



Australian Government  
Australian Centre for  
International Agricultural Research


# ACIAR

## ANNUAL OPERATIONAL PLAN 2020-21



# Vietnam

 **A\$4.5** million  
Budgeted funding

 **22**  
Bilateral and regional  
research projects

 **9**  
Small projects and  
activities

While Vietnam has experienced remarkably rapid economic growth in past decades, there are risks to the medium-term economic outlook. Businesses are constrained by the lack of a skilled workforce, and investments in infrastructure and deeper economic reforms are needed to sustain private sector growth. Inequality is a continuing challenge, with 10% of the population living below the poverty line.

Vietnam is one of few countries in which the gender pay gap has widened over the last decade. Ethnic minorities have still not benefited equally from economic growth; although they comprise 15% of the population, they account for around half of those living in poverty. Australia's commitment to development cooperation with Vietnam is ongoing. Reflecting our maturing economic partnership, we will continue to leverage Vietnam's significant domestic resources and foreign investment, and support Vietnam's efforts to enter a new phase of economic development. By helping to stimulate the private sector, upskill the workforce and support inclusive growth, we will contribute to achieving our shared, overarching goal of promoting prosperity and reducing poverty in Vietnam.

An overview of Australia's relationship with Vietnam is available on the DFAT website.

**During 2019, Vietnam became more deeply integrated in international markets as a result of two new free trade agreements: the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the EU-Vietnam Free Trade Agreement.**

Vietnam achieved impressive economic growth in 2019 with GDP increasing 7%. Agriculture, fisheries and forestry accounted for 14% of GDP and exported products were valued at US\$41.3 billion. However, these sectors face a number of challenges. Three key examples are:

- » climate change that is leading to more extreme weather events such as severe drought, flood, saline intrusion and forest fire that affect large areas of agricultural land
- » pest and disease outbreaks in crops and animals that remain unresolved in 2020, especially yellow leaf and root rot on coffee, quick wilt and slow decline on black pepper, cassava mosaic disease, fall armyworm on maize and African swine fever (causing losses of at least 20% of the total pig herd)
- » post-farm issues such as weak linkages of value chains, lagging agricultural processing and a high rate of post-harvest losses.

In addition, the most recent COVID-19 pandemic has affected all sectors, including agriculture, both in production and commercialisation.

Vietnam's five-year Socio-Economic Development Plan 2016–2020 is in its last year of implementation. For 2020, science and technology were identified as key to increasing productivity, quality, efficiency and competitiveness in the sector. Focal points of research include product quality improvement throughout supply and added-value chains; seeds and breeds for high quality, disease resistance and climate-change adaptation; post-harvest management, processing and storage technologies; and ongoing productivity improvement.

Vietnam is the ASEAN chair in 2020, and therefore has an opportunity to enhance regional collaboration by sharing expertise and disseminating research results within the ASEAN countries.

The Ministry of Agriculture and Rural Development is expected to continue to focus on developing higher-quality and value products in the coming years, targeting an increase of 3% in the agricultural GDP with US\$43 billion of exporting value in 2020.

## Country priorities

Bilateral cooperation between Australia and Vietnam to achieve agricultural development has been carried out through trade and joint research and innovation programs. ACIAR has managed agricultural research and development activities for the past 27 years.

The strategy for research collaboration between Vietnam and ACIAR from 2017 to 2027 was developed on the basis of mutual acknowledgment that the relationship between ACIAR and Vietnam has evolved from donor–recipient to partnership, co-investment and, possibly, through this period, to trilateral collaboration. The strategy confirms the desire of both parties to join with the private sector, wherever possible, to create opportunities for poorer residents in rural and urban areas through inclusive agribusiness systems. It also focuses on transformational opportunities for women in research and agribusiness systems and on farms.

The strategy's 10-year goals are to:

- » establish and sustain long-term international partnerships in research and technology development
- » improve the capacity of Vietnamese researchers, research managers and development partners to support sustainable and equitable growth through agricultural research
- » improve the skills, livelihoods and incomes of smallholder farmers, including ethnic minorities in the mountainous areas of Central Highland (Tay Nguyen) and North West (Tay Bac), supported by knowledge networks that allow profitable engagement in domestic and international markets
- » improve human health and nutrition, through research on integrated farming systems, nutrition-sensitive agriculture and One Health
- » improve the quality and safety of meat, fish, vegetables and fruit for domestic consumption
- » develop deeper knowledge of markets to help prevent and reduce economic shocks for participants in agricultural supply chains
- » reduce inputs of chemicals and fertiliser for a cleaner environment, safer produce, improved soil health and more-profitable sustainable production systems
- » improve resource use efficiency to produce more food with fewer resources
- » implement practices and inform policymakers to manage climate change impacts on agriculture.

