

Myanmar



A\$1.7 million
Budgeted funding



8
Bilateral and regional
research projects



4
Small projects and
activities

Almost 70% of Myanmar's 54 million people live in rural areas and rely on crop production and fisheries or livestock for their livelihoods and incomes. The fishery and livestock sectors are considered the most important, after agriculture, to meet the protein needs of the population, enhance food security and provide employment for rural communities.

Prior to the COVID-19 pandemic of 2020, Myanmar was steadily catching up economically with its ASEAN neighbours, with the economy growing at around 6% per annum in recent years. Despite that impressive growth, more than one-third of Myanmar's population is in poverty, and 6% are in extreme poverty. In 2018, Myanmar was strongly reliant on intra-ASEAN trade of agricultural products, and was both the largest exporter and importer within ASEAN countries in the region. The agriculture sector contributed about 30% of Myanmar's GDP. While ASEAN neighbours were among its top investors in recent years, China had the largest economic footprint in the country.

Country priorities

In 2020, research priorities for the ACIAR program in Myanmar aligned with 2 of the 3 focuses of Myanmar's Agricultural Development Strategy and Investment Plan (2018–2023): productivity, and market linkages and competitiveness. Specifically, the ACIAR program in Myanmar is focused on:

- » increasing net production of food and cash incomes of rural households in the Central Dry Zone and Ayeyarwady Delta, through improvements in, and adoption of, production and post-harvest technologies in agriculture, including livestock and fisheries
- » building capacity in agricultural, livestock and fisheries research, development and evaluation through program activities and postgraduate and short-term training
- » providing technical assistance and advice on policy strengthening to relevant Government of Myanmar departments
- » linking Myanmar regionally through multi-country research collaborations.

Following the rapid global spread of the COVID-19 from early 2020, Australia's program of development cooperation pivoted quickly to respond to the challenges being faced by the Indo-Pacific region, with a focus on health security, stability and (of particular importance to ACIAR) economic recovery. Specifically, as part of Australia's Myanmar COVID-19 Response Plan, ACIAR committed to continuing to support improvements in food production and rural incomes through improvements in agriculture, livestock and fisheries.

The political instability that was sparked by the military coup of February 2021 has resulted in Australia's development program with Myanmar being redirected to support the immediate humanitarian needs of the most vulnerable and poor, with implementation through non-government partners.

2021–22 research program

- » **12 ACIAR-supported projects in Myanmar**
- » **5 projects are specific to this country**
- » **7 projects are part of regional projects**

ACIAR is not supporting any new research collaborations in 2021–22. Although the following sections describe individual ACIAR-supported projects in Myanmar, all these projects have largely or fully ceased functioning. ACIAR is working with each of the current projects, in consultation with international partners, to identify those that can continue to operate in line with Australia's policy of engagement with Myanmar.

Agribusiness

Smallholders who produce high-value vegetables in the Moc Chau district of Northwest Vietnam have a new supply channel to modern retail markets in Hanoi as a result of a previous ACIAR-supported project. A subsequent project, led by Dr Gordon Rogers of Applied Horticultural Research, has addressed research and development gaps in Vietnam to ensure the new vegetable chains are reliable, inclusive, sustainable and scalable. The research experience and knowledge developed through these projects in Vietnam was applied to rapidly identify, develop and evaluate a pilot high-quality vegetable chain in Myanmar. The project concludes in 2021–22, with the consolidation of effective frameworks and approaches to establish and develop resilient smallholder vegetable chains in northern Vietnam and Myanmar.¹

Cassava witches' broom disease and Sri Lanka cassava mosaic virus are spreading rapidly in South-East Asia. A project led by Dr Jonathan Newby of the International Center for Tropical Agriculture is developing technically viable and economically and socially sustainable ways to improve the resilience of cassava production systems and value chains in Cambodia, Laos, Myanmar and Vietnam. During 2021–22, the project will continue testing and evaluation of virus-free planting material and resistant varieties, and on-farm testing of new agronomic practices and training of farmers and extension officers. The establishment of facilities using innovative methods for rapid multiplication of clean planting material continues, funded in joint ventures with private firms and non-government organisation in multiple countries.²

