

Highlights

Major features

The 2008–09 ACIAR Annual Operational Plan (AOP) closely aligns with the renewed focus on poverty reduction in the Australian aid program. There is an ongoing shift in ACIAR's investment to the poorer countries in the region. In particular, this year's AOP reflects a much greater emphasis on 'lagging' regions in key partner countries (southern Philippines, eastern Indonesia, parts of rainfed eastern India and western China, southern central coastal Vietnam and north-western Vietnam) where poverty has persisted. In new programs developed in these areas, there is far greater involvement of marginalised groups (including smallholder farmers, ethnic minorities and women).

The individual country strategies in the Plan are also integrated closely with the emerging new 'whole-of-government' aid program strategies for specific countries, regions and sectors. In keeping with the Paris Declaration on Aid Effectiveness (2005), attempts have been made to align the plan closely with national programs and to form closer linkages with other development agencies in program execution.

As a small agency, ACIAR recognises the need to focus. The program themes expressed in the Plan have resulted from close consultation with each developing partner country on their agricultural priorities and which issues are amenable to practical solution through research. Apart from operating within limited budgetary resources, other factors, such as the presence of systems for adoption of R&D results, Australian priorities and the availability of Australian expertise, are important. Adoption pathways are closely addressed in the design of projects, and private sector or NGO partners are now actively involved in about 50 ACIAR projects.

The 2008–09 AOP continues the trend towards ACIAR support of larger, integrated programs rather than numbers of free-standing projects. In 2008–09 a number of large (\$2–5 million) projects will be developed or implemented, usually involving a multidisciplinary approach by a small team of managers. We will also commission a smaller number of 'standard' projects and, in keeping with our plan to focus on major priorities, there will be a minimum project size of \$1 million (or \$600,000 for Pacific islands countries). The trend towards support for program co-investments with AusAID will continue. In other areas, for example avian influenza in Indonesia or sustainable forest management in Papua New Guinea and Indonesia, ACIAR's research investments complement AusAID's development programs.

Regional allocations for ACIAR's total project budget in 2008–09 are proposed at the following levels:

- PNG and Pacific *approximately* 20%
- South-East Asia > 45%
- South Asia *approximately* 15%
- North Asia < 15%
- Southern Africa < 5%

Our support to Consultative Group on International Agricultural Research (CGIAR) centres (CG centres) will continue in 2008–09. Untied funding of \$5.5 million will be provided along with tied program-specific initiatives. Increasingly the distinction between our bilateral and multilateral CGIAR programs will weaken as larger program-specific initiatives are developed that involve both Australian researchers and the CG centres. In aggregate, ACIAR expenditure to the CG centres is budgeted at around \$11 million in 2008–09.

Program priorities for key partner countries 2008–09

Papua New Guinea

- Enhancement of smallholder incomes from horticulture and root crops
- Improving smallholder returns from export tree crop production and marketing
- New livelihoods from smallholder fisheries, aquaculture and forestry
- Sustainable management of forestry and fishing resources
- Agricultural biosecurity
- Addressing social, cultural and policy constraints to the adoption of agricultural technologies
- Institutional and individual capacity building

Pacific countries

(Focus on Fiji, Solomon Islands, Vanuatu, Samoa and Tonga)

- Improving household incomes and food security through more productive and diverse farming systems, including:
 - root, horticultural and plantation crop management and marketing
 - village production and value addition to forest products
 - community aquaculture and mariculture
- Stock assessment and planning for sustained use of inshore fisheries

- Biosecurity and quarantine issues
- Work with both Pacific regional organisations and individual countries

Indonesia

(Focus on Eastern Indonesia, Java and some parts of Sumatra)

- Improved policy options to underpin rural enterprise development
- Biosecurity and crop and livestock pest and disease management
- Development of competitive horticultural industries
- Agribusiness development for plantation crops, aquaculture and crop-livestock systems (particularly in Eastern Indonesia)
- Sustainable management of fisheries resources (shared stocks, illegal fishing) and forestry (management policy for climate change mitigation)
- Involvement in major Australia–Indonesia Partnership programs
 - Smallholder agribusiness development in Eastern Indonesia
 - Aquaculture and farming land rehabilitation in Aceh

Vietnam

(Focus on central coast, north west mountains, Mekong Delta and north east coast (fisheries))

- Securing market competitiveness of agriculture and fisheries through improved biosecurity and agribusiness systems
- Development of higher-value aquaculture industries and plantation forest products
- Soil and water resource management for profitable and sustainable agriculture in south central coastal Vietnam
- Developing market opportunities for communities in the N and NW highlands

