

Highlights

Major features

The 2010–11 ACIAR AOP closely aligns with the Australian Government's policy emphasis on food security through rural development. This policy initiative has three components:

- » lifting agricultural productivity
- » improving rural livelihoods
- » building community resilience.

Agriculture remains a predominant sector of the economy in most of Australia's developing-country partners, and is the source of livelihoods for the majority of the people. Typically, rural people comprise the bulk of the population living below or near the poverty line. Agricultural research to enhance sustainable production levels, together with improved market access for smallholder farmers and suitable policy and institutional environments, is essential to food security, poverty reduction and economic growth.

With appropriation in the Federal Budget proposed to increase from \$64 million in 2009–10 to \$88 million in 2012–13, ACIAR is moving in 2010–11 to substantiate five important program initiatives that were in the design and consultation phase in the previous year.

The new program themes are:

1. Safeguarding food security in rice-based farming systems of Mekong–South Asia

This program will concentrate on Laos, Cambodia and Bangladesh. In the short term there will be increased attention given to the application of existing technologies to achieve early improvement in the productivity of key crops. Incentive structures for farmer uptake such as access to markets, higher commodity price prospects and functional extension systems will be put in place.

The commodity focus will be the main grain staples—rice grown in conjunction with wheat, maize, grain legumes and a range of other cropping system components. Many rice-based systems are closely linked to livestock production, and the concomitant improvement in livestock production will maximise poverty alleviation, farm diversification and overall farming system productivity. Due to the differing research needs in each partner country and the presence of different collaborative programs, this initiative will have the following components:

- » improved food security and higher income from rice-based systems in southern Laos
- » enhanced rice germplasm development for transforming production systems in Cambodia and Australia
- » improved rice establishment and productivity in Cambodia and Australia
- » improved groundwater use in Cambodia and Laos
- » more-productive field crop rotation in Bangladesh
- » assessment of policy constraints as they relate to particular components.

2. Adaptation to climate change for rice-based systems in the Mekong Delta

This new program's focal point will be more-efficient use of water resources combined with seasonal climate forecasting, crop modelling and capacity development. The initial project investment will be in irrigated rice-based systems in Vietnam, but during 2010–11 options will be investigated for expansion of the program into other countries. This project will link with a major initiative on building capacity of farming communities in Cambodia, Laos, Bangladesh and India to adapt to climate change. Expansion options will be informed not only by the initial projects but also by a scoping study on climate change adaptation research.

The program will initially centre on the Mekong Delta of Vietnam and, in collaboration with Vietnamese and international partners, will assess locally adapted rice varieties to withstand prolonged submergence and drought. Improved agronomic practices that facilitate adaptation of rice-based systems to elevated sea levels and more-variable rainfall events are also embraced by this research investment. Changes to water and nutrient management can have unintended negative consequences on greenhouse gas emissions, and the capacity development of partners to manage these possible impacts will be a component of the program.

3. Developing high-value agriculture, forestry and fishery products in the Pacific region

The issues affecting food and agricultural-sector development in the Pacific island countries (PICs) include isolation from key growth markets and limited coordination of supply chains that have been driven by the modernisation of the food retail and food service sectors. The growing presence of internationally supported economic development programs, which address some of these issues in the region, will be complemented by ACIAR's Pacific Agribusiness Research

for Development Initiative (PARDI). This initiative will undertake research for development to underpin the competitiveness of targeted high-value agricultural (including horticulture), fisheries and forestry products.

Within the Pacific region the project aims to improve the livelihoods of people by underpinning development of more-competitive high-value agricultural, fisheries and forestry products that are based on strengthening the market chains. The objectives of PARDI are to:

- » identify markets and supply chains that have the potential to deliver substantial livelihood benefits to Pacific island peoples
- » identify researchable constraints that limit the ability of these market chains to be more competitive
- » develop research-based and product-oriented interventions that enable identified supply chains to overcome these constraints
- » develop and apply appropriate methodologies to evaluate how PARDI activities and interventions contribute to sustainable and efficient supply chains, improve livelihoods and increase our understanding of the factors underpinning competitiveness in PIC supply chains
- » build agribusiness growth, leadership and change capabilities of PIC communities to ensure the viability and sustainability of PARDI-driven activities and programs.

