

PACIFIC ISLAND COUNTRIES

Key statistics	GDP per capita (US\$) ^a	Population (million) ^a
Fiji	4,264	0.9
Solomon Islands	1,284	0.5
Vanuatu	2,388	0.2
Samoa	2,988	0.2
Tonga	2,891	0.1
Kiribati	804	0.1
Funding		\$m
2009–10 actual		4.85
2010–11 budget allocation		5.68
2011–12 budget estimate		6.33

^a data from 2009 & 2010 <<http://unstats.un.org/unsd/demographic/products/socind/>>



Local markets in Gizo, Solomon Islands

MEDIUM-TERM STRATEGY

In 2008 the Australian Government committed to a new and elevated engagement (Pacific Partnerships for Development) with Pacific island partners to work together to meet common challenges, raise the standard of living for people throughout the region and, in particular, make more rapid progress towards our partners achieving the Millennium Development Goals and individual-country development ambitions. The priorities for each Pacific island country (PIC) are articulated in the individual-country partnership 'frameworks'. They typically include measures aimed at improving economic infrastructure and enhancing local employment possibilities through both infrastructure and broad-based economic growth, as well as enhancing private-sector development. ACIAR works closely with AusAID to develop complementary and jointly funded projects aimed at addressing these national development priorities and regional issues. For example, the ACIAR-funded Pacific Agribusiness Research for Development Initiative (PARDI) has been designed to provide, among other objectives, research and technical underpinning for the AusAID-funded Pacific Horticultural and Agricultural Market Access Program (PHAMA). PHAMA is designed to assist PICs to gain and maintain access to key markets for selected high-value Pacific products.

ACIAR's program in the PICs embraces Solomon Islands, Samoa, Tonga, Vanuatu, Fiji and Kiribati. Agriculture, forestry and fisheries sustain many households in these countries and supply the majority of livelihoods and food security. The ACIAR strategy works towards underpinning the

competitiveness and security of these sectors. Women, in particular, have a central role in household food gardening, tree crop production, and marketing of horticultural, tree crop and fisheries products. To achieve sustainable change, ACIAR will help develop innovative approaches that engage, empower and invest in women.

Transforming these agricultural, fisheries and forestry systems into sustainable income-generating activities through improved productivity and marketing will enhance food security and self-reliance and reduce poverty. Key challenges for ACIAR and its partner agencies include the physical isolation of PICs, poor transportation logistics exacerbated by increasing transport costs, human and organisation capacity constraints, land tenure disputes and uncertainties, a lack of infrastructure, poorly developed supply chains, a lack of harmonisation between countries (e.g. in biosecurity laws), small national populations and economies, and the need to link with major domestic and international markets. In addition, erosion of tariff preferences; population and urban growth; migration of skilled labour; resource depletion and degradation; risks from climate change; high, fluctuating food and energy prices; and political and economic constraints to effective policy implementation are also recognised as significant impediments to development and progress.

ACIAR recognises the need to address individual PIC priorities arising from differences in climate and soils, availability of natural resources, institutional capacity, infrastructure and potential for economic growth. At the same time, the Centre acknowledges that many challenges

are common and best addressed through regional collaboration. ACIAR will therefore support targeted and mutually agreed single-country projects on major issues of concern. Where possible, however, these will be linked closely with regional extension and community improvement programs to foster opportunities for dissemination of the information among countries. ACIAR has a strong emphasis on working with Pacific regional organisations (e.g. the Secretariat of the Pacific Community (SPC), University of the South Pacific (USP) and other donor agencies) in the design and implementation of these initiatives to ensure that R&D efforts are targeted towards agreed national and regional priorities and improvement in effective delivery of outputs.

In agriculture the program will focus on adaptation to changes in climate, and identification and management of constraints to productivity and market engagement in both staple root and high-value crops. It will assist in the identification of suitable markets and in the development of new high-value horticultural crops (fruits, vegetables and ornamentals) and products derived from them for domestic, regional and international markets. In fisheries ACIAR will focus on addressing sustainable production from oceanic and inshore fisheries, development of alternatives through aquaculture, and increases in economic returns through improved product quality and better market linkages. The forestry program will promote the development of value-adding forest industries, whereby landowners will derive benefits from both timber and non-timber forest products. There will be increased attention to the development and strengthening of integration between production systems and markets through efficient and equitable value chains. The program also has a strong emphasis on building R&D capacity within the region. In partnership with USP, ACIAR has implemented a postgraduate training program designed to increase capacity in the Pacific region through scholarships for research associated with relevant ACIAR projects.