Philippines

(focus on southern Philippines—northern and southern Mindanao and Visayas)

- Increase in market competitiveness of agricultural products with reference to meeting market specifications (focus on fruit, vegetable and aquaculture products)
- Farmer-based land and water resource management for profitable and sustainable agriculture
- Addressing of regulatory, policy, technical and social constraints to the adoption of research outputs

Cambodia

- Productivity security of rice-based farming systems—agronomy, pest management and other field crops
- Greater agricultural diversification (especially vegetables and livestock) to generate income and improve nutrition—production and marketing
- Institutional and individual capacity building

Lao PDR

- Introduction of alternatives to shifting cultivation in the uplands, particularly livestock and forestry
- Agricultural diversification to improve productivity of lowland farming systems, particularly rice-based systems and riverine and pond fisheries
- Institutional and individual capacity building

East Timor

- Assessment and release of new crop varieties to enhance food security and nutrition
- Capacity building of researchers within the university and Agriculture Ministry

India

(focus on policy and biotechnology cooperation with central institutes and on water management in Central Plateau/Andhra Pradesh)

- Application of DNA marker-assisted selection as a tool in wheat breeding
- Agricultural water management for enhanced livelihoods in rainfed areas
- Research in policy options for trade and market reform to underpin agribusiness

Pakistan

- Agriculture Sector Linkages Program
 - development of more productive and competitive mango and citrus production and marketing systems
 - improvement in dairy farmer livelihoods
- Better soil and irrigation management for more profitable agriculture enterprises

Bangladesh

- Adoption of winter-season cropping options to intensify and diversify rice-based cropping systems

China

(focus on north-western provinces and Tibet Autonomous Region)

- More sustainable agricultural production from rainfed cropping systems in north-western China, focusing on technical and policy interventions for better natural resource management
- Improved productivity of crop–livestock systems in Tibet Autonomous Region
- Policy research on implications of Chinese trade developments for smallholders

ACIAR's climate change initiative 2008–09

Since developing country economies depend more on agriculture than those of developed countries, and have less resilient institutions, they will be more heavily affected by climate change. The poorest farmers may bear the brunt of climate change because they are often to be found in the more vulnerable areas. Changes in the quantity and timing of rainfall due to climate change are likely to be felt more immediately than temperature shifts.

Agricultural research has a central role in the development of strategies for adaptation to climate change (through introduction of more sustainable, resilient agricultural systems) and mitigation of climate change (through reduction of greenhouse gas emissions). ACIAR anticipates that the *Climate Change Initiative* will focus on the Mekong Basin area (the poorer countries of Laos and Cambodia), Bangladesh and parts of India. In each case, rainfed agriculture predominates and climatic variability is already a major root cause of poverty.

The first theme of the initiative will emphasise adaptation to climate change, with a particular focus on more efficient use of water resources. Interventions based on field experimentation, selection of new varieties and crop modelling will develop enhanced crop rotations that are better matched to shifting rainfall regimes. By making better use of residual moisture, late-season rainfall or limited supplementary irrigation, it will be possible to produce more food by growing a second crop in situations where land would otherwise be fallow for many months. Field-level water saving technologies (e.g. permanent raised bed, water harvesting, reduced deficit and drip irrigation) will be complemented by integrated water resource management, optimisation of water allocation and water policy analysis at the irrigation system level and the catchment scale.

The second theme will address mitigation of climate change impacts, including the reduction of energy use

in farming through adoption of conservation farming systems. Crop stubble conservation has additional impacts through enhancement of carbon sequestration in agricultural soils. A second focus will be the reduction of greenhouse gas emissions from crop and livestock production. This includes development of more targeted nitrogen fertiliser use and better ruminant feeding systems to reduce the very significant emissions of greenhouse gases from agriculture, particularly from rice farming and ruminant livestock. At the household level, the drivers for uptake of these innovations are improved crop and livestock productivity and lower input costs.

ACIAR will focus on researchable issues where there is a high probability of impacts on policy or farming systems within 10 years and where there are common challenges for both the developing country and Australia. In addition, we will explore potential investments in other areas, for example:

- analysis of climate impact to identify and communicate cost-effective adaptation opportunities to policymakers, and emphasise effective policy responses, to promote adaptation to climate change
- development and application of robust seasonal climate forecasting methods and communication of simple messages on climate risk to farmers.