4. Sustainable intensification of maize–legume cropping systems in eastern and southern Africa

This program, designated to commence in 2010, has been developed by African and Australian stakeholders and fits regional and national agricultural development priorities. It aims at increasing farm-level food security and productivity in the context of climate risk and change.

Working with the International Maize and Wheat Improvement Center (CIMMYT), the partner countries of this project are Ethiopia, Kenya, Malawi, Mozambique, Tanzania and Australia, with input from the Republic of South Africa. To sustainably intensify maize–legume cropping systems, while reducing yield variability, requires an integrated approach to the complex production and marketing system for these crops. Through participatory research and development with farmers, extension agencies, non-government organisations (NGOs) and agribusiness along the value chains, the program aims to improve maize and legume productivity by 30% and reduce the expected downside yield risk by 30% on approximately 500,000 farms within 10 years. Through subregional research

organisations and existing networks, the program will foster spillovers of improved crop system management practices, knowledge and germplasm to other countries in the region. Benefits to Australia will arise principally from improved maize germplasm and better rainfed maize–legume systems options for summer cropping in Queensland and New South Wales.

The program’s five key objectives are to:

1. characterise maize–legume production and input and output value-chain systems and impact pathways, and identify broad systemic constraints and options for field testing
2. test and develop productive, resilient and sustainable smallholder maize–legume cropping systems and innovation systems for local scaling out
3. increase the range of maize and legume varieties available for smallholder farmers through accelerated breeding, regional testing and release, and availability of performance data
4. support the development of regional and local innovations systems
5. build capacity to increase the efficiency of agricultural research and adoption.

5. Increasing financial support to the CGIAR

As part of the Food Security Statement tabled in May 2009, the Australian Government has indicated its intention to significantly increase its budgetary support to the CGIAR from 2009–10 subject to continued good progress on reform. This increased support is as follows (with total anticipated allocations in brackets):

2009–10	\$7.00m (\$17.56m)
2010–11	\$10.0m (\$23.4m)
2011–12	\$13.0m (\$28.9m)
2012–13	\$14.00m (\$27.90m)

In 2010–11 it is intended that the new funding will be allocated to the CGIAR system primarily on an unrestricted basis, while respecting previous restricted funding allocations. The details of these overall allocations, however, are contingent on the progress with the reform agenda. The funding approach for 2011 and beyond will be taken up in consultation with the new Donor Fund Council as the reforms become operational. In the meantime ACIAR will allocate both restricted and increasing unrestricted funds to the individual research centres on the basis of previous criteria. This recognises the need to ensure that the centres are provided with the means and certainty of continuing their essential research functions with minimal disruption during the reform implementation phase.

Program priorities for key partner countries in 2010–11

- » In 2010–11 ACIAR will undertake a strategic review of regional priorities and funding allocations, which will be reflected in the 2011–12 AOP. The program priorities are as follows.

Papua New Guinea (PNG)

- » Improving livelihoods of highlands smallholder farmers through increased productivity of coffee-based farming systems
- » Development of PNG aquaculture systems
- » Women's impact in terms of efficiency and equity in agricultural and marketing systems
- » The role and effectiveness of women's groups in rural industries
- » Identification and development of export opportunities and production strategies for floriculture
- » Impact of cocoa pod borer infestation and (potentially) coffee berry borer infestation, and implementation of measures to contain their spread
- » PNG vegetable production from Central province
- » Promoting higher productivity and profitability in agroforestry systems

Pacific island countries

- » Overcoming constraints to supply chains of high-value products
- » Agroforestry and new forest product development
- » Productivity improvement in the tree crop sector in Solomon Islands
- » Enhancement of the process of agricultural technology transfer
- » Economic viability of smallholder and commercial fisheries
- » Integrated and sustainable community aquaculture and mariculture