Crops

Mungbean is an ideal rotation crop for smallholder farmers. The International Mungbean Improvement Network, established through a project led by Dr Ramakrishnan Nair of the World Vegetable Center, helped realise the potential of mungbean to improve cropping system productivity and livelihoods by improving researchers' access to genetic material, and coordinating and providing technical support to variety development in Bangladesh, India, Myanmar and Australia. Phase 2 of the network continues variety development for another 5 years, and extends the network to Kenya and Indonesia, providing access to new genetic material characterised for important traits, and improving cropping options for smallholder farmers in eastern Africa and South-East Asia.³



The International Mungbean Improvement Network provides access to genetic material and supports variety development to improve cropping options for smallholder farmers in eastern Africa, South Asia and South-East Asia. Australian farmers also benefit from the network. ACIAR project CROP/2019/144

Fisheries

Rice and fish are key components of diets in Myanmar, as well as being major agriculture sectors. Rice–fish systems encompass a spectrum of farming and fishing practices from traditional capture of fish in rice-dominated landscapes to controlled farming of fish in ponds within rice fields. With recent policy shifts in Myanmar, farmers are encouraged to diversify farming systems in agriculture, livestock and fisheries, presenting an opportunity for more productive rice–fish systems. A project led by Dr Michael Akester of the WorldFish Center is finding ways to improve rice–fish systems in the Ayeyarwady Delta to enhance production and management, and support policymakers develop enabling policy for land use. The last phase of the project will analyse data, consolidate learnings and include a closing workshop with partners.⁴

Livestock Systems

Small ruminants, such as goats and sheep, are an important income source and asset for rural and peri-urban smallholders in many parts of the world, including Myanmar. Cattle are often kept for draught power, but small ruminants are a source of income and food for many households. A project led by Dr Angus Campbell of the University of Melbourne is helping farmers in Myanmar improve goat production, transforming their herd from an opportunistic, low-input/low-output activity to a profitable market-focused enterprise, through more efficient management of animal production and health.⁵



Poultry enterprises offer opportunities to improve the nutrition of households and economically empower women, who are the key custodians of smallholder poultry in South-East Asia. ACIAR project LS/2019/142

About half of Myanmar's 15 million cattle are in the Central Dry Zone. Their primary use is to provide draught power, transportation and manure for fertiliser. Myanmar is undergoing significant transformation, and mechanisation is expected to quickly reduce the need for draught animals over the next decade. This provides a unique opportunity for smallholder farmers to move from keeping draught animals to producing beef cattle. Dr Dianne Mayberry of CSIRO Agriculture and Food leads a project to support smallholder farmers to identify the opportunities and constraints for developing a beef enterprise, developing management systems to meet production goals and quantifying potential impacts of improved forage and animal management packages on livelihoods.⁶

Poultry enterprises offer opportunities to improve the nutrition of households and economically empower women, who are the key custodians of smallholder poultry in South-East Asia. However, low-producing chicken genotypes typically dominate smallholder or family production systems. Dr Tadelles Dessie of the International Livestock Research Institute leads a project that is testing and making available high-producing, farmer-preferred genotypes of chickens to increase smallholder productivity as a pathway out of poverty in Cambodia, Myanmar and Vietnam. The project is also strengthening the capacity of young scientists in the project countries to conduct high-quality research on village poultry systems, for the benefit of smallholder farmers.⁷

It is widely reported that the impact of COVID-19 on food systems across the Indo-Pacific is exacerbating gendered inequalities in the region, such as unequal access to productive resources, markets and institutions for women. Professor Sara Davies of Griffith University leads a small research activity to develop an evidence-based approach to identify and understand the specific gendered impacts of COVID-19 responses on food security and socioeconomic outcomes in Myanmar, the Philippines and Papua New Guinea. These insights will be used to outline opportunities and design approaches that will begin to mitigate the harm caused by the COVID-19 disruption at the individual, household and community level. This project contributes to stage 3 of the ACIAR assessment of COVID-19 impacts on food systems in our region.⁸

The COVID-19 pandemic exposed multiple failures in economy and society, and it is clear that the costs of the global shock have not been equally distributed. Also contributing to the ACIAR COVID-19 impacts assessment is a small research activity led by Dr Paulo Santos of Monash University aims to understand what drives vulnerability to poverty among agricultural households in Myanmar and Vietnam, and what research needs to originate from such analysis. The research analyses existing expenditure and consumption data to quantify the relative importance of different shocks on poverty.⁹