The *ACIAR Climate Change Initiative* will complement other Australian Government programs. The *Global Initiative on Forests and Climate*, focusing initially on Indonesia and Papua New Guinea, has an emphasis on climate change mitigation through more sustainable forest management. The proposed *Mekong River Commission Environment Programme Climate Change and Adaptation Initiative* aims to understand the impacts of climate change on the hydrology, ecology and livelihood systems of the Mekong Basin.



The Australian Prime Minister, the Hon. Kevin Rudd, MP with ACIAR Assistant Country Manager for PNG, Cathy Pianga (on the left of the Prime Minister)

At a glance

	2004–05 (actual)	2005–06 (actual)	2006–07 (actual)	2007–08 (estimate)	2008–09 (forecast)
Collaborative research					
Projects active in year					
bilateral	201	200	294	290	259
multilateral	26	23	30	35	34
Projects started in year					
bilateral	51	40	100	100	84
multilateral	7	5	8	10	10
Projects extended in year					
bilateral	41	35	34	35	34
multilateral	4	4	4	4	4
Projects reviewed in year	24	25	34	30	28
Projects completed in year					
bilateral	37	40	106	100	69
multilateral	6	6	4	10	7
Building capacity					
Non-project-specific training courses	13	8	10	10	8
Fellowships					
– John Allwright Fellows—total active in year	52	57	94	110	132
– Fellowships awarded in year	10	58	80	60	15
– John Dillon Fellows—total active and awarded in year	6	6	7	10	5
Staff at 30 June					
Staff—Public Service Act (FTE)*	42.0	44.7	42.5	44.8	46.4
Overseas officers—locally engaged (FTE)	20.5	20.5	21.5	21.0	20.5

* FTE = full time equivalent

Overview of planned revenue and expenditure

	2006–07 actual	2007–08 budget allocation	2008–09 budget estimate
REVENUE			
Appropriation	50.36	51.48	52.33
AusAID funds	9.91	12.33	13.76
Other revenue	0.63	0.43	0.07
Total	60.90	64.24	66.16
EXPENDITURE			
Bilateral program ^a	36.08	39.11	39.63
Multilateral program ^b	10.32	10.29	10.84
Education and training ^c	4.13	4.57	5.38
Communicating research results	0.66	0.70	0.72
Total Research & Development Program	51.19	54.67	56.07
Total Operational Costs^d	9.65	9.56	9.59
Total	60.84	64.24	66.16

^aBilateral projects, other research activities and impact assessment

^bResearch through international centres and untied funding to international centres

^cNot including training within projects

^dIncludes Salaries, Executive, Commission, Policy Advisory Council and corporate support

The research and development program by region and country

Region and country		2007–08 budget allocation \$m						2008–09 budget estimate \$m				
		Appropriation	AusAID	AusAID/ SMAR ^a projects	AusAID/ SMAR ^a other	Other funding	% project	Appropriation	AusAID	AusAID/ SMAR ^a projects	AusAID/ SMAR ^a other	% project
PNG and PIC	>20%	5.74	1.87				18.1	5.90	2.50			20.6
PNG		2.96	1.87				11.5	2.92	2.50			13.3
Pacific islands countries		2.78					6.6	2.99				7.3
SOUTH-EAST ASIA	>45%	18.55	2.74	2.23	1.84		60.2	17.64	1.76	2.89	1.28	54.8
Indonesia		7.07	0.78	2.23	1.84		28.3	6.46	0.30	2.89	1.28	23.7
Vietnam		3.19					7.6	2.87				7.1
The Philippines		3.86	0.39				10.1	3.84	0.13			9.8
East Timor		0.50	1.57				4.9	0.48	1.33			4.5
Cambodia		1.64					3.9	1.64				4.0
Laos		1.52					3.6	1.72				4.2
Thailand		0.62					1.5	0.50				1.2
Burma		0.16					0.4	0.14				0.3
SOUTH ASIA	<15%	4.27	1.66			0.09	14.3	5.17	2.01			17.6
India		2.80				0.09	0.2	2.97				7.3
Pakistan		0.58	1.48				4.9	0.70	1.45			5.3
Bangladesh		0.55					1.3	1.00				2.8
Afghanistan		0.13					0.3	0.31	0.32			1.5
Iraq			0.18				0.4		0.25			0.6
Bhutan		0.21					0.5	0.20				0.5
NORTH ASIA	<15%	2.45				0.26	6.4	2.36	0.00			5.8
China		2.45				0.26	6.4	2.36				5.8
SOUTHERN AFRICA	<5%	0.44					1.0	0.45				1.1
Southern Africa		0.44					1.0	0.45				1.1
Subtotal		31.44	6.27	2.23	1.84	0.35	100.0	31.52	6.27	2.89	1.28	100.0
Total projects		42.12						41.46				
Other program costs		0.77						1.07				
Impact assessments		0.45						0.50				
TOTAL		43.34						43.03				