The strategy focuses on:

- » food safety
- » climate change
- » soil fertility and efficiency of crop–livestock systems
- » market knowledge, access to markets and skills for better policy analysis
- » increasing value from forests
- » increasing value from aquaculture.

Research collaborations focus on the Mekong River Delta, Central Highlands and Northwest. While the Mekong River Delta and Central Highlands have export capacity, they face climate-change challenges and share similar developmental challenges. These include land conservation, generating better livelihoods for ethnic minorities and economically empowering women.

In early 2020, ACIAR and its Vietnam partners reviewed the strategy implementation and priorities for the coming period. The Ministry of Agriculture and Rural Development, the Ministry of Science Technology, the Ministry of Planning and Investment and ACIAR affirmed that the strategy is current and agreed to focus on the following elements:

- » achievement of the shared goal that 75% of projects will be co-funded by Australia and Vietnam during the 10-year period
- » research into climate change, especially drought-tolerant cropping systems (in the Mekong River Delta and the Central Highlands) and saline-cropping systems for the Mekong River Delta (i.e. to continue the work on rice–shrimp systems)
- » research into the development of fruits from the Northwest region, especially farming systems on sloping lands, storage and post-harvest management, processing and market access for the region's popular produce, which includes mango, avocado and longan
- » continued research into mariculture and improve chemical and antibiotic residue control in aquaculture produce
- » development of local forest tree species, value chains of non-timber forest products and forest tree pests and diseases
- » biosecurity research (especially cattle and chicken), disease forecasting and disease management—taking advantage of Australian expertise
- » improvement of information exchange through a taskforce to support project development, approval and implementation
- » improvement of project outcome communication and involve alumni in research and partnership activities.

## 2020–21 research program

ACIAR supports 31 projects and programs in Vietnam, 11 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 Vietnam. 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.

### Agribusiness

Mango production makes a significant contribution to Vietnam's economy, with nearly half of the crop produced in the Mekong River Delta region. New opportunities in the fresh and processed mango value chain will be identified to improve net income and livelihoods of smallholder mango growers in southern Vietnam in a project led by Dr Robin Roberts of Griffith University. The research has focused on roles and opportunities for women in the industry. The project will conclude in 2020–21, reporting on options to overcome barriers to competitiveness and ways to improve capacity, industry stakeholder linkages and knowledge sharing.<sup>1</sup>

Cassava is an increasingly important crop throughout South-East Asia in terms of both rural livelihoods and regional economic development, and it remains an important food-security crop in specific subregions. The market outlook for cassava, and the prospects for smallholder producers, are strongly linked to supply and demand in global starch, grain and energy markets. A project in Indonesia and Vietnam, led by Dr Dominic Smith of the University of Queensland, aims to make smallholder cassava production more profitable and sustainable, by linking value-chain actors to increase the adoption of improved technologies. The project finishes in 2020 with the delivery of policy recommendations and the development of learning alliances.<sup>2</sup>

Improving the agricultural value chain and developing trade models are ways of improving the livelihoods of farmers across many industries. A project in Myanmar and Vietnam, led by Dr Gordon Rogers of Applied Horticultural Research, aims to develop an understanding of vegetable markets and value chains, and identify opportunities for safe and off-season vegetable production for urban, wholesale and retail markets. In its final stages, the project will document and publish a scalable model for production, marketing and supply of high-quality vegetables in Myanmar. The model is informed by experience and protocols developed previously for smallholder vegetable growers in Northwest Vietnam.<sup>3</sup>



Nguyen Thi Mien is an active member of Tu Nhien safe vegetables cooperative in Son La province. Her family income has increased up to seven times per hectares by participating in safe vegetable production. Photo: Khanh Long. ACIAR project: AGB/2014/035.

