Australian Government

Australian Centre for International Agricultural Research

Board resolution

The Board authorised the Chair to finalise the Centre's Annual Report 2002-03 taking into account the views of Board Members as expressed on the draft presented at BOM92.

Decision 92/9
9 September 2003

The Board

Chair

Professor Beth Woods

Members

Mr Donald McGauchie
Mr Michael Taylor
Dr John Williams

Director

Mr Peter Core

Photo: ACIAR Board Chair, Prof Beth Woods and Director, Peter Core with cocoa breeder Peter Epaina and pathologist John Konam at CCRI, Rabaul, PNG

Our Functions: Section 5, ACIAR Act 1982, and Our Objectives: ACIAR's Corporate Plan 2001–06

Our Functions
Section 5 (1) – ACIAR Act 1982

(a) Formulate programs and policies with respect to agricultural research for either or both of the following purposes:
  (i) Identifying agricultural problems of developing countries;
  (ii) Finding solutions to agricultural problems of developing countries;
(b) Commission agricultural research by persons or institutions (whether the research is to be conducted in Australia or overseas) in accordance with such programs and policies;
(c) Communicate to persons and institutions the results of such agricultural research;
(d) Establish and fund training schemes related to its research programs;
(e) Conduct and fund development activities related to its research programs, and
(f) Fund international agricultural research centres.

Our Objectives
ACIAR's Corporate Plan 2001-06

- Be aligned with Australian Government regional priorities;
- Have flexible and realistic funding arrangements;
- Broker support beyond project life;
- Demonstrate impacts from a majority of projects;
- Align investments with partner country and Australian farmer priorities;
- Have transparent, streamlined and disseminated processes;
- Communicate effectively with selected groups;
- Provide training that meets human resource needs of targeted customers;
- Have a skilled workforce focused on tasks that enhance ACIAR outputs, and
- Achieve international recognition for its work.

Vision
ACIAR looks to a world where poverty has been reduced and the livelihoods of many improved through more productive and sustainable agriculture emerging from collaborative international research

Mission
To achieve more productive and sustainable agricultural systems, for the benefit of Developing Countries and Australia, through international agricultural research partnerships

Outcome
Agriculture in developing countries and Australia is more productive and sustainable as a result of better technologies, practices, policies and systems

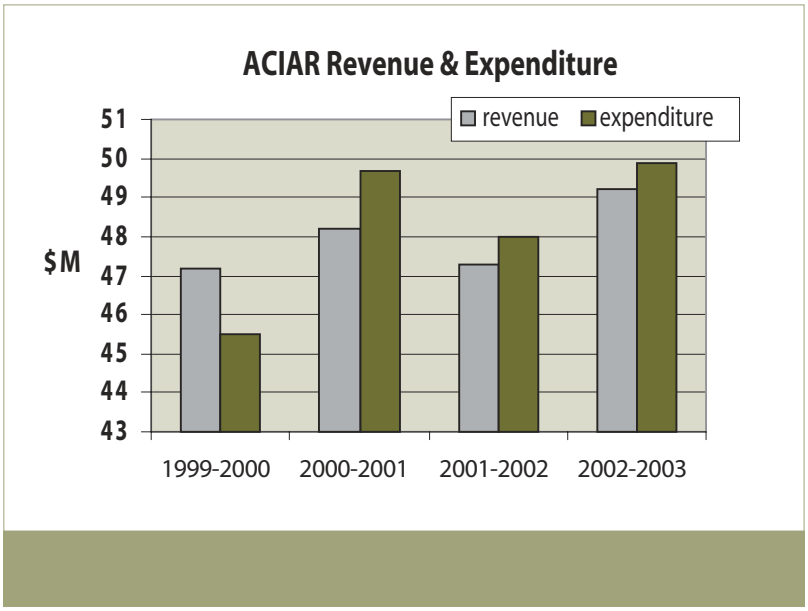
Contents

Four-year snapshot

Financial ($M)	1999–00	2000–01	2001–02	2002–03
Revenue				
Appropriation	43.280	44.743	45.369	46.278
AusAID funds	2.807	2.562	1.613	2.543
Other revenue	1.133	0.922	0.394	0.381
Total	**47.220**	**48.227**	**47.376**	**49.202**
Expenditure				
Bilateral research	25.385	27.162	26.239	28.434
Multilateral research	10.011	10.994	10.461	9.827
Education & training	1.905	2.051	2.025	2.511
Other program expenditure	0.876	1.399	1.230	0.913
Salaries & corporate support[1]	7.358	8.073	8.051	8.216
Total	**45.535**	**49.679**	**48.006**	**49.901**
Operations				
Collaborative research				
Projects active in FY				
Bilateral	144	169	184	191
Multilateral	39	33	36	30
Projects started in FY				
Bilateral	33	58	38	41
Multilateral	7	10	8	5
Projects completed in FY[2]	44	35	44	52
Building capacity				
Non-project specific training courses	6	16	13	8
Fellowships				
John Allwright scholars in FY	31	38	40	50
Scholarships awarded in FY	6	8	20	16
John Dillon Fellows in FY[3]	n/a	n/a	n/a	4
Fellowships awarded in FY	n/a	n/a	n/a	4
Our staff				
Staff – Public Service Act (FTE at 30 June)	49.6	51.8	49.6	45.7
Overseas officers – locally engaged (FTE at 30 June)	19	17	19	18.8