^a SMAR is "Support for Market Driven Adaptive Research"

Bilateral and multilateral program funding by discipline

In 2008–09 ACIAR will continue region/country specialisation in the project portfolio managed by each program manager. The table below shows the distribution of bilateral and multilateral research project funding in discipline/region combinations (\$m).

Program	\$ m					Total
	PNG & PIC	SE Asia	Sth Asia	Nth Asia	Africa	
Economic/farming systems						
Agribusiness		0.52				0.52
Agricultural Development Policy		0.99	0.20	0.35		1.54
Agricultural Systems Management	1.10	1.48				2.59
Policy Linkages and Impact Assessment	0.26	0.12	0.15	0.01		0.53
Support for Market-Driven Adaptive Research (Indonesia)		3.97				3.97
Cropping systems						
Crop Improvement & Management		2.47	2.79	0.35		5.61
Crop Protection	1.04	2.14				3.18
Horticulture	1.57	2.37	1.04	0.07		5.05
Natural resource management						
Forestry	1.86	1.78		0.22		3.85
Land and Water Resources			2.38	0.81		3.19
Soil Management & Crop Nutrition	1.39	1.22				2.61
Livestock systems						
Animal Health	0.15	3.18				3.33
Fisheries	1.04	2.80	0.06			3.89
Livestock Production Systems		0.52	0.56	0.56	0.45	2.09
Total	8.41	23.56	7.18	2.36	0.45	41.96^a

^a \$41.96 m consists of bilateral project expenditure of \$36.71 m and \$5.25 m for multilateral projects.

AusAID funding to ACIAR by region

	\$m		
	2006–07 actual	2007–08 budget allocation	2008–09 budget estimate
Papua New Guinea	2.05	1.87	2.50
Indonesia			
Aceh reconstruction	0.96	0.78	0.30
Support for Market-Driven Adaptive Research	1.89	4.06	4.17
The Philippines	0.41	0.39	0.13
East Timor	1.08	1.57	1.33
Cambodia	0.39	0.00	0.00
North Asia	0.02	0.00	0.30
Pakistan	1.23	1.48	1.45
Iraq			
bilateral	0.33	0.00	0.00
multilateral	0.38	0.18	0.25 ^a
Afghanistan	0.17	0.00	0.32
Postgraduate scholarships	1.01	2.00	2.90
Project development and implementation costs	0.00	0.00	0.12
	9.91	12.33	13.76

^a A major follow-on project is being developed by ICARDA for ACIAR and AusAID

Shared responsibility in project design and management

ACIAR's Country and Research Program Managers work closely in *partnership with Australian and developing country project leaders in designing projects* to ensure that they address genuine priorities in agriculture, forestry and fisheries, and that there is a clear pathway for delivery of results to end-users. Management of active projects is also a shared responsibility between the project leaders in Australia and the partner country and ACIAR's Research Program Managers.

Our partnership model also means that many projects have *mutual benefits* for agriculture, forestry and fisheries in both the partner developing country and in Australia (Appendix 2). Australian and partner-country organisations usually contribute in-kind resources to projects, such as senior research and administrative staff time, and facilities in the laboratory and field. In 2008–09 we anticipate that partner organisations will contribute \$17–20 million in addition to ACIAR's funding to the cost of projects. Apart from co-investment providing a larger pool of resources for project activities, it provides tangible confirmation that the project aligns with major research priorities of both the partner country and Australia. In addition, research collaboration on problems of mutual concern for developing countries and Australia

often lead to greater sustainability of activities after the ACIAR funding has finished, as the partners have a strong incentive to continue cooperation over the long term.

ACIAR adopts significant flexibility in staffing arrangements for individual projects. The usual ACIAR project involves regular short-term visits between the partners, with email, telephone and mail contact in between. However, in some cases, the partner-country and Australian organisations (and ACIAR) agree that there would be significant benefits in basing the Australian researchers in partner countries for longer periods of time. This is especially the case in those partner countries that have lower agricultural research capacity and where specialist technical training is required over the longer term, or where coordination is needed for a large or complex project or group of related projects. Depending on the needs of the project (or thematic cluster of projects), options for placement range from a junior researcher, such as an Australian Youth Ambassador, to a more senior researcher or research manager. Even in the latter case the partnership model persists, as developing-country project leaders retain a leadership role.

