

Partner countries are benefitting from the importation of disease-resistant cassava varieties that the Nigeria-based International Institute of Tropical Agriculture (IITA) developed in Africa and resistant clones from CIAT’s breeding program in Colombia. This first generation of resistant varieties offers hope to farmers and industry in the hardest hit regions. Of course, in the long run breeding will still be needed to ensure that resistant varieties reach the same pre-disease yield to enable the industry to remain globally competitive.

Crops for income security

As a cash crop, cassava plays a key role in providing food security and income for more than four million smallholder farmers. Often when people think about food systems and food security they’re thinking about

Key points

- 1 COVID-19 is affecting cassava production and farmers in different countries in different ways.
- 2 Understanding the different effects of the pandemic is helping an ACIAR-supported project team to target its work most effectively.
- 3 The project is improving the resilience of cassava production systems and value chains by addressing plant disease constraints.



being self-sufficient but Dr Newby says that having income from crops like cassava is important to ensure that farmers can purchase other food and necessities. That's why he and his colleagues are looking into the relationship between COVID-19 and diversified livelihoods among South-East Asia's rural families.

In Laos and Cambodia a lot of youth migrate to the city or across the border to Thailand to work in factories and the non-farming sector. However, with Thailand's COVID-19 rates skyrocketing as of late, migrant workers are increasingly returning home, thereby reducing the volume of remittance money earned off the farm. 'I think in South-East Asia that is one of the biggest impacts of COVID to date: it's not on agriculture directly, it's on the non-farm component of livelihoods,' says Dr Newby.

While what's happening on the farm is really important, people still need cash. So Dr Newby and his colleagues predict that people who are losing their jobs due to COVID-19 are going to have to harvest their cassava crops early to generate an income needed to support themselves in the short term.


'It's a vicious cycle,' says Dr Newby. 'If your cassava is now producing half as much due to early harvest and disease, then you need a non-farm job but the non-farm job doesn't exist anymore.'

'So it's important that you address these two pandemics that are going on at the same time to ensure that livelihoods remain diversified, not just dependent on the non-farm or farm sector.'

Harvesting cassava early also reduces the viability of stems for replanting. This means farmers may have to seek stems from off-farm to replant in 2022-23, creating additional demand and potentially limiting available material for replanting.

'This may see further movement of the disease in the absence of a clean seed source and distribution system,' says Dr Newby.

'The current situation highlights the importance of agriculture as the livelihood foundation that people can retreat to when things go wrong in the non-farm sector,' he adds.

'Maintaining productivity of important cash crops like cassava is going to be critical as countries in the region continue to struggle with the economic consequence and recovery from the COVID-19 pandemic.' 

ACIAR PROJECT: Establishing sustainable solutions to cassava diseases in mainland Southeast Asia, AGB/2018/172.



Staff from the Lao National Agriculture and Forestry Research Institute working on the ACIAR-supported cassava project have planted around 500 individual clones to evaluate their resistance to cassava mosaic disease (CMD) at the Maize and Cash Crop Research Center, Vientiane. Photo: CIAT.



Food systems transformation: a global priority

We are at a pivotal moment, warned UN Secretary-General Mr António Guterres in his opening remarks of the UN Food Systems Pre-Summit in July. He admitted that the world is ‘seriously off track’ to achieve the Sustainable Development Goals (SDGs) by 2030—yet there is hope.

Transforming food systems—which refers to the broad range of activities involved in producing, processing, transporting and consuming food—is one of the best ways to make progress on all 17 SDGs. That’s because the health of our food systems deeply affects everything from the health of our bodies to the environment, economies and culture.

It is in this context that the United Nations (UN) is convening the Food Systems Summit: to accelerate

and build efforts to achieve the SDGs over the next 10 years to 2030.

The Food Systems Summit involves a year of preparatory engagement and Dialogues leading up to a global event in September. It is being hailed as a ‘people’s summit’ and a ‘solutions summit’. One of its primary aims to spur collaborative action to transform the way the world produces, consumes and thinks about food.