1. *Salaries and corporate support excludes travel costs directly related to programs*
2. *Includes both bilateral and multilateral projects*
3. *The John Dillon Fellowship Scheme started in 2002–03*

ACIAR 2002–03 at a glance



Project partnerships 2002–03

Overall research expenditure of more than $38M, including on:

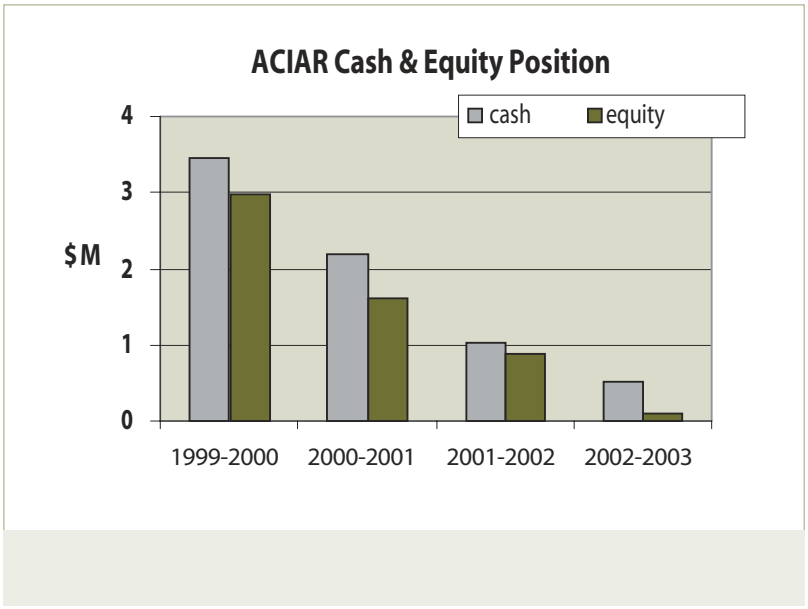
- Over **220** active projects under management
- **46** new projects
- **52** projects completed during the year

Tracking project impacts

- **Four** new external impact assessments completed and published:
  - *Framework for analysis of poverty impacts of ACIAR research*
  - *Impact assessment of Mama Lus Frut Scheme*
  - *Impact assessment of ACIAR projects on foot and mouth disease*
  - *Poverty analysis of the banana skipper project*

Key research-related publications

- *Effects of globalisation and economic development in the Asian livestock sector*
- *Development strategies for genetic evaluation for beef production in developing countries*
- *Strategies to improve Bali cattle in eastern Indonesia*
- *Improving Indonesia's beef industry*
- *Developing forage technologies with smallholder farmers: how to grow, manage and use forages*
- *Controlling Newcastle disease in village chickens*
- *Rats, mice and people: rodent biology and management*
- *Rice–shrimp farming in the Mekong Delta*
- *Survey toolbox for aquatic animal diseases: a practical manual*



Capacity-building through training

- In-project training for personnel in all active projects
- Fellowships helping:
  - around **50** postgraduate scholars to gain postgraduate science qualifications in Australia
  - first intake of emerging leaders under the new John Dillon Fellowship scheme
- **Eight** training courses held to expand skills for scientists from developing countries and Australia:
  - more than **150** scientists from partner countries participate

Next steps 2003–04

- Annual Operational Plan to guide potential research providers:
  - priorities arranged by country and research program
- Well over **80%** of expenditure on research projects, education and training, and publications to facilitate impact
- Now that cash and equity positions are down to optimal levels (see above), operate balanced budget

Celebrating 100 Fellows!

John Allwright Fellows

More than 100 postgraduate Fellows have now completed their programs. Details are at page 66.

A new leadership program

The four Fellows with the ACIAR Chair Professor Beth Woods.

John Dillon Fellowships

A new initiative commenced in 2002–03. Its aim is to develop leadership skills for a small number of outstanding partner country scientists or economists involved in ACIAR projects. Details are at page 67.