Smallholder farmers in South-East Asia often cannot access credit to invest in new crops or technologies, deal with risks and shocks, and safely carry wealth from harvest to planting. To help smallholders reach their production potential, a project led by Dr Alan de Brauw of the International Food Policy Research Institute will review and research financing models for agricultural value chains and evaluate specific interventions in Indonesia, Myanmar and Vietnam. Based on evaluation of agricultural value-chain financing models, the project will work with project partners to design and implement innovative and inclusive models.<sup>4</sup>

A small research activity, led by Dr Chris Chilcott of CSIRO Land and Water, evaluated opportunities to reduce logistics costs to small-scale farmers to contribute to more-informed policy on infrastructure that promotes development and access to markets in Indonesia and Vietnam. The project will further develop an adapted logistics model to better understand links, stakeholders and requirements to operate the model in the two countries.<sup>5</sup>

The most important constraint to the development of a temperate fruit industry in northern Vietnam is the lack of coordination between stakeholders in the private sector (seedling producers, growers, traders and retailers), and between the private sector and local government. A small research activity, led by Mr Oleg Nicetic of the University of Queensland, is strengthening leadership, coordination and economic development of the industry by forming and developing a professional and inclusive multi-stakeholder industry association.<sup>6</sup>

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 2020–21, the project will test and evaluate methods to slow the spread of the diseases, such as virus-free planting material and resistant varieties, and strengthen capacity and regional networks to reduce new pest and disease incursions.<sup>7</sup>

Vietnam is the world's top producer (by volume) of robusta coffee and black pepper. Production is concentrated in the Central Highlands, and both crops are often grown on the same farm and plots by smallholder farmers. A small research activity, led by Dr Estelle Biénabe of the World Agroforestry Centre, will collect baseline information and analyse the agribusiness contexts for the two crops to identify opportunities and bottlenecks affecting the value chains.<sup>8</sup>

A four-year project commencing in 2020 aims to enhance smallholder livelihoods, including vulnerable populations, through improving the sustainability of coffee and black pepper farming systems and value chains. Research will commence with an investigation of soil-borne pests and diseases, on-farm and in nurseries; and the use of bio-inoculants with soil remediation strategies.<sup>9</sup>

Over 50% of Vietnam's rice is produced in the Mekong River Delta, of which 90% is exported. About 1.5 million smallholder farmers rely on rice for their livelihood, and rice is grown on small farms, with two or three crops produced each year. A number of issues face the industry: reduced returns to farmers, soil degradation, environmental pollution and declining seed purity and grain quality. Recognising these issues, the Government of Vietnam developed a policy in 2017 to encourage a reduction in total rice production and a focus on high-quality rice, with the aim of exporting to premium markets. A new four-year project, led by Dr Jaquie Mitchell of the University of Queensland, aims to establish a highly productive, sustainable, traceable, quality-assured value chain for tropical medium-grain rice in the Mekong River Delta, benefiting rice-farming households and meeting established market requirements of the project partner, SunRice.<sup>10</sup>

Vietnam has experienced excellent growth in agriculture, value-added agriculture and farm incomes over recent decades. Despite this, the sector faces a number of challenges, including outdated technologies, inadequate food safety and fragmented supply chains. A small research activity led by Associate Professor Tiho Ancev of the University of Sydney will support the Ministry of Planning and Investment and the Vietnamese Government to set up an adequate framework for the Agricultural and Rural Development Strategy and formulate concrete strategic directions for the sector.<sup>11</sup>

## Crops

A new species of armyworm, the fall armyworm (*Spodoptera frugiperda*), has caused serious damage to rice, sugarcane, sorghum, beet, tomato, potato and cotton crops throughout the Indo-Pacific region, and individuals have been recorded in northern Australia. The species poses a serious challenge to smallholder farmers in terms of sustainable management practices.

A small research activity, led by Dr Wee Tek Tay of CSIRO and co-funded with the Australian Grains Research and Development Corporation, will investigate current successful management options for the pest and determine genetic differences between populations of the pest in South-East Asia and Australia—particularly to understand existing levels of insecticide resistance. The knowledge generated will be useful for future integrated pest-management approaches and the development of a draft resistance management plan.<sup>12</sup>

## Fisheries

Dried sea cucumbers are highly valued in China and South-East Asian markets, but overfishing throughout the Asia-Pacific region and poor fisheries management have resulted in the severe decline of sea cucumber stocks and even fishery closures. This has reduced income-generating opportunities for coastal communities. Building on previous ACIAR-supported projects, a project led by Professor Paul Southgate of the University of the Sunshine Coast will develop technical skills to improve the reliability of culture methods. This will support increased production capacity and further expansion of community-based sea cucumber farming in Vietnam and the Philippines.<sup>13</sup>