Tanzanian farmer Anatalia Kilienyi sets up a soil monitoring device—technology like this has been elevated by ACIAR as part of the UN FSS Dialogues to demonstrate its potential impact if successfully scaled out. Photo: Andrew Munuwa.

Key points

- 1 The United Nations Food Systems Summit is a year-long effort to build collaborative support and action to deliver on the Sustainable Development Goals by 2030.
- 2 The Summit focuses on food systems, because changing the way we produce, process, transport and consume food is the best way to achieve the goals.
- 3 ACIAR has positioned itself to contribute to the Summit because its focus aligns with the strategic research, values and goals of ACIAR.



ACIAR alignment

Transforming food systems for global good aligns closely with the strategy, work and goals of ACIAR.

ACIAR CEO Professor Andrew Campbell says, 'Our *raison d'être* is science partnerships for improving food systems. Food systems transformation is central for us.'

'We wanted to support Australia by contributing our expertise to the UN Food Systems Summit, so we took a pro-active approach and we have been involved in a variety of ways.'

Firstly, ACIAR is working alongside Australia's National Convenors to the Summit, the Australian Government Department of Agriculture, Water and Environment and the Department of Foreign Affairs and Trade (DFAT). ACIAR has also convened and supported several participatory Dialogues.

'Through our support of the Dialogues we've ensured that more Australian scientists have been able to participate in the Summit,' says Professor Campbell.

'Virtual Dialogues have resulted in thousands of people participating—many of whom could never have had any hope of going to a high-level UN summit in person. It's a really great concept.'

He adds that the 'formidable task' ahead is synthesising all the content and ideas generated from the Dialogues into actionable measures, but that he hopes it will help put food on the agenda in a way it hasn't been before.

The hundreds of Dialogues held worldwide will be synthesised to inform coalitions of action for more sustainable food systems.

The Dialogues are ongoing, and those that have passed can be watched online on the ACIAR website, www.aciar.gov.au. Interested parties can also get involved and contribute to the coalitions of action.

Elevating innovation

The Food Systems Summit is guided by five main Action Tracks designed to foster new actions and partnerships around safe and nutritious food; sustainable consumption; nature-positive production; equitable livelihoods; and building resilience.

ACIAR shared potentially game-changing innovations across these Action Tracks that, if taken to scale, could truly transform food systems to be more sustainable while improving livelihoods of smallholder farmers globally.

An example of this is the Virtual Irrigation Academy. This is a people-centred learning system that captures farmer knowledge and includes a suite of measuring tools including the Chameleon Soil Water Sensor, invented by Dr Richard Stirzaker of CSIRO.

The sensor overcomes language and literacy barriers in irrigation by using a simple colour scheme to inform smallholder farmers when and for how long to water their crops.

The Chameleon's popularity has led it to be semi-commercialised and available for purchase in Africa and Australia. ACIAR sees even greater potential for scaling the use of such tools and creating robust global data sets that can help inform better irrigation decisions.


The Food Systems Summit is all about solutions that can be scaled for greater global impact. With increased awareness of such innovations, development agencies may recognise the opportunities they present and invest in them with a view to supporting their rollout.

Another example is from the Pacific islands, where ACIAR is helping to ensure that coastal resources are managed sustainably and equitably. In the Pacific, upwards of 90% of coastal communities don't have sustainable coastal fisheries management practices in place.