Message from the Chair

This has been a difficult and challenging year for any Australian organisation whose efforts are focused mostly outside Australia. For ACIAR it has been no exception with our development agenda in the Asia-Pacific constrained by the impacts of terrorism and the Severe Acute Respiratory Syndrome (SARS) outbreak. On behalf of the Board, I want to thank all staff for the way they handled these challenging issues, and more broadly, our research partners for maintaining the momentum of our research program in such trying circumstances.

Our activities in the last year have demonstrated that there is a direct interface between managing conflict and its aftermath, and the contribution research activities can make to restoring productive capacity and assisting rural people to recommence food production. In addition to this practical contribution, agricultural and natural resource management research continues to be a priority about which we can agree – at government-to-government level, between research organisations and between individual scientists – when the wider international environment is alive with sensitivities and tension. ACIAR makes an important contribution to building relationships with partner countries in our region.

Managing risk is core business

The challenges of 2002–03 highlighted what we already knew – that a risk management framework must be centre stage of our governance and associated management systems. Each day, ACIAR has had to manage the risk of overseas travel by its staff and has done this in a risk management framework, subsequently reviewed as part of our 2002–03 internal audit program.

More broadly, it is vitally important that we recognise and actively manage risk in a way that is not just risk avoidance or a commitment to an increasing budget for compliance. Risk needs to be addressed actively at all levels – by the Board, the Executive and managers as they carry out their duties, and not just at the end when things go wrong.

The ACIAR Board has sought to 'value add' to this risk agenda by looking at the critical success factors identified in ACIAR's Corporate Plan 2001-06 and ranking their risk levels. Coming out of this process the following possible scenarios were identified at the top of the risk profile:

- a mismatch between our program and Australian Government regional priorities;
- a lack of obvious impact from projects due to poor project selection, poor project implementation or inadequate extension mechanisms;

- insufficient support, post project, to sustain project outputs to achieve impact;
- a lack of recognition by key groups of the Australian benefits from ACIAR operations; and
- a reduction in ACIAR's funding in the light of the above.

These and other significant and moderate risks have been drawn into our annual plans and our Audit Program (see page 81 to 83 of this Annual Report).

At the Board level, our concern has been to ensure that risk is managed, that we on the Board have a particular focus on high risk areas identified by robust and dispassionate analysis, and that other significant risk issues are embedded and addressed in the Centre's management systems.

Future directions

At its level of corporate overview, the Board has maintained its input into program specific prioritisation, project impacts and funding decisions. We have sought especially to reinforce the importance of our contributions in PNG and the Pacific island countries, and have slightly reduced our focus in Africa. Africa's agricultural and resource problems are immense, but it lies on the margin of Australia's immediate sphere of interest. It is centre stage for large donors especially from Europe, who are better positioned, we believe, to identify needs and provide comprehensive support in most areas. Our contribution will be focused in areas where we can demonstrate unique capacity to contribute or where there are special areas of mutual interest with Australia.

This year ACIAR developed an Annual Operational Plan for the Centre that for the first time set out program priorities for each of our major partner countries, and their funding levels. The Board had input into this new approach to conceptualising and organising ACIAR's activities. The Director and Deputy Directors led the process of developing the plan. It required significant input from ACIAR staff and was put together after much consultation.

On behalf of the Board, I would like to congratulate all involved in producing the plan. It provides a very clear statement of how ACIAR will aim to add value through the particular features of its program in each of our major partner countries. With its country focus, it also provides a means to understand ACIAR's program alongside that of the wider Australian Government aid program through AusAID, which has reorganised to increase in-country management and decision-making. The new plan has been distributed to key stakeholders and will be reviewed and updated annually.

At present, the Centre's research programs are managed by a highly qualified and dedicated group of research specialists, each of who oversee a program area, which will continue. But what the Board and its

new Director have sought is a stronger focus by these staff on particular partner countries where their program area has an identified high priority. This emphasis on particular countries by selected staff will strengthen their knowledge of the institutions and their capabilities in the partner country – so vital if project selection and project outputs are to lead to impacts.

A new Director

This year was the first for our new Director, Peter Core. It has been a challenging year as he made changes to promote greater operational transparency, a stronger country context for our programs and better linkages with the 'whole-of-government' agenda. He was instrumental in developing the new Annual Operational Plan and in the redevelopment of our website. In 2003–04, special efforts will be required by the ACIAR team to further implement and gain value from these directions.

Networking ACIAR into Government

ACIAR is part of Australia's development assistance program. It is imperative that we continue to work closely with AusAID and the Minister's Department. As an instrument of Australia's foreign policy, it is vital that we recognise this as project proposals are developed. While our agenda is predominantly technical, ACIAR will continue to brief the Minister on all project proposals before finalisation and consult on the broader contextual issues.