Production of cultured half-pearls (mabé) provides significant opportunities for coastal communities to generate an income. Oysters used for mabé production are found in Vietnam, but they are not used for mabé or handicraft production, despite a considerable tourist market. Using expertise developed in Tonga, a project, led by Professor Paul Southgate of the University of the Sunshine Coast, is assessing the feasibility of establishing community-based mabé culture in the Nha Trang area of Vietnam, in partnership with the Ministry of Fisheries' Research Institute for Aquaculture.<sup>14</sup>

## Forestry

The development of market-based agroforestry in Northwest Vietnam provides an opportunity for farmers to diversify, achieve higher incomes and reduce erosion of mountainous landscapes. A project led by Dr La Nguyen of the World Agroforestry Centre will continue research on the development and adoption of locally appropriate, market-based agroforestry systems and the rehabilitation of degraded forests. Working closely with the Department of Agricultural and Rural Development offices in Son La, Yen Bai and Dien Bien provinces, the project will implement exemplar landscapes to support adoption of the new systems and improve livelihood options for the H'mong and Thai ethnic minorities living in these provinces.<sup>15</sup>

A new project in 2020–21, with activities in Indonesia and Vietnam, will underpin good plant biosecurity practices in forestry. With government and industry partners, the project led by Dr Caroline Mohammed of the University of Tasmania, will extend screening approaches from prior *Acacia/Ceratocystis* research to eucalypts that have replaced acacias in the wet tropics; develop remote-sensing software applications for cheap and rapid forest health surveillance; and, through geospatial modelling, deliver establishment (suitability and survival) risk maps under current and future climates at a regional level for the highest priority pests and pathogens.<sup>16</sup>



A project in Vietnam and the Philippines aims to increase technical skills in culture methods of sea cucumbers to increase production capacity and expand community-based sea cucumber farming. Photo: ACIAR. ACIAR project: FIS/2016/122.

A small research activity, headed by Dr Madaline Healey of the University of the Sunshine Coast, has gathered data from the ASEAN countries around priorities, capacities and perceived risk pathways in forest biosecurity. Biosecurity investment and biosecurity regulations within the region are being reviewed. These analyses will underpin initiation of a regional biosecurity network that will link the agriculture and forestry agencies of the national partners.<sup>17</sup>

Regional collaboration in South-East Asia is urgently needed to create a unified network capable of a coordinated response to forest pest and disease incursions. This new project, led by Professor Simon Lawson of the University of the Sunshine Coast, aims to foster such a network. The project will reduce the risk of forest pest and disease incursion and the impacts of established pests and diseases by developing enhanced techniques and capacities in pest risk analysis, surveillance and diagnostics and deploying these through the regional network. Research results will support evidence-based forest biosecurity policy for the region.<sup>18</sup>

Forest plantations in Laos and Vietnam are key to achieving the development aims of both countries through building human capacity, developing industry and sustaining the environment. A small research activity led by Professor Rod Keenan of the University of Melbourne extends the impact of previous project findings. The project will engage policymakers and stakeholders to contribute to the development of new laws, decrees and regulations for forest plantations, consider new policy options for forest plantations and share information on regional and national economic impacts of forest plantations.<sup>19</sup>

## Livestock Systems

Market demand for beef is increasing rapidly in Vietnam, but cannot be met by current levels of domestic production. A project, led by Dr Stephen Ives of the University of Tasmania, is investigating and implementing whole-farm solutions for smallholder cattle producers in the highlands of Northwest Vietnam. This will help smallholder farmers shift from extensive to more-intensive production systems so they can meet market specifications, increase market linkages and improve profitability.<sup>20</sup>

Laos is a comparatively small producer of pork compared with Vietnam and China, but pork production has grown significantly in recent years, including a growing cross-border trade into Vietnam. Improved safety of animal source foods, including pork that is free from zoonotic parasites such as *Taenia solium*, is gaining greater attention in the region. A new project, led by Dr Amanda Ash of Murdoch University, aims to identify and recommend interventions to mitigate the risk of disease from food-borne parasites in pigs, adding value to cross-border pig trade between northern Laos and Vietnam.<sup>21</sup>

Asia is a major global producer of pork, with South-East Asia and southern China currently providing the majority of regional production. Food safety is a significant and growing concern in Vietnam, and is a barrier to smallholder farmers wishing to sell product in high-value domestic and export markets. Through market-based approaches, the Safe Pork project, led by Dr Fred Unger of the International Livestock Research Institute, aims to reduce the burden of food-borne disease across various markets in Vietnam.<sup>22</sup>