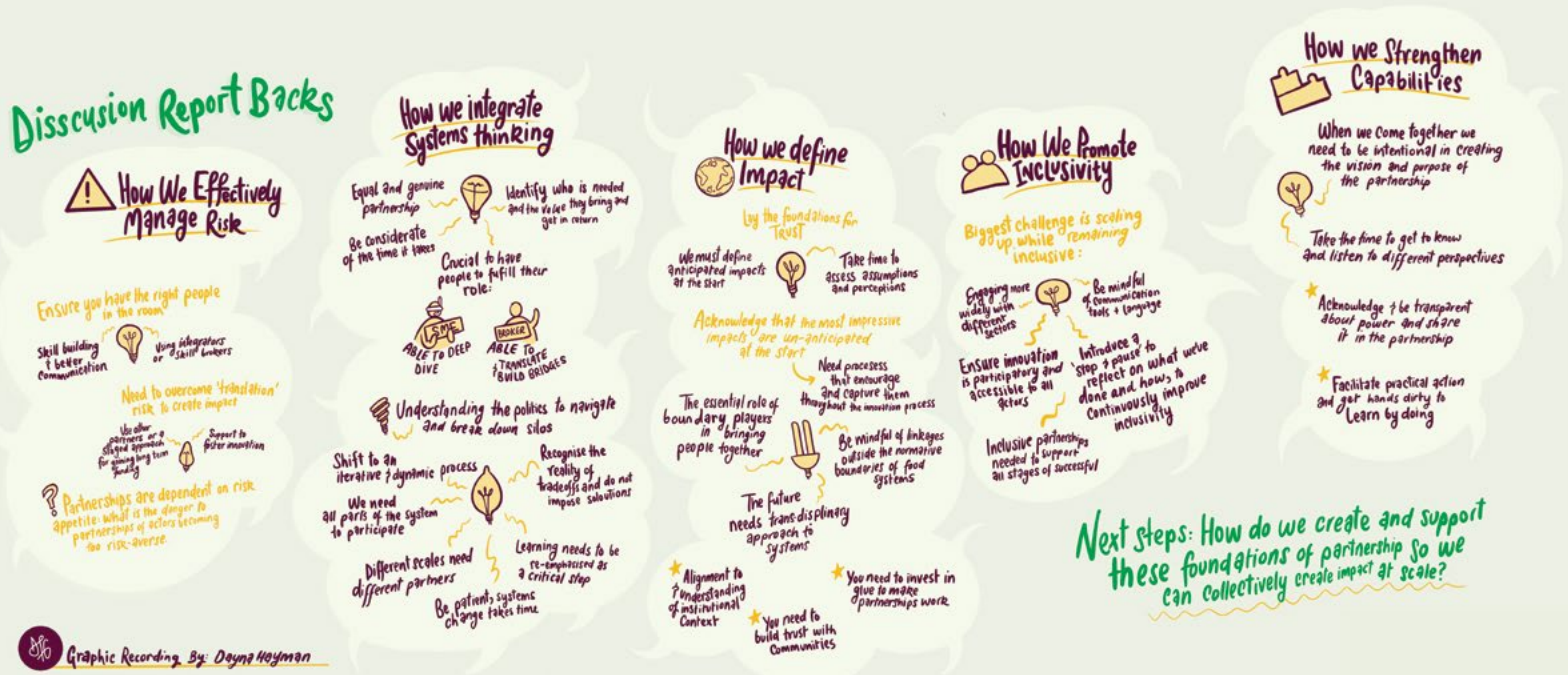
ACIAR and DFAT have co-invested alongside New Zealand in a long-running project focused on community-based fisheries management that empowers local communities to set and work towards their own fisheries management goals.

Engaging innovation

With thousands of organisations and tens of thousands of people around the world involved in the Food Systems Summit, engaging collaboratively on a global scale will be no easy task, especially as COVID-19 continues to challenge the world.

With less than 10 years in which to achieve the SDGs, ACIAR recognises the imperative that people must come together to encourage new commitments and action towards the 2030 Agenda, and the UN Food Systems Summit provides a platform for these ambitious goals. 

MORE INFORMATION: www.aciar.gov.au/UNFSS



Participants in the ACIAR co-convended Dialogue on multistakeholder partnerships identified five foundations for successful partnerships.