In December 2002, the Prime Minister announced *Research Priorities for Australia's Future Prosperity*. ACIAR, like other Commonwealth research and research-funding bodies, is required to show how it is supporting these priorities (to the extent consistent with our mission). Plans have been drawn up to give a special emphasis to the first (*An environmentally sustainable Australia*) and the fourth (*Safeguarding Australia*) priorities announced by the Prime Minister, beginning in 2003–04. This will be the first full operational period for implementation of the Prime Minister's initiative and next year's Annual Report will report on our progress against these priorities.

The Board as a value adder

The ACIAR Board is a small specialist Board of five busy people, including the ACIAR Director. It meets four to five times a year. Like any Board, we hold special governance responsibilities and we seek to contribute to both the performance and conformance agendas.

Much has been written about governance; there is no single 'best' model of corporate governance but common principles underlie good governance in both public and private sector entities. The ACIAR Board is alert to these principles and will use the Australian National Audit Office's (ANAO) new *Better Practice Guide on Public Sector Governance* (issued in July 2003) and the Australian Stock Exchange's *Principles of Good*

Corporate Governance as essential touchstones as we seek to fulfil our statutory responsibilities.

I also want to take this opportunity to thank my Board colleagues for their contribution in 2002–03. It has been a challenging time and your counsel has been invaluable to me and to ACIAR.

A concluding comment - 'Doing well by doing good'

Those close to ACIAR will recognise this reference to the title of one of the many books associated with Professor Derek Tribe - *Doing Well by Doing Good*. Derek passed away in April this year. His loss is being keenly felt by the agricultural research community in Australia and internationally, and particularly by members of the ATSE Crawford Fund that he founded. He believed passionately in the role of international agricultural research in alleviating poverty. Derek's life was summed up by the Minister for Foreign Affairs in opening the Crawford Fund Seminar on 13 August 2003 – 'Derek did well and he did good'.

ACIAR is a successful agency – we will honour Derek's contribution if we can continue to also 'do well by doing good'.

Beth Woods
Chair, ACIAR Board of Management
September 2003

The Policy Advisory Council

The Policy Advisory Council held its annual meeting in March 2003 and then met with the Minister for Foreign Affairs. At its formal meeting the Council had a crucial job in providing its views on our program priorities and funding allocations. Their views have ensured that our programs are focused on areas that can make a real difference to the pace of development in partner countries. Further details on the Council and its annual meeting are at pages 85 to 86.

Membership of the Council comprises members of the Board, together with members drawn from partner countries. It is structured to provide a ready interface between the Board and ACIAR's main overseas stakeholders, and it did that again in 2002–03.

While the Council only meets formally once a year, ACIAR Board members and staff have always had a much closer ongoing involvement with overseas members. Council members in each country are our 'eyes and ears' and their wealth of knowledge and experience ensures that the inevitable operational problems are addressed before they become a more major issue.

On behalf of ACIAR, I want to thank all Council members for the unstinting services that they provided during 2002–03. We could not have done our job without each of you.

Beth Woods
President, Policy Advisory Council September 2003

The Director's review

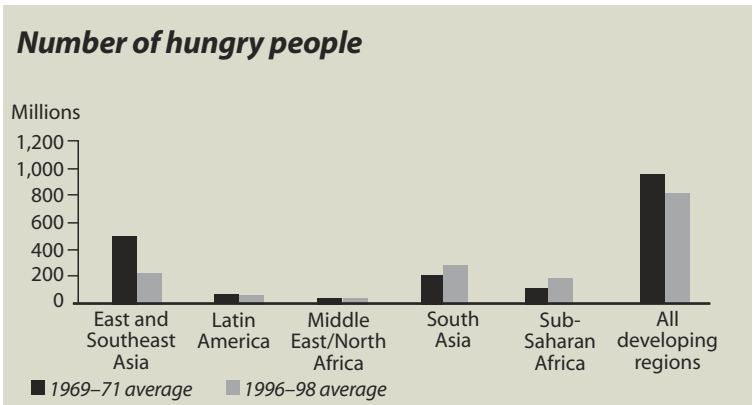
Our challenge

The world has a global population of 6.3 billion people and of these nearly 800 million are chronically undernourished. Nearly 20 per cent of the world's people are living on less than US$1 per day. In regional terms, more than half of the world's population – 3.2 billion – are in the Asia-Pacific, of whom around 1.8 billion are dependent on agriculture, with 750 million people earning less than US$1 per day. Most of these people depend on agriculture to survive, and their livelihoods can only be improved by agricultural investment.

Most OECD countries with strong agricultural sectors have a record of investment in agricultural research. The message can be the same for the poorest people and the poorest countries – sustained investment in agricultural research for development helps generate growth, reduce poverty and protect the environment.

But, by themselves, targeted research investments will not be sufficient. True, they are a necessary ingredient but their effectiveness depends on a broader policy mix built around transparent and accountable governance frameworks and pro-poor public service delivery.