Goat production in Laos has more than doubled over the past 10 years, largely driven by high demand for goat meat from Vietnam. Expanded goat production using traditional extensive goat-raising methods has the potential to result in overgrazing of feed resources, negative consequences for the environment and higher incidence of diseases and parasites in livestock. A project led by Dr Stephen Walkden-Brown of the University of New England is developing new goat production practices that are sustainable and productive.<sup>23</sup>

A stocktake of the potential of forage production by smallholders in Cambodia, Laos and Vietnam is the focus of a small research activity that concludes in 2020. Dr Lava Yadav of the University of Queensland has analysed factors that contribute to, and constrain, forage production and development of related enterprises. The work will report on the constraints and opportunities for more effective uptake and use of forages, and identify potential business models for more demand-driven development.<sup>24</sup>

Poultry enterprises are increasingly recognised as a way to improve the nutrition of poor households, while economically empowering women, who are the key custodians of smallholder poultry. However, low-producing chicken genotypes typically dominate smallholder or family production systems. Dr Tadel Dessie of the International Livestock Research Institute will lead a new project that aims to test and make 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 will also strengthen the capacity of young scientists in the project countries to conduct high-quality research on village poultry systems to benefit smallholder farmers in their countries.<sup>25</sup>

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.<sup>26</sup>

## Social Sciences

A small research activity will analyse gender transformative tools designed to support ethnic minorities in the Technologically Enhanced Agricultural Livelihoods (2018–2022) project operated by CARE International in the northern uplands of Vietnam. The project, led by Dr Rochelle Spencer of Murdoch University, will determine how the tools contribute to changing gender relations and empowering women, and to what extent. The project will also build capacity of in-country partners and 10 social science researchers in the early stages of their careers, through training in mixed-method research, including participatory methods, and project-level Women's Empowerment in Agriculture Index.<sup>27</sup>

Previous ACIAR work reported that turning research into practical innovation is increasingly challenging in an era of accelerating global resource demand and climate change, creating an imperative for transformational change across farms, landscapes, markets, institutions and populations. A small research activity will generate practical insights and actionable recommendations for ACIAR programs to better integrate agricultural practice change and community engagement. Dr Mary Johnson of RMIT University will lead a literature study from the Mekong region, comparing and contrasting public health promotion approaches and agricultural extension to find practical lessons and areas for cross-disciplinary learning and innovation. A diagnostic framework and supporting resources will be produced for use by ACIAR to assess project proposals to ensure that agricultural practice change and community engagement are at, or redefining, the cutting edge of agricultural extension.<sup>28</sup>



## Soil and Land Management

Increasing numbers of smallholder farmers in Laos and northern Vietnam are growing maize on sloping land to meet demand for livestock feeds by Chinese and South-East Asian poultry, pig and cattle industries. A project, led by Professor Michael Bell of the University of Queensland, is helping farmers adopt maize-based farming systems that reduce soil degradation and improve smallholder livelihoods and economic viability. The project concludes in 2020, with the delivery of outreach models to support the adoption of more diversified maize-based farming systems and bioeconomic frameworks to structure the assessment of different crop and forage options.<sup>29</sup>

Sea-level rise and changes to seasonal rainfall patterns due to climate change result in decreased freshwater availability and higher saline intrusion of the Mekong River Delta during the dry season. Farmers and the Vietnamese Department of Agriculture and Rural Development staff are seeking better soil-management techniques and profitable alternative crops to grow in the dry season. A project led by Jason Condon of Charles Sturt University is providing evidence-based options for profitable crop diversification in the rice production areas of the Mekong River Delta. The project aims to increase production and profitability of saline-affected crop production systems and create a capacity legacy to enable these systems to adapt to ongoing climate change.<sup>30</sup>

## Climate Change

ACIAR will add a new research program to its portfolio in September 2020 to focus and strengthen work towards our strategic objective that addresses climate variability and climate change.

Australia is a world leader in greenhouse gas mitigation research in agriculture. A new project provides the opportunity to transfer this knowledge to assist our partner countries to identify and quantify on-farm management options that reduce emissions from farming practices and help establish national greenhouse gas accounting systems to monitor, report and verify emissions reductions to the same high standard used by Australia. This project, led by Professor Peter Grace of Queensland University of Technology, and co-funded by New Zealand, will work with government and research institutions in Fiji, Vietnam, Indonesia and Kenya to develop expertise to enable those institutions to better support their national governments in meeting current and future nationally determined emissions reduction commitments (NDCs) under the Paris Agreement.<sup>31</sup>

A project in northern Vietnam and Laos is helping farmers adopt maize-based farming systems that reduce soil degradation on sloping land and improve smallholder livelihoods and economic viability. Photo: Harry Campbell-Ross. ACIAR project: SMCN/2014/049.