Dialogues identify ingredients for successful partnerships

By Dr Julianne Biddle, Director Multilateral Engagement, Research Strategy, ACIAR

Late in 2020 the research team at ACIAR began to realise that 2021 was going to be an important year in research for agricultural development. It was shaping up to be a year pressed on all sides by a global pandemic and increasing signs of climate change.

We needed to look down the barrel at the next ten years, asking the question: 'How are we going to achieve the United Nations (UN) Sustainable Development Goals (SDGs) by 2030?'

Others around the world had been asking the same question, prompting the UN to convene the Food Systems Summit to begin the Decade of Action. Other international events were also shaping up for a pivotal year, particularly the UN Climate Change Conference of the Parties (COP26).

We realised that ACIAR had an important role to play in international engagement in 2021.

ACIAR alignment with the UN

The purpose of ACIAR research is to support the development of more productive and sustainable agricultural systems in developing countries by enabling international agricultural research partnerships.

This aligns with the purpose of the UN Food Systems Summit. It is as a people's summit—bringing together key actors from diverse sectors. It is also a solutions-focused summit—creating tangible, actionable changes to the world's food systems.



To support the activity, ACIAR co-convoked two UN Food Systems Summit Dialogues: one on 'Multi-stakeholder Partnerships for Scaling Agricultural Innovation' and the other on 'Food Loss Research'. We have continued to contribute to numerous others, and we are participating in many more.

It's all about partnerships

ACIAR has a history of building robust long-term, highly effective partnerships which allow Australia to support locally led collaborative research in numerous contexts that deliver benefits domestically and abroad. Our Dialogues brought together research and development stakeholders from around the world to reflect on the important elements of partnership that are needed to support science and innovation.

ACIAR did this to reflect the multi-stakeholder inclusivity and system complexity that informs all of Australia's research and development in international agriculture. Our engagement in global events in 2021 aims to highlight the critical importance of the contributions of international partners and Australian stakeholders (including government, industry and academia) in coming together to tackle complex food systems challenges.

But why partnerships?

Partnerships in agricultural research can be a difficult-to-put-your-finger-on kind of thing, meaning that many organisations that do agricultural research aspire to do more with and through partnerships. But knowing how to make this happen, the key components for success and, even more importantly, how to ensure impact through the partnership can be extremely tricky.

If it can be so challenging, then why partner? We all know how valuable partnerships can be. They can be beautiful.

Partnerships can help validate, build and extend our ideas. They can help make our dollars go further; they enable us to share the load; they can allow research to have impact in places where we normally wouldn't have reach; and they can allow us to go beyond our normal risk profile.

We have seen all these benefits flow from our partnership-based research, and we want more. We want to use partnerships as tools to achieve all these benefits and, through them, deliver game-changing research for agricultural development.

Making a successful partnership

Through the ACIAR co-convoked UN Food Systems Summit Dialogues we brought together participants from many countries (29 countries for just one dialogue) in a truly global collaborative effort to explore the tangible elements and application of partnership.

Participants contributed to small-group discussions where they were able to take the time to share their own examples of innovation and best-practices with one another. From these discussions emerged five foundations as being central to building successful partnerships as we scale food systems solutions. The participants identified that partnerships must manage risk effectively, promote inclusivity, integrate systems thinking, define impact and strengthen capabilities.

Strong partnerships require that each of these foundations is considered at each stage of innovation: from problem definition, through options analysis and validation, in order to scale solutions successfully.

Partnerships from here

These types of global engagements through the Dialogues in 2021 have only strengthened our belief that partnerships are the key mechanism through which tangible change can occur in the world's food systems.

The learnings from these and future events will be shared and used to inform research through to collaborative scaling of game-changing innovations to achieve the SDGs throughout the next decade. 🌱

MORE INFORMATION: www.aciar.gov.au/UNFSS

Key points

- 1 ACIAR recognises that partnerships are the key to changing the world's food systems for the better and enabling agricultural research to have a bigger impact.
- 2 Engagement in UN Food System Summit Dialogues has helped ACIAR to build a clearer definition of the foundations of successful partnerships.