New agricultural technologies require adoption pathways that are self re-inforcing. Functioning markets for both inputs and outputs are part of this, as is the practicality of the new technology, given indigenous knowledge, relative prices, etc. The critical importance of roads is now recognised, as is the role of women in agricultural development. Agricultural research



Source: FAO and World Bank

The world's poorest people live in rural areas – one way or another their livelihoods depend on agriculture

Half of the world's 6.3 billion people are under age 25, one fifth are adolescents (10-19), one in four adolescents live in extreme poverty

investments such as those made by ACIAR can only be successful when farmers and their needs are centre stage in the prioritisation process. And none of this is possible when war and conflict are predominant.

But with all these challenges, agricultural research for development still has an enviable record for delivering results. The so-called Green Revolution of the 1960s and 1970s continues to deliver benefits, just as technological change continues in OECD agriculture.

ACIAR – agricultural research achieving results

Some of our more recent achievements include:

- In Indonesia a 'National Rodent Management Program', forming the basis of national policy, has been developed based on collaborative work supported by ACIAR, which utilises the effective trap barrier and trap crop system to substantially reduce rice losses to rats and other rodents.

The challenge we face is to ensure that small scale poorer farmers participate in agricultural growth

- The extension of the successful Landcare model continues in the Philippines. Landcare groups are working to regenerate degraded land on steep slopes in Mindanao, and increasingly throughout the Philippines. More than 4500 farmers and others are involved in groups, with 500 backyard nurseries now supplying plants.

- The Fosters Brewery at Tien Giang, Vietnam, has installed a large–scale plant to convert brewery waste into baits to attract and kill fruit flies, a significant pest of tropical fruit crops. , This waste would otherwise be dumped, potentially causing environmental problems.

- An ACIAR-supported, AusAID-funded project, being delivered through the International Centre for Maize and Wheat Improvement (CIMMYT), has distributed 300 tonnes of wheat seed to 9000 farmers in Afghanistan. New maize and wheat varieties suitable to local conditions are being trialled.

- The use of oilseed-based protein feed supplements has been proven to increase milk production of cattle and buffalo by up to a litre a day, as well as increasing fat and protein yields in meat. This represents an additional income source for poor farmers. A plant to produce the protein feeds was opened September 2002 by the Australian High Commissioner to India, Her Excellency Penny Wensley.

- A new feedlot system that will enhance the potential of cattle sales by South Africa's poorest farmers is being developed. The system is based on ACIAR project work that identified that smallholder-reared cattle not only meet the specifications demanded of the commercial sector but have no significant differences from commercially-reared cattle.

Planning for results

ACIAR outlays in 2002–03 were $49.90 million. These funds were allocated to numerous activities as set out in this Annual Report. These allocations were the result of quality planning processes involving the Minister, the ACIAR Board and Policy Advisory Council, AusAID and key external stakeholders (including in-country consultations) – as well as strong internal debate on priorities and directions.

All of these efforts are driven at formulating research programs that solve agricultural problems in developing countries. Our mandate draws this from section five of our enabling legislation that sets out our functions. Within that mandate, difficult funding decisions have had to be made between competing research funding options. In consultation with partner countries, priorities have had to be established.

In 2002–03, we made special efforts to codify the results of our planning processes for external stakeholders. The result was a new Annual Operational Plan – commencing 2003–04—that has set out priorities for each partner country, indicative budget allocations and key ACIAR program staff contacts. Our objective in doing this was to ensure that our external stakeholders were as well informed about the results of our thinking as we were internally. With that comes feedback, so essential to the continuous improvement of an agency like ACIAR that is striving for best practice in all its operations.

The past year was a special one as it was the first of ACIAR's new triennial funding arrangements for the international agricultural research centres. These centres play a crucial role in 'research for development'. Aggregate funding, in calendar year 2002, for these centres was more than US$350 million, two-thirds of which came from OECD countries. ACIAR's contribution, on behalf of the Federal Government, was $9.8 million in 2002–03. Our next review of the funding framework and levels for the international centres is scheduled for 2004-05.

Making a difference

Our legislative mandate is about solving agricultural problems in developing countries via agricultural research programs. Our raison d'être is to make a difference for poor people working in agriculture in poorer countries.

ACIAR has always had a strong focus on impacts. As in previous years, it commissioned arms-length analyses of four completed projects (or sets of projects) that will be completed and published in 2003–04. In 2002–03, ACIAR published four assessments, all of which demonstrated high returns for investing in agricultural research. Further details can be found on pages 73 to 74.

During 2002–03, further steps were taken by ACIAR to strengthen its focus on impacts. New arrangements were developed to survey projects that had been completed for three years to examine their impacts. This

survey will commence in 2003–04 and cover 14 large projects completed in 1999–2000. This initiative will complement our existing program of ex poste formal benefit–cost analyses and our impacts database, and will be reported on in our next Annual Report.