Indonesia

- » Policies and systems for better management of animal disease
- » Improved environment for agribusiness through removal of policy constraints
- » Beef cattle husbandry
- » Development of competitive horticultural industries

- » Aquaculture: shrimp and finfish
- » Sustainable management of fisheries and forestry resources
- » Profitable agribusiness systems for eastern Indonesia
- » Supply and demand dynamics for animal protein

East Timor

- » Introduction and evaluation of improved crop varieties
- » Farmer participatory extension of identified cropping improvements
- » Seed production, identification of improved crop-management techniques, and training of Ministry of Agriculture and Fisheries (MAF) and other staff in seed production, crop research and extension

Philippines

- » Economic analysis of horticultural marketing chains and channels for perishables
- » Building of supply chains to improve alliances between suppliers, processors, institutional buyers and marketers
- » Improving cultural and postharvest practices and control of major pests and diseases of mango, durian and jackfruit
- » Opportunities and constraints in the supply chain for key aquaculture products, particularly grouper, mud crab and seaweed
- » Development of methods for characterising watershed vulnerability
- » Analysis of the likely impacts of climate change on watersheds in the southern Philippines, and the development of more-resilient and sustainable production systems
- » Addressing policy and technical constraints to achieving improved returns from pig production and marketing

Vietnam

- » Securing rice-based farming systems in the Mekong Delta through resilience to the impacts of climate change
- » Optimising resource management for profitable and sustainable agricultural (crop and livestock) production in south-central coastal Vietnam
- » Poverty reduction through market engagement for smallholder farmers (horticulture, maize, livestock, forestry) in the northern and north-western highlands

- » Development of high-value aquaculture industries through improved nutrition and cultivation of high-value species
- » Extraction of higher value products from plantation forestry through improved tree husbandry and processing

Cambodia

- » Development and diversification of rice varieties for lowland environments
- » Rice establishment practices
- » Soil and crop nutrition
- » Income generation and better nutrition through agricultural diversification (non-rice field crops, horticulture, ruminant livestock)
- » Helping Cambodian crop and livestock production systems respond to climate change
- » Better use of residual moisture, late-season rainfall or limited supplementary irrigation to produce an additional crop in lowland rice-based cropping systems
- » Relating animal stock routes to disease-control measures

Lao PDR

- » Adapting Lao farming systems to climate change
- » Improved food security and profitability of lowland farming through diversification into rice-based lowland cropping systems and by improving riverine and culture fisheries productivity
- » Market-driven alternatives to shifting cultivation in upland regions
- » Improving health and production of village pigs and cattle
- » Improving teak agroforestry and timber processing/manufacturing
- » Developing improved farming and marketing systems in rainfed regions in southern Lao PDR

China

- » Water-use efficiency for crop production in western China
- » Improvement in integrated crop–livestock systems in favourable areas of Tibet Autonomous Region and rangelands of north-western China
- » Land-use change policy and administration options

Iraq

- » Enhancement of barley, wheat and grain legume production under dryland conditions in northern Iraq through the introduction and evaluation of appropriate modern varieties, and via the adaptation of improved management practices, including tillage, fertiliser and weed-control techniques
- » For central and southern Iraq, generation of baseline data and information to provide a robust framework for the development of long-term sustainable salinity management strategies from basin to farm scale

India

- » Expansion of the overall program via advanced food crop breeding methods underpinned by bioinformatics
- » Extension and expansion of the water-management projects currently clustered in Andhra Pradesh
- » Analysis and dissemination of domestic market regulation reform options

Pakistan

- » Developing more-productive and competitive mango and citrus production and marketing systems
- » Improving livelihoods of dairy farmers through improved animal nutrition
- » Management of land and water resources to sustain productive enterprises

Bangladesh

- » Maintaining the productivity of rice in the light of vulnerability to climate change
- » Assisting in the development of the emerging rice–maize cropping system