Priorities for ACIAR–PICs cooperation are reviewed and updated in regular consultation with relevant government, community and private-sector stakeholders. In addition, ACIAR attends regional priority-setting meetings, including those of the Regional Conference of Heads of Agriculture and Forestry Services and SPC Heads of Fisheries. ACIAR also participates actively in the Joint Country Strategy process of SPC.

Key areas identified as research priorities across the medium term include:

- Improving food and nutritional security:
 - » Identification, development and adoption of new, market-driven opportunities for improving the quality, accessibility, diversity and quantity of food and other agricultural crops
- Development, adaptations and adoption of integrated and sustainable management practices for food and other agricultural crops
- Integrated and sustainable agriculture, fisheries and forestry resource management and development:
 - » Resource assessment, and the development and implementation of sustainable management plans, with an emphasis on community engagement and increased community-level co-management
 - » Identification and development of new opportunities for fisheries, aquaculture and forestry, including the domestication of native species
 - » Enhancement of germplasm availability and management of high-value species
- Underpinning the competitiveness of agriculture, fisheries and forestry value chains:
 - » Implementation of interventions, underpinned by appropriate market and farming systems research, to improve the efficiencies of value chains and enhance smallholder participation in local, domestic and international markets
 - » Identification and analysis of processing and value-adding opportunities for agriculture, fisheries and forestry products and the development of interventions to address these opportunities
 - » Identification of quarantine risk issues and the development and adoption of management strategies to minimise these risks.

2011–12 RESEARCH PRIORITIES AND PROJECTS

Food and nutritional security

This subprogram has two major emphases. First, it aims to develop and implement strategies to underpin improved and sustainable productivity and quality of food staples and high-value horticultural crops, with a particular emphasis on ICM including crop pests and diseases. The second emphasis is to increase household income through market-driven diversification of production by exploitation of new market niches, genetic diversity, new products and value-adding.

HORT/2008/011 Floriculture to improve livelihoods in Indigenous Australian and Pacific island communities

This project aims to develop sustainable floriculture enterprises in remote and peri-urban communities in PNG, Fiji and Solomon Islands to provide opportunities for additional farm income and diversification of this income.

PC/2005/134 The use of pathogen-tested planting materials to improve sustainable sweetpotato production in Solomon Islands and Papua New Guinea

This project will describe and evaluate sweetpotato seed supply systems; introduce and evaluate improved varieties; and introduce, refine and disseminate technologies for improved supply systems of sweetpotato seed for smallholders practising low-input agriculture.

PC/2006/173 Tongan tropical fruit production: improving genetic diversity and production capacity building

This project aims to increase the diversity, quantity and quality of fruits available on the domestic market in Tonga by bringing in and disseminating new species and varieties of fruit, along with improved production and postharvest handling.

PC/2007/039 The control of basal stem rot of oil palm caused by *Ganoderma* in Solomon Islands

This project seeks to identify immediate strategies for managing this highly destructive disease of oil palms, especially during replanting, as well as supporting the longer term breeding effort. Trials have been planted in Solomon Islands with close involvement of researchers from PNG.

PC/2010/063 (proposed) Developing an R&D strategy for increasing access to nutritious vegetables for improved health in indigenous communities in the Pacific islands and Australia

Recognising the increasing importance of 'lifestyle diseases' associated with poor diet, this small research activity will look at the levels of key nutrients in promising vegetable crops, both traditional and exotic, and assess the readiness of indigenous communities to produce and consume these crops in sufficient quantities to make a significant contribution to health.

PC/2010/090 (proposed) Strengthening integrated crop management (ICM) research capacity in the Pacific islands in support of sustainably intensified production of high-value crops

This major new project will draw together experiences learned in other countries and support the development of a longer term capacity to undertake ICM R&D work on a regional basis at SPC and with relevant member countries.