The Australian and New Zealand governments share a common interest in investing and assisting partner countries to improve livestock production and productivity, including the potential to reduce greenhouse emissions from livestock production systems. A small research activity led by Dr Paul Cheng of the University of Melbourne is assessing what data exists for calculation of greenhouse gas emissions for selected smallholder livestock projects supported by ACIAR and the New Zealand Ministry of Foreign Affairs and Trade. The study will focus on livestock systems in Vanuatu and Myanmar. It will provide an understanding of the opportunities and challenges for incorporating livestock monitoring, reporting and verification data collection and/or analysis in development projects in the longer term. The study will also provide an understanding of the attitudes and interest of project partners to participate in such activities into the future.¹⁰

Social Systems

About 300,000 people derive their livelihoods within artesian groundwater zones of the Central Dry Zone of Myanmar. However, both the pressure and flow rate of this naturally pressurised water source are declining due to overexploitation. The Irrigation and Water Utilization Management Department has highlighted the urgent need to rehabilitate both private and public free-flowing artesian tube wells. A project led by Dr Sonali Senaratna-Sellamuttu and Mr Sanjiv de Silva of the International Water Management Institute will develop and test socially inclusive and technically appropriate institutional arrangements, and support targeted communication strategies to restore artesian pressure in the Central Dry Zone.¹¹

Soil and Land Management

Agriculture in Shan State, Myanmar, has enormous potential to help lift people out of poverty, but productivity and efficiency are constrained by many factors. Soil-based challenges include poor nutrient acquisition by plants, infertile soil due to ineffective nutrient management and removal of nutrients in residues, and continual erosion of topsoil. Dr Terry Rose of Southern Cross University leads a small research activity that will explore opportunities to arrest soil degradation with a particularly focus on reducing erosion on sloping lands. The project will assess previous research and development efforts aimed at addressing soil degradation in Shan State, and gain an understanding of potential barriers to adoption of legume-based pastures, livestock in farming systems and uptake of new agronomic methods and technologies.¹²

Regional Manager, East & South-East Asia

Ms Dulce Carandang Simmanivong

Research Program Managers

Agribusiness: Mr Howard Hall

Crops: Dr Eric Huttner

Fisheries: Prof Ann Fleming

Livestock Systems: Dr Anna Okello

Social Systems: Dr Clemens Grünbühel

Soil and Land Management: Dr James Quilty

See page 197 for contact details.

Current and proposed projects

1. Improving livelihoods in Myanmar and Vietnam through vegetable value chains (AGB/2014/035)
2. Establishing sustainable solutions to cassava diseases in mainland South-East Asia [Cambodia, Laos, Myanmar, Vietnam] (AGB/2018/172)
3. International Mungbean Improvement Network 2 [Bangladesh, India, Indonesia, Kenya, Myanmar] (CROP/2019/144)
4. Development of rice fish systems in the Ayeyarwady Delta, Myanmar (FIS/2016/135)
5. Improving farmer livelihoods by developing market-oriented small ruminant production systems in Myanmar (LS/2014/056)
6. Improving cattle production in the Myanmar Central Dry Zone through improved animal nutrition, health and management (LS/2016/132)
7. Asian chicken genetic gains: a platform for exploring, testing, delivering, and improving chickens for enhanced livelihood outcomes in South-East Asia [Cambodia, Myanmar, Vietnam] (LS/2019/142)
8. COVID-19: gendered risks, impact and response in the Indo-Pacific: rapid research and policy guidance (COVID-19 impacts program) [Myanmar, Papua New Guinea, Philippines] (LS/2020/203)
9. Vulnerability in the Anthropocene: a prospective analysis of the need for social protection (COVID-19 impacts program) [Myanmar, Vietnam] (LS/2020/206)
10. Livestock climate lens Part 1: data landscape analysis [Myanmar, Vanuatu] (LS/2020/207)
11. Building institutions for the sustainable management of artesian groundwater in Myanmar (SSS/2018/135)
12. Soil-based challenges for cropping in Shan State (nutrient acquisition) [Myanmar] (SLAM/2018/190)