Our management

People management

As the new ACIAR Director (starting end July 2002), I want to acknowledge that 2002–03 has been a difficult transition year for some Centre staff including myself. A new Chief Executive with a direct communication style, new priorities, and new ways of doing things can be unsettling. All parts of the ACIAR team, including myself, are working hard to manage the change process. The focus on ACIAR's external priorities and delivery has not wavered and is a tribute to the professionalism of its staff.
At another level, 2002–03 was the first year of our new three–year Certified Agreement. It has a number of features including salary increases of 12.5 per cent, which must be offset by productivity improvements, over the three-year agreement. Again this implies that changes will occur in the way we do business, and these changes are being actively managed.

Over the coming period, it is likely that a number of senior staff will, because of age, make choices about when to retire. These people are very valuable contributors with significant corporate memory and the ACIAR challenge will be to oversight this change process in a way that continues to tap this existing expertise while also celebrating the insights that come with the new members of the team.

Financial management, accountability and governance

ACIAR has a strong, dedicated finance team that produces financial visibility and quality analyses for colleagues, the Executive and our Board. The team is focused on continuous improvement and recognises the important value add of our internal and external auditors.

Our running costs will not increase in real terms

Like other parts of the Australian public sector, the governance framework continued to strengthen in 2002–03. New protocols have been established and there is now more recognition by ACIAR staff of the Board's leadership position in both the performance and conformance components of our governance framework. The Board will respond to the Portfolio Minister on the Governance Review of Statutory Bodies, conducted by Mr John Uhrig AC, after it is released. This is expected in the first half of 2003–04.

Security and information technology

Security took on new meanings in 2002–03. Our focus on protecting sensitive information, particularly that which interfaces with the secure diplomatic communications network, will always remain a priority, but mentioning security in 2002–03 takes us straight to the safety of our staff who regularly travel overseas, or live overseas, to do their jobs.

Managing that risk has been a significant responsibility. Obviously our first touchstone has been the DFAT travel advisories, but there have been difficult judgments that have had to be made about 'essential' travel. It has not been easy but ACIAR has been well served by the judgments made by Mr Michael Brown, one of ACIAR's Deputy Directors. As CEO, I accept full responsibility for the issue – a classic risk management challenge that I think was handled well by the Centre in 2002–03.

Cost effective and reliable computing platforms are a given at ACIAR. We assume it because our IT manager – Mr Jeff Galea – continued to provide them in 2002–03. Real progress was made by linking our seven overseas offices and the externally based fisheries research manager to our systems here at ACIAR House. The agenda is never finished but big steps were made.

What was new in 2002–03 was the significant upgrade of our website – www.aciar.gov.au. It is now the key 'one stop/first stop' reference on ACIAR operations and a number of staff contributed to the upgrade and its ongoing development. Their efforts have been exemplary and have ensured that our external stakeholders now have a very transparent window into our operations and future thinking.

Looking to the future

To reduce poverty economies must grow substantially faster than population

In a narrow, shorter-term sense, ACIAR is well positioned for the future. It is a strong agency with a track record for producing results. It is made up of a team of dedicated professionals who believe in their jobs. The Federal Government has continued to provide the resources for the Centre to do its job in 2003–04 and we now have a public, transparent, detailed plan guiding our stewardship of these resources.

Our job has been made all the clearer with the Minister's Statement in September 2002 *Australian Aid: Investing in Growth, Stability and Prosperity* and the release in February 2003 of *Advancing the National Interest – Australia's Foreign and Trade Policy White Paper*. Both of these documents are providing key reference points for our program directions.

A key priority is to create a policy and institutional environment that creates opportunities for rural poor

Consistent with these overall policy tenets, our focus here at ACIAR is becoming more targeted on the Asia-Pacific region. We are working more closely with AusAID to ensure policy coherence and to help enable some of the opportunities created by our research efforts to be built into AusAID's rural development programs.