Agriculture, fisheries and forestry resource management and development

This program aims at developing and implementing strategies to sustainably manage, use and value-add to natural resources associated with agriculture, forestry and fisheries production. The fisheries project cluster has two focuses: freshwater aquaculture and mariculture of sedentary species, which provide greater opportunity for income generation at the local level; and management of near-shore artisanal fisheries. The forestry projects relate to emerging value-adding industry opportunities for plantation timbers such as teak, sandalwood, whitewood and *Flueggea*, as well as research of processing opportunities for coconut wood from senile plantations.

FIS/2006/138 Developing aquaculture-based livelihoods in the Pacific islands region and tropical Australia

The overall aim of the project is to support economically, socially and environmentally sustainable aquaculture in the Pacific islands region, and to assist indigenous aquaculture in tropical Australia.

FIS/2007/116 (multilateral, WorldFish) Improving resilience and adaptive capacity of fisheries-dependent communities in Solomon Islands

Community-based management of marine resources is the focus of this project. It has been highly successful in the limited number of areas in which it is being implemented. The Solomon Islands Government has adopted community-based management as its preferred management strategy, and has requested scaling up of the R&D engagement.

FIS/2009/057 Pearl industry development in the western Pacific

This project will address bottlenecks and development of opportunities in the fledgling pearl culture industries in Tonga and Fiji, and determine the potential for introducing 'half-pearl' culturing to PNG.

FIS/2010/056 Scaling up innovation in marine fisheries governance in Solomon Islands, Kiribati and Vanuatu

This project will strengthen key components identified for the successful scale out and persistence of community-based area management of marine resources in Solomon Islands, learn how to do it better and extend the practices to Kiribati and Vanuatu.

FIS/2010/057 Aquaculture and food security in Solomon Islands, Phase 2

The goal of this project is to assist the Solomon Islands Government to implement and further develop the strategic framework for inland aquaculture in Solomon Islands in ways that will contribute positively to the food and nutritional security of the people.

FST/2005/089 Improved silvicultural management of *Endospermum medullosum* (whitewood) for enhanced plantation forestry outcomes in Vanuatu

The aim of this project is to develop comprehensive silvicultural prescriptions for community-based plantation forestry with whitewood in Vanuatu.

FST/2007/020 Improving silvicultural and economic outcomes from community teak and rosewood plantations in Solomon Islands by interplanting with *Flueggea flexuosa* and other Pacific agroforestry species

This project is located in Solomon Islands and aims to develop practical agroforestry systems based on wide-spaced teak interplanted with shorter rotation commercial tree species, and to support development of high-value timber products for export markets.

FST/2008/010 Development and delivery of germplasm for sandalwood and whitewood in Vanuatu and northern Australia

This project will enhance the availability of improved genetic resources to underpin emerging whitewood and sandalwood plantation industries. Whitewood clonal seed orchards will be established in Vanuatu, and sandalwood clonal orchards will be planted at nine locations in Vanuatu and on Indigenous people's land in northern Queensland.

FST/2009/062 (proposed) Advanced product development from coconut wood

This new project aims to develop high-value veneer products from the outer part of senile coconut stems, and trial the production and use of organic mulch made from softer stem material in agricultural systems. Work will be conducted in Fiji, Samoa and Solomon Islands.

HORT/2007/072 Postgraduate scholarship scheme for University of the South Pacific (Fiji, Samoa, Solomon Islands, Tonga, Vanuatu)

This project aims to provide the opportunity for capacity building within the Pacific region of up to 16 students from selected PICs through formal postgraduate training (Postgraduate Diploma, Masters or PhD level) in Agriculture, Agricultural Economics, Fisheries/Aquaculture, Forestry or Agribusiness.

PC/2004/049 Improved farming systems for managing soil-borne pathogens of ginger in Fiji and Australia

The aim of the project is to improve profitability and yield quality of ginger in Fiji and Australia through better management of soil-borne diseases.



