

Timor-Leste



A\$1.5 million
Budgeted funding



6

**Bilateral and regional
research projects**



2

**Small projects and
activities**

Timor-Leste is at an important moment in its history. It has achieved significant economic development, social progress and stability gains since independence, but still faces major challenges if it is to achieve the ambitious goals set out in its Strategic Development Plan 2011–2030. These include reaching upper-middle-income status, eradicating extreme poverty and establishing a diversified non-oil economy by 2030. About 80% of households rely on agriculture activity as the major source of income and for their direct food needs, and experience an annual ‘hungry season’ from November to March. Despite significant gains, poverty levels remain high—particularly in rural areas, where most people live. Stunting rates are among the highest in the world. Australia’s response to the COVID-19 pandemic places a clear priority on our near neighbours, especially the Pacific, Timor-Leste and Indonesia. In Timor-Leste, Australia has increased monitoring of food security and pricing issues to boost support to poor farmers amidst COVID-19 market downturns and supply chain interruptions.

An overview of Australia’s aid program in Timor-Leste is available on the DFAT website.

Before the COVID-19 disruption, food systems in Timor-Leste were under stress from many directions, including seasonally recurring food shortages, input supply challenges, low productivity, pests and diseases and limited access to capital.

The coincidence of the COVID-19 pandemic and the incursion of African swine fever in 2020 has placed added challenges on Timor-Leste. In 2020, about 70% of the population lives in rural areas, where the great majority of people derive incomes from semi-subsistence and seasonal food cropping, mixed with small-scale animal husbandry and varying degrees of foraging for wild crops and game. Despite improvements in a range of essential services, there is a high prevalence of poverty (50% of people live on less than US\$2 per day) and accompanying illiteracy, and infant stunting rates are among the highest in the world. The core problem facing most Timor-Leste rural households is their inability to generate reliable income from agriculture and thereby improve the living conditions and livelihood opportunities of their families. Reasons for constrained on-farm crop and animal production and productivity are complex and varied, including highly variable weather conditions affecting crop establishment and subsequent yields, infertile soils, limited availability of and access to agricultural inputs, low capital for investment, pests and insects causing crop losses pre- and post-harvest, labour constraints at critical times and limited market demand for agricultural products beyond local consumption. Lack of access to locally relevant and implementable science-based advice is also a key constraint.

Under the Timor-Leste Strategic Development Plan 2011–2030, the government notes that ‘a thriving agriculture sector is needed to reduce poverty, provide food security and promote economic growth in rural areas and our nation as a whole’.

Country priorities

ACIAR is maintaining a program of research collaboration with Timor-Leste characterised by projects with a long-term view and a strong focus on capacity and partnership development. ACIAR does not have a formal agreement with Timor-Leste for research collaboration but aims to develop one in 2020–21. Discussions on future priorities will probably focus on opportunities in coastal fisheries, agroforestry, livestock (especially cattle and poultry) and cropping systems, as well as seeking opportunities for trilateral research collaboration with Indonesia. The COVID-19 pandemic is having a major impact on Timor-Leste food systems and the economy. ACIAR is supporting an [assessment of food system security, resilience and emerging risks in the Indo-Pacific in the context of COVID-19](#). This will help identify areas of focus for our research collaboration with Papua New Guinea to increase food systems resilience in the face of future shocks.



Research is evaluating the nutritional value of fisheries to households and identifying the factors enabling or limiting the consumption of fish. Photo: Joctan Dos Reis Lopes. ACIAR project: FIS/2017/032.

2020–21 research program

ACIAR supports eight projects and programs in Timor-Leste, five of which are specific to this country. The remainder are part of regional projects. The projects address our high-level objectives, as outlined in the 10-Year Strategy 2018–2027, as well as specific issues and opportunities identified by ACIAR and partner organisations.

The following sections briefly describe individual ACIAR-supported projects and anticipated outputs in Timor-Leste. The projects are grouped according to research program. Each project description is referenced in a list at the end of this section, which provides the project title and code.

Crops and Soil and Land Management

Moving from food security to improved nutrition and rural incomes is a priority for the government of Timor-Leste. Expansion of the government and construction sector in recent decades has created new markets for agricultural products and new opportunities for local farmers. A five-year project that started in 2016 has undertaken research to intensify farming systems sustainably, so that farmers can expand from subsistence to income-generating farming. During 2020–21, the project led by Professor William Erskine of the University of Western Australia will consolidate evaluations of diverse crop variety and management options. This will assist intensification of cropping systems and sustainable use of irrigation water, and support increased plantings of sandalwood with forage tree legumes as hosts.¹

Fisheries

Globally, growing momentum for nutrition-sensitive agricultural policy and development assistance is yet to have any impact in the small-scale artisanal fishery sector. To address this, the role and contribution of fish to livelihoods and nutrition security must be supported by rigorous data and communicated at global, national and local scales. A project with a geographical focus of the eastern Lesser Sunda Islands, encompassing the independent nation of Timor-Leste and Nusa Tenggara Timur province of Indonesia, aims to identify the livelihood and nutrition benefits of fisheries and test nutrition-sensitive co-management systems for inshore fisheries. Led by Dr David Mills of the WorldFish Center, the project will evaluate the nutritional value of fisheries to households and identify the factors enabling or limiting the consumption of fish. It will highlight the potential of fish to reduce malnutrition, particularly during early childhood. Through a south-south collaboration, lessons learned for sustainable inshore management in Indonesia will be used to guide policy development in Timor-Leste that benefits poor households.²