Multilateral program

Although ACIAR's research focuses primarily on its bilateral program, where projects emphasise partnership between Australian and developing-country organisations, it also funds programs of some of the International Agricultural Research Centres (IARCs). Total budgeted expenditure to these centres in 2008–09 is \$10.84 million. Of this, \$5.5 million will go to core expenditure, with the remainder tied to funding for project-specific research.

The partnership approach also applies to IARC projects. The crop germplasm collections, the focus on mandated crops (e.g. tropical rice, maize, cassava, sweet potato) and advanced research facilities of the IARCs often complement, rather than duplicate, the genetic resources and agricultural R&D skill base and facilities in Australia and ACIAR's partner countries. In most cases we require ACIAR-funded IARC projects to involve a developing-country partner agency and an Australian research partner to foster these synergies.

Details of the allocation of funds, including a list of specific projects, are included in the chapter entitled 'Multilateral program' (p. 80). IARC projects involving specific partner countries are also listed in relevant country chapters.

Building capacity: training and education

ACIAR is setting aside \$5.38 million for its program of formal training of agricultural researchers from developing

countries. Of this, \$0.71 million is provided to the ATSE Crawford Fund. John Allwright (postgraduate) Fellowships will receive \$4.46 million, including returnee awards, and \$0.21 million will be allocated for John Dillon Fellowships and for cross-program training. See chapter entitled 'Building capacity: education and training' (p. 84) for further details.

Selection of trainees and delivery of training—whether it be for a 1-week short course or a 4-year PhD program—also involves the partnership model. All trainee selections involve consultation with ACIAR's partner-country and Australian collaborating institutions. Partner research institutions often provide facilities and trainers for training courses. They make a commitment to host in-country field work for John Allwright Fellows and re-employ graduates on completion of their studies in Australia.

Impact evaluation

ACIAR is setting aside \$0.50 million for its ongoing program of ex-post project evaluations. Details are included in the chapter 'Research program impact assessment' (p. 86). In 2008–09 ACIAR will continue to commission adoption statements on all large projects (> \$0.10 million), focusing on projects that were completed in 2003–04 where there has been no follow-up project. Funds are also allocated for six formal benefit–cost studies. *We will increasingly work in partnership in impact evaluation.* It is recognised that short-term visits by consultants may be insufficient for obtaining quality data on the economic benefits and other impacts

of projects. Therefore, ACIAR will increasingly work with developing-country partner agencies, as well as returned John Allwright Fellows, to gather such data. ACIAR has commenced the process of linking its monitoring and evaluation and impact assessment work to the Office of Development Effectiveness (ODE) and will strengthen this link during 2008–09.

Communicating research results

ACIAR is allocating \$0.72 million towards communicating the results of research it funds. Electronic and hard-copy scientific publications form the bulk of this allocation, with some also for R&D awareness publications. ACIAR is also contributing to training and capacity-building activities in science communication, and the use of information and communication technologies in disseminating agricultural research information. We are producing an increasing number of publications in local languages in partnership with ACIAR's collaborating organisations. See the chapter 'Communicating research results' (p. 88) for further details.

Research and development programs

Papua New Guinea and Pacific Island countries	11
South-East Asia	25
South Asia	60
North Asia	72
Southern Africa	77

ACIAR allocates project funding to both bilateral and multilateral projects. The bilateral program comprises all projects involving Australian and developing-country research institutions, where an Australian organisation is commissioned to lead the project. Multilateral projects are led by International Agricultural Research Centres (IARCs). Both bilateral and multilateral projects usually involve only one developing-country partner but, in a limited number of cases, several developing countries participate.

The bilateral program operates by region and country within the ACIAR-mandated regions of Papua New Guinea and the Pacific islands, South-East Asia, North Asia, South Asia and Southern Africa. This document is presented along these regional and country lines. Priorities for research and development cooperation are included for each country, and project proposals need to meet the priorities indicated for each country. ACIAR's priorities for its bilateral program with partner countries are developed through processes of formal and informal consultation.

Funding targets as a percentage of total budget allocation by region are:

- Papua New Guinea and the Pacific islands *approximately 20%*
- South-East Asia > 45%
- South Asia *approximately 15%*
- North Asia < 15%
- Southern Africa < 5%