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See page 209 for contact details

## Current and proposed projects

1. Improving smallholder farmer incomes through strategic market development in mango supply chains in southern Vietnam (AGB/2012/061)
2. Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia (AGB/2012/078)
3. Improving livelihoods in Myanmar and Vietnam through vegetable value chains (AGB/2014/035)
4. Inclusive agriculture value chain financing [Indonesia, Myanmar, Vietnam] (AGB/2016/163)
5. Enhancing smallholder linkages to markets by optimising transport and logistics infrastructure [Indonesia, Vietnam] (AGB/2017/036)
6. Strengthening leadership, coordination and economic development of the temperate fruit industry in northern Vietnam (AGB/2018/171)
7. Establishing sustainable solutions to cassava diseases in mainland South-East Asia [Cambodia, Laos, Myanmar, Vietnam] (AGB/2018/172)
8. Off-farm: strategic review and planning for enhancing the livelihoods of coffee and pepper smallholders in the Central Highlands of Vietnam through improving stakeholders' participation in agribusiness led value chains (AGB/2018/208)
9. Increasing the sustainability, productivity and economic value of coffee and black pepper farming systems and value chains in the Central Highlands region of Vietnam (AGB/2018/175)
10. Planning and establishing a sustainable smallholder rice chain in the Mekong Delta [Vietnam] (AGB/2019/153)
11. Research to support agricultural policy and strategic planning: research to assist the Vietnam Government with the formulation of the 2021-2030 Agricultural Development Strategy for Vietnam (AGB/2019/185)
12. Characterisation of *Spodoptera frugiperda* (fall armyworm) populations in South-East Asia and northern Australia (co-funded with GRDC) [Indonesia, Vietnam, Laos, Myanmar, Cambodia, Philippines, Malaysia] (CROP/2020/144)
13. Increasing technical skills supporting community-based sea cucumber production in Vietnam and the Philippines (FIS/2016/122)
14. Half-pearl industry development in Tonga and Vietnam (FIS/2016/126)
15. Developing and promoting market-based agroforestry and forest rehabilitation options for Northwest Vietnam (FST/2016/152)
16. Managing risk in South-East Asian forest biosecurity [Indonesia, Vietnam] (FST/2018/179)
17. Scoping for a forest biosecurity network in South-East Asia [Cambodia, Laos, Vietnam] (FST/2020/102)
18. Building effective forest health and biosecurity networks in South-East Asia [Cambodia, Laos, Vietnam] (FST/2020/123)
19. Policy analysis for forest plantations in Laos and Vietnam (FST/2019/121)
20. Intensification of beef cattle production in upland cropping systems in Northwest Vietnam (LPS/2015/037)
21. Investigating and developing interventions to mitigate food borne parasitic disease in production animals in Laos [Laos, Vietnam] (LS/2014/055)
22. Safe pork: market-based approaches to improving the safety of pork in Vietnam (LS/2016/143)
23. Goat production systems and marketing in Laos and Vietnam (LS/2017/034)
24. Forages—taking stock and identifying research needs [Cambodia, Laos, Vietnam] (LS/2018/186)
25. Asian chicken genetic gains: a platform for testing, delivering, and improving chickens for enhanced livelihood outcomes in South-East Asia [Cambodia, Myanmar, Vietnam] (LS/2019/142)
26. 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)
27. Analysing gender transformative approaches to agricultural development with ethnic minority communities in Vietnam (SSS/2018/139)
28. A framework for assessing agricultural extension approaches and an analysis of transferrable public health approaches [Australia, Cambodia, Laos, Myanmar, Thailand, Vietnam] (SSS/2019/186)
29. Improving maize-based farming systems on sloping lands in Vietnam and Laos (SMCN/2014/049)
30. Farmer options for crops under saline conditions in the Mekong River Delta, Vietnam (SLAM/2018/144)
31. Supporting greenhouse gas mitigation for sustainable farming systems in the Asia-Pacific and East Africa [Fiji, Indonesia, Kenya, Vietnam] (WAC/2019/150)