Regional roundup

Vietnam: high-level discussions

Vietnam has conducted a series of national and sub-national UN Food Systems Summit Dialogues. ACIAR has engaged with these by showcasing examples of research that have improved food safety and security, and supported climate change mitigation. In these Dialogues, then Australia's Chargé D'Affaires to Vietnam Mr Andrew Barnes and ACIAR CEO Professor Andrew Campbell (via video) affirmed Australia's ongoing support for Vietnam's food systems.

ACIAR Vietnam Country Office together with ACIAR General Manager—Country Partnerships Dr Peter Horne met with Vietnam's Ministry of Agriculture and Rural Development (MARD). They discussed the new livestock project and the John Dillon Fellowship Vietnam cohort 2021. MARD Vice Minister Le Quoc Doanh chaired the meeting and showed strong support for the scholarship and the new project. MARD and ACIAR have been working together to deliver the targets of the Vietnam-Australia research collaboration strategy (2017–27). Both parties supported a review of the strategy to ensure all targets remained relevant and that the roadmap to achieve them was working.



Vice Minister Le Quoc Doanh (lt) of Vietnam's Ministry of Agriculture and Rural Development and then Australia's Chargé D'Affaires to Vietnam Mr Andrew Barnes led discussion on the Vietnam-Australia research collaboration strategy. Photo: Nguyen Thi Thanh An, ACIAR



Australian Embassy in the Philippines Deputy Head of Mission Mr Richard Sisson and University of the Philippines Los Baños Chancellor Dr Jose Camacho Jr launch an ACIAR impact assessment in the Philippines. Photo: University of the Philippines Los Baños

Philippines: impact assessment launch

The ACIAR Impact Assessment Series No. 102: *An Integrated Approach to Ex-post Impact Assessment* has been launched in the Philippines. It looks at the full spectrum of outcomes that flow from agricultural research-for-development investments. This includes the livelihood, economic, social and environmental impacts. It is hoped the publication will be used to scale up adoption and change how impact evaluations are done.

Alumni accolades

An impressive list of ACIAR alumni have been honoured with a range of accolades.

ACIAR John Allwright Fellow Dr Balwinder Singh has received the Charles Sturt University Alumnus of the Year Award. Dr Singh was a research fellow on the ACIAR 'Happy Seeder' project.

Mr Minoru Nishi Jr, Vice Chairman of the Pacific Island Farmers Organisation Network and Managing Director of Nishi Trading, has been conferred the Honor of the Royal Order of the Crown of Tonga. Mr Nishi has supported and collaborated with ACIAR on projects in Tonga, including one that is currently bearing fruit through new commercial orchards in the country.

Dr M Zahrul Muttaqin has been appointed as Forestry Attaché at the Indonesian Embassy Tokyo, Japan. Dr Muttaqin completed his PhD in 2012 at the Australian National University supported by an ACIAR John Allwright Fellowship. He was also awarded an ACIAR John Dillon Fellowship in 2018 to do a short course on leadership. 🌱



Australian Government
Australian Centre for
International Agricultural Research

ACIAR

ANNUAL OPERATIONAL PLAN 2021-22

"The ACIAR Annual Operational Plan 2021-22 is the single best place to find out what ACIAR is doing where over the coming year."

"It's a fantastic, forward-looking resource. I encourage our partners to read it."

Professor Andrew Campbell
ACIAR CEO

Project and partners



178

Research projects
and small research
activities



58

Commissioned
organisations



31

Countries
where projects
are located



375

Collaborating
institutions



Contents include:

- ACIAR objectives, activities and investments for the year
- Summary of ACIAR global collaborations, country partnerships, and bilateral and regional research
- Regional and country breakdown of ACIAR research projects
- Capacity building and outreach activities

www.aciar.gov.au/publication/aop2021



ACIAR

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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.