Sub-Saharan Africa

- » Increasing the profitability and sustainability of crop–livestock farming systems (in eastern and southern Africa)
- » Enhanced productivity for smallholder maize-based farming systems (in eastern and southern Africa)

Overview of planned revenue and expenditure

	2008-09 actual \$m	2009-10 budget allocation \$m	2010-11 budget estimate \$m
REVENUE			
Appropriation	52.33	63.64	70.89
AusAID funds	16.01	17.78	19.58
Other revenue	0.15	0.05	0.07
Total	68.48	81.47	90.29
EXPENDITURE			
Bilateral program ^a	40.03	47.26	49.44
Multilateral program ^b	10.84	17.56	23.42
Education and training ^c	7.45	6.08	6.75
Communicating research results ^d	0.80	0.76	0.75
Total Research and Development Programs	59.12	71.65	80.36
Total operational costs^e	9.30	9.82	9.93
TOTAL	68.42	81.47	90.29

^a Bilateral projects, other research activities and impact assessment

^b Research through international centres

^c Does not include training within projects

^d Does not include communicating research results within projects

^e Includes salaries, Executive, Commission, Policy Advisory Council and corporate support costs



Farmer field day on ZT AlNimroud Ninevah

Bilateral and multilateral projects by region and country

2010–11 budget estimate				
Region and country	Appropriation \$m	Food Security and Africa initiatives appropriation \$m	AusAID funding \$m	Regional share of project total \$m
PNG and Pacific island countries	5.34	2.51	2.25	17.7%
Papua New Guinea	2.24		2.25	
Pacific island countries	3.10	2.51		
Indonesia, East Timor and Philippines	12.04	0.00	6.06	31.8%
Indonesia	7.33		1.81	
Philippines	3.76			
East Timor	0.95		4.25	
Mekong countries and China	9.20	1.59	2.14	22.7%
Vietnam	3.73			
Laos	2.46	1.21		
Cambodia	1.70	0.38	2.14	
China	1.12			
Thailand	0.12			
Burma	0.07			
South and West Asia	4.14	0.59	5.60	18.1%
India	3.10	0.09		
Bangladesh	0.57	0.50		
Pakistan	0.24		2.15	
Bhutan	0.11			
Afghanistan	0.07			
Iraq	0.00		3.45	
Other	0.05			
Sub-Saharan Africa	4.38	0.75	0.40	9.7%
Subtotal	35.09	5.45	16.45^a	100.0%
Total budget estimate	56.99			

^a Excludes postgraduate scholarships of \$3.0m, and project development and implementation costs of \$130,000



An ACIAR farmers' research group assessing a maize field experiment in Malawi

AusAID funding to ACIAR

	2008–09 actual \$m	2009–10 budget allocation \$m	2010–11 budget estimate \$m
Papua New Guinea	2.40	2.48	2.25
Indonesia	4.62	4.26	1.81
Philippines	0.14	0.00	0.00
East Timor	2.15	1.74	4.25
Cambodia	0.12	2.33	2.14
Pakistan	1.49	0.60	2.15
Iraq	1.77	1.48	3.45
Afghanistan	0.31	1.57	0.00
Sub-Saharan Africa	-	-	0.40
Postgraduate scholarships	3.01	3.00	3.00
Project development and implementation costs	0.00	0.33	0.13
TOTAL	16.01	17.78	19.58

Capacity building, training and staffing

	2006–07 (actual)	2007–08 (actual)	2008–09 (actual)	2009–10 (estimate)	2010–11 (estimate)
Capacity building					
Non–project-specific training courses	12	11	9	8	8
Fellowships					
John Allwright Fellows: total active in year	96	141	149	146	133
Fellowships awarded in year	61	60	16	19	20
John Dillon Fellows: total active and awarded in year	7	10	9	9	10
Staff at 30 June					
Staff: Public Service Act (FTE)	43.8	40.6	44.8	46.3	47.0
Overseas officers: locally engaged (FTE)	20.5	20.5	19.5	16.0	18.5

Note: FTE = full-time equivalent