Fish-based livelihoods play a critical role in the economies of coastal communities in Solomon Islands and Timor-Leste, and participation in catching, processing or trading of fish is an important pathway to poverty reduction. A new project led by Dr Hampus Eriksson of the University of Wollongong will identify and support community-identified opportunities to enable innovation within the coastal fisheries post-harvest sector, with a focus on income benefits for both men and women. This new approach addresses the lack of success at the community level of large state-led investments in fisheries sector infrastructure and advanced technologies. It seeks to influence policy on how fisheries institutions can support remote communities through more appropriate infrastructure investments.³

Livestock Systems

ACIAR supports a medium-term livestock research-for-development program in Timor-Leste, with a 10-year vision and strategy. The program involves on-station testing and on-farm adaptation of small-scale livestock production and health management technologies (especially for cattle and pigs), developed in similar biophysical conditions and farming systems in South-East Asia (especially Indonesia). The vast majority of cattle producers in Timor-Leste use extensive grazing systems to grow cattle as a way to retain and accumulate capital. However, strong and increasing demand for beef from urban areas is providing opportunities for farmers to sell fat cattle to these markets. A project led by Dr Geoffry Fordyce of the University of Queensland supports this transition, which will increase the income of smallholder crop-livestock farmers and market-chain operators in Timor-Leste through more efficient, commercially oriented cattle production and improved access to markets.⁴

A small research activity aims to further develop a vision and direction for ACIAR to support sustainable development of the smallholder livestock sector in Timor-Leste over the coming 5–10 years. Led by Dr Dominic Smith of the University of Queensland, the project will evaluate the business case for ACIAR supporting research into smallholder pig production, evaluate key constraints and influencing factors related to formalising cross-border trade in livestock between Timor-Leste and Nussa Tenggara Timur and conduct a comparative analysis of key smallholder livestock sectors to identify the best use of ACIAR resources.⁵

Since independence in 2002, Timor-Leste has moved from a post-conflict country to a lower- to middle-income country. In 2013, it was reported that, for children under five years of age, the prevalence of stunting, wasting and underweight had significantly decreased since 2009–10, but it remained among the highest in the world. A small research activity led by Dr Ben Polkinghorne of Australian National University is conducting pilot research to explore potential linkages between food-borne bacterial enteropathies and malnutrition in Timor-Leste.⁶

Underpinning the Timor-Leste Government's objective of supporting the transition from subsistence farming to commercial farming is the development of an effective veterinary service for livestock production sectors. A 15-month exploratory research activity, led by Dr Paul Hick of the University of Sydney, will help strengthen the passive animal disease surveillance system in Timor-Leste. This will be achieved through capacity-building exercises that span the detection and reporting of pig disease in the field to laboratory diagnostic workflows and reporting, using a case-study approach to the topical and important syndrome of mortality of young pigs.⁷

There is an urgent need to consolidate existing evidence and identify gaps in global research to demonstrate the scale of reductions in greenhouse gas emissions that occur with more efficient livestock production systems. Using the expertise and capabilities of Australian and New Zealand climate science, Dr Paul (Long) Chen of the University of Melbourne will lead a new project developing methods and models that apply to livestock development projects to quantify real and potential reductions in emissions and determine the opportunities and trade-offs between productivity gain and economic returns. The results will help determine if greenhouse gas offsets can be captured and linked with nationally determined contributions of partner countries, and if there is potential for voluntary carbon-credit trading to diversify smallholders' income.⁸

Country Manager

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See page 209 for contact details

Current and proposed projects

1. Agricultural innovations for communities for intensified and sustainable farming systems in Timor-Leste (AI-Com) (CIM/2014/082)
2. A nutrition-sensitive approach to coastal fisheries management and development in Timor-Leste and Nusa Tenggara Timur Province, Indonesia [Indonesia, Timor-Leste] (FIS/2017/032)
3. Innovating fish-based livelihoods in the community economies of Timor-Leste and Solomon Islands [Solomon Islands, Timor-Leste] (FIS/2019/124)
4. Smallholder cattle enterprise development in Timor-Leste [Timor-Leste] (LPS/2014/038)
5. Evaluating the opportunities for smallholder livestock keepers in Timor-Leste [Timor-Leste] (LS/2017/035)
6. Establishing the linkages between foodborne bacterial enteropathies and malnutrition in Timor-Leste [Timor-Leste] (LS/2018/184)
7. Improved animal health surveillance in Timor-Leste [Timor-Leste] (LS/2019/158)
8. Value-adding to existing livestock programs to understand and quantify the implications of greenhouse gas emissions, provide options for emissions reduction and inform in-country policy development [Cambodia, Indonesia, Kenya, Laos, Myanmar, Pakistan, South Africa, Tanzania, Timor-Leste, Vanuatu, Vietnam, Zambia] (LS/2019/159)