We are playing our part and recognise that our overall effectiveness in reducing hunger and poverty is dependent on the right policy settings and systems of governance. It is not just in poorer countries where the need for policy changes is obvious. Agricultural subsidies in industrial countries (nearly US$1 billion per day) are detrimental to poor farmers in developing countries, and the Doha Round provides an opportunity to

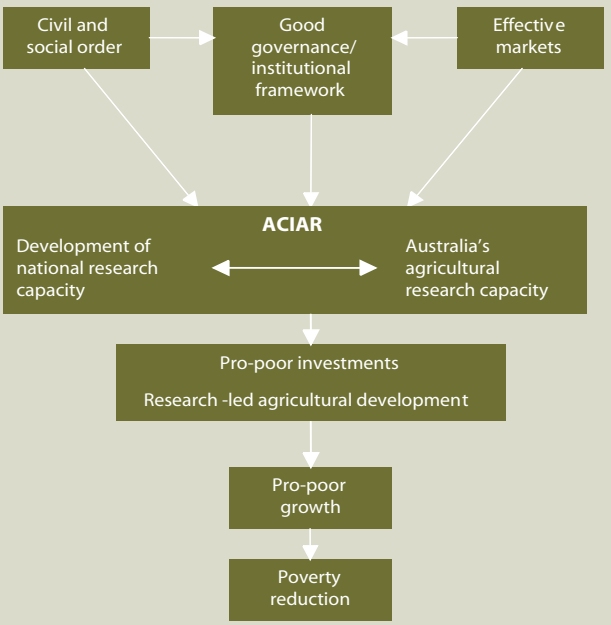
establish new rules in agricultural trade that will underpin development. The World Bank estimates developing countries would gain about US$100 billion a year if developed and developing countries removed all their trade barriers against developing country exports. This far exceeds the US$57 billion developing countries get each year in aid.

Going beyond the near term agenda, ACIAR will continue to be part of a much bigger and, in one sense, overwhelming challenge. The demand for food is projected to double within the next 25-50 years, primarily in developing countries, as the global population increases to 8-10 billion. Furthermore, although the majority of the world's population will live in urban areas by 2030, farming populations will remain at similar levels to those of today.

The global community confronts an enormous task of enhancing rural livelihoods and ensuring nutritional security in a world where the population is growing in size, and there is evidence of increased climate variability and long-term climate change, environmental degradation, and increasing competition for water.

Yes, it is overwhelming, but we also know that continuous improvements in productivity, based on the application of sound science and policy, have enabled us to lift global agricultural output consistent with change in global demand factors. The message is that we need to keep doing it, doing it better and in ways that reduce agriculture's adverse impacts on ecosystems.

ACIAR – Agricultural development and poverty reduction
A conceptual framework



In signing off this part of the Report, I would like to thank the Board for its support and all the staff and our research partners for their commitment in contributing to our successes in 2002–03. As ACIAR's new Director, it has been a challenging year but one enriched by public service.

Peter Core
Director
September 2003

Regional achievements

ACIAR Board Targets

The ACIAR Board defines target ranges for research expenditure across the regions in which projects operate. The target ranges reflect regional and country research priorities, the overall aims of Australia's aid program, and ability to deliver results through effective projects across the Asia-Pacific region and beyond. The ranges also allow for flexibility in project development and implementation timelines, as well as between regions.

Region	Board target
Papua New Guinea and the Pacific islands	10-20%
Southeast Asia	50-60%
North Asia	10-20%
South Asia	10-20%
Southern Africa	5-10% (from 2003–04 <5%)

Papua New Guinea and the Pacific islands

Financial year	Regional expenditure	Percentage of total bilateral expenditure	Board target as percentage of expenditure
2002–03	$4 754 635	17.9%	10-20%
2001–02	$3 126 071	12.8%	10-20%
2000–01	$3 536 020	14.2%	10-20%

The outlays for Papua New Guinea and the Pacific fell in 2001–02, mainly due to project development timeframes and delays in the Pacific islands, coinciding with the completion of several projects. New partnership models combined with the revision of project development guidelines and a streamlining of internal processes have addressed these issues, as demonstrated by the rise in bilateral expenditure in 2002–03.

Papua New Guinea

Active projects in 2002–03	30
Bilateral country expenditure in 2002–03	$3 171 113
Bilateral country expenditure in 2001–02	$2 550 738
Bilateral country expenditure in 2000–01	$2 459 835

Position

Papua New Guinea (PNG) is one of ACIAR's most important partners. ACIAR's program in PNG has endeavoured to reflect this and over the last two years the portfolio has increased significantly. In addition to projects funded from ACIAR's appropriation, since 1998 ACIAR and AusAID have worked together to develop and fund a small set of projects of mutual interest to tackle some of the formidable challenges to agricultural development. PNG is a net food importer with high population growth rates. Village-based agriculture supports 70–80 per cent of the population and domestically traded food is very important. The main cash crops in order of export value are oil palm, coffee, cocoa and coconuts.

PNG's limited capacity is a constraint in carrying out research and development (R&D) activities and in delivery of extension services. When designing projects ACIAR works to include a training component. ACIAR is also keen to package the results of earlier research in a suitable form for uptake by farmers.

Achievements

Several projects have had **an emphasis on increasing smallholder farmer incomes** through cropping improvements. A survey on peanut production, marketing and consumption practices has been undertaken, and improved germplasm has been introduced, with the aim of re-establishing the once significant peanut production industry. A testing facility for poultry feeds, an important part of smallholder farming operations, has been established near Lae. Testing of the nutritional value of feed ingredients is underway to determine the optimal feed materials.