Smallholders weeding their fields in Honiara, Solomon Islands

PC/2009/003 Improving soil health in support of sustainable development in the Pacific region

Using the banana industry in Queensland as a model, this project seeks to resolve problems in intensive crop production systems that are linked to a breakdown in soil fertility and the biological support services provided by soils. It will build research and extension capacity in 'soil health' and help growers to apply these principles to sustain productivity.

PC/2010/032 Defining the quarantine environment for Pacific horticultural exports

This project will identify the specific issues of concern to biosecurity authorities in importing countries in relation to the import of taro and ornamentals, and contribute to the design of a program to address any researchable issues identified.

PC/2010/064 (proposed) Evaluating prospects for biocontrol of invasive weeds in the Pacific region

Recognising that both natural habitats and food production systems in the Pacific islands are particularly vulnerable to the negative impacts of invasive weed species, and based on the success that classical biological control has had in mitigating other invasive weed problems, this small research activity will review new priorities for action.

Agriculture, fisheries and forestry value chains

This program aims to support the identification and development of opportunities for domestic, inter-island and international trade for agricultural, fisheries and forest products, with a view to increasing economic growth in PICs. It includes a range of regional and individual-country-based activities including market research, strengthening of agribusiness linkages, analysing and increasing the efficiency of value chains, and identifying and developing value-adding opportunities. There are a number of opportunities for underpinning other development-focused

programs, for example the EU-funded Increasing Agricultural Commodity Trade in the Pacific; providing R&D support for the PHAMA AusAID-funded program; and providing research innovation to support implementation of the FAO-managed Food Security and Sustainable Livelihoods Program.

FST/2010/013 Developing markets and products for the Pacific island and Papua New Guinea *Canarium* nut industry

This project will research new technologies and markets for galip nut products in PNG, Solomon Islands and Vanuatu. In Vanuatu and Solomon Islands the work will focus on improved processing of nuts and development of new products and markets appropriate to the local circumstances.

PC/2007/118 Developing cleaner export pathways for Pacific agricultural commodities

Working in collaboration with AusAID's PHAMA program and closely linked with a new ACIAR project on enhancing 'soil health' in intensive production systems, this project will take a 'whole chain' approach to enhancing the viability of the taro export industries of Fiji and Samoa by focusing on reducing pests and diseases.

PC/2008/003 Strengthening the Fiji papaya industry through applied research and information dissemination

This project seeks to strengthen the supply chain for the papaya industry in both Queensland and Fiji, looking at quality issues from genetic resources, as well as production, harvesting and postharvest handling.

PC/2008/046 Rehabilitating cocoa for improved livelihoods in the South Pacific

In Vanuatu's diversified cocoa industry, conventional, organic and 'fair trade' market chains (and various other crop production opportunities) offer growers different levels of incentive to boost cocoa quality and production. This project will look at the adoption of various pest and disease management strategies.

PC/2008/044 (program) Pacific Agribusiness Research for Development Initiative (PARDI)

PARDI seeks to create sustainable livelihood development outcomes for the forestry, marine and crop-based sectors in the Pacific region by developing whole value-chain, market-driven strategies to identify researchable constraints impeding economic development; and by undertaking research-based activities to develop appropriate technologies, products and/or skill-based solutions. A number of these activities have close linkages to ACIAR projects listed above. The research-based activities that are delivering the outcomes of PARDI include the following:

- **Supporting development of the cultured pearl industries of Fiji and Tonga** seeks to: provide an economic development framework for commercial cultured pearl industries; increase production capacity through more-reliable supply of oysters to the industry; develop business capacity within industry stakeholders; improve product quality and diversity; and review market structures and economic impacts of the industry.
- **Value adding and supply-chain development for fisheries products in Fiji, Samoa, and Tonga** aims to research potential supply-chain enhancements and value-adding of selected aquaculture and fisheries commodities, initially the freshwater fish tilapia and the seaweed *Caulerpa*, commonly referred to as sea grapes.
- **Improving income of Pacific island fishers through better postharvest processing of sea cucumber:** a scoping study contributes to PARDI by addressing constraints in the postharvest processing and value chains of sea cucumbers, which are high-value commodities of importance as sources of livelihood to Pacific islanders.
- **Developing markets and products for the Pacific island and PNG *Canarium* nut industry will bring the strength and momentum of the industry** to Vanuatu and Solomon Islands. The project will allow research in each country to value-add to the others and provide economies of scale.
- **Developing commercial breadfruit production systems in Fiji**, as an applied research project, will facilitate the launching of breadfruit into a significant commercial industry. The first stage will deal with commercial orchard production and postharvest handling for fresh exports.
- **Developing a clean seed system for market-ready taro cultivars in Samoa** will focus on the supply chain of taro, *Colocasia esculenta* var. *esculenta*, targeting constraints identified as preventing the effective supply of the market.
- **Virgin coconut oil value-chain assessment: opportunities for adding value to the coconut sector** aims to improve the livelihoods of smallholder coconut growers and the industry in general by focusing on the new market and value-adding opportunities for virgin coconut oil and its by-products.
- **Facilitating improved livelihoods for Pacific region cocoa producer networks through premium market access** aims to improve the livelihoods of cocoa growers through facilitating improved access to

premium markets. It assists five smallholder networks and their related chain partners by: articulating specific, premium market opportunities; improving their capacity to manage the quality, consistency and administrative demands of niche market chains; and assessing the case to establish new business opportunities in domestic value-added chocolate markets and single-origin branded cocoa products.

- **Whole-of-supply-chain approaches to generate a sustainable cash economy to local communities in the Pacific region** include three primary objectives: to investigate how traditional social, cultural and economic ways of life impact on the provision of a sustainable food chain for a demand-driven market; to assess the whole-of-supply-chain technique as a way of evaluating market opportunities in small- to medium-scale communities; and to investigate the economic and social consequences of expanded markets on local communities in the Pacific region.
- **Integrated value-chain analysis for the primary industries sector** aims to undertake a series of pending supply-chain reviews in Vanuatu and provide researchers and trade staff from the Vanuatu Government with information to refine their expertise in market-based supply-chain analysis.
- **Capability building and succession planning in Pacific agribusiness NGOs aims to address the needs of NGOs** in the Pacific region to achieve sustainable long-term benefits for their constituents in agribusiness supply chains. A secondary aim of this project is to develop capacity and capability in identified supply chains by developing innovative business models in NGOs that enable succession planning to be undertaken while still growing the NGO.
- **Sweetpotato supply-chain development in the South Pacific (Fiji, Solomon Islands and Tonga)** aims to provide a foundation for a supply chain and value-adding project for sweetpotato in these countries.
- **Logistics and distribution audit and tracking focused on cold-chain issues as related to agrifood systems in the Pacific region** proposes to collect and analyse data through an audit of the infrastructure, technologies, processes and knowledge necessary for successful cold-chain logistics and distribution.

Principal regional coordinator

Mr Les Baxter

Key program managers

Dr Chris Barlow, Fisheries

Mr Tony Bartlett, Forestry

Mr Les Baxter, Horticulture

Dr Richard Markham, Pacific Crops

TBA, Agribusiness

KEY PERFORMANCE INDICATORS (2011–12)

- New/adapted integrated production technologies leading to increased productivity, enhanced nutrition, decreased water use, or resistance to pests and diseases being field-tested under commercial conditions in at least three crops and agribusiness projects
- At least three projects designed and initiated to increase agricultural production or investigate diversification in crops, fisheries and forestry projects
- At least two projects (fisheries and forestry) designed and being implemented to increase community engagement and co-management in fisheries and forestry natural resources management
- Quarantine and/or market access strategies that address biosecurity problems developed for at least two crops and agribusiness projects
- At least one agricultural project designed and being implemented with the aim of environmental sustainability, reduced carbon emissions, reduced water use and enhanced biodiversity in crops and/or forestry
- At least 12 postgraduate thesis projects developed in collaboration with USP and active ACIAR Pacific region projects, and two John Allwright postgraduate scholarships in crops, livestock, fisheries, forestry and agribusiness projects
- The capacity of two regional institutions (SPC and USP) strengthened in using market-chain analysis to identify entry points for improving the competitiveness of Pacific commodity supply chains