A non-cash payment system for plantation labour in the oil palm sector has been highly successful in increasing both the supply and demand for labour while increasing production. **The scheme allows holders of a *Ius frut* card to harvest and sell fallen fruit**, providing an income source almost equal to that of those in formal employment. Other plantation sectors are interested in examining and trialling the scheme. In the first instance, ACIAR will assist with a new project examining the relevance of the scheme for cocoa.

A project assessing **biological threats to sugar production** in PNG, Indonesia and Australia completed the last of four surveys of the region. The strategic Torres Strait region – important as a potential pathway for pest and disease transmission between PNG and Australia – was examined. Findings including the extent and spread of pests

Collecting soil samples

Bernard Maladina is our PNG Manager

ACIAR Chair Beth Woods inspects a sample of diseased sugarcane at Ramu Sugar's research site

A fishing family in PNG

will be important in informing quarantine issues and interactions with quarantine staff both in the Torres Strait and on Cape York. The first PNG sugarcane pest and disease manual was produced and distributed to National Agriculture and Quarantine Inspection Authority staff at a November workshop, with a similar Torres Strait sugarcane pest and disease manual also produced and distributed to Torres Strait quarantine staff. Biological control agents continue to be released against the major weed of pastures, *Chromolaena odorata*, at sites in PNG, and their effects monitored. Agents have also been supplied to other countries of the South Pacific with C*hromolaena* problems.

Artisanal fisheries are also important in PNG, and are a focal point for some fisheries projects. A field survey of the **sea cucumber resources** of Milne Bay Province has been completed, with a final report providing stock status assessments for all commercial species. A series of management recommendations has been made to local authorities resulting in changes to existing management arrangements. Another project on sea cucumber has seen community–based resource management arrangements established at Obulaku village in the Trobriand Islands, Milne Bay Province. Two possible areas for lagoon reseeding of these species have been identified.

An 18–month study of the status of **pond aquaculture in PNG** surveyed 313 fish farms, 20 markets, 16 hatcheries and 18 institutions. A workshop held in Goroka brought together all sectors of the industry and other stakeholders to consider the results of the project and to establish priorities to guide the development of a proposal for a follow-on project. A manual has been produced for the ongoing maintenance of the Papua New Guinea National Fish Collection. This valuable collection, now housed at the University of Papua New Guinea, has been partially restored and collated. Following completion of a past ACIAR project the Barramundi Fishery Management Plan was formally approved and has now been gazetted into law under the PNG *Fisheries Management Act*.

In the remote provinces of PNG there is a chronic lack of rural industries to provide cash incomes to communities and households. ACIAR's project work has supported the development of **a small industry in Western Province based on distillation of essential oils**. A new product based on oils from the native *Asteromyrtus* species is now marketed as bottled oil in PNG stores. Another project is analysing the marketing system for fresh produce grown year-round in PNG's temperate highlands. This year-round growth presents an opportunity to capture market share, both within and beyond PNG. Initial activities are identifying internal and external factors that constrain delivery systems, to allow the development of improvements within both sea-borne and air-borne delivery.

A parasitic disease (surra) that causes chronic wasting in animals is a major constraint to livestock production in parts of Southeast Asia, but is yet to enter PNG. **A surra outbreak would devastate the livestock industries in PNG**, particularly pigs, which are commonly kept as stock, and bring the

potential for an outbreak in Australia closer. Molecular techniques using polymerase chain reaction testing have been developed that can detect parasite DNA in very small quantities of animal blood. Differences in parasite genetics are also being studied, revealing that some strains of the disease are more sensitive to potential treatments than others.

Sustainable forestry management, both to utilise potential products and to ensure the continued viability of existing plantation areas, is the aim of two projects, both focusing on **building research capacity**. One is focusing on management techniques, with training conducted to improve planning including in spatial planning systems, inventory methodology, the use of growth models, scheduling of regional timber harvesting and yield regulation. Data collection and analysis, including a review of inventory systems and permanent sample plot re-measurement, have also been conducted. The second project is examining the domestication of indigenous tree species. Substantial work has been done to gather information from relevant trials. Four species have been identified for use in field trials with seed collections for each completed. Trials for an additional 15 species have been established in the Lae Botanic Gardens.

ACIAR is involved in several capacity-building initiatives in PNG, in association with AusAID. A project on improving communication of scientific and technological knowledge for publication, education, and extension purposes has established a sound framework for ongoing cooperation between PNG's five universities. The 2002 pilot group of 19 lecturers from University of Technology (UniTech), University of Papua New Guinea, University of Goroka, Vudal University and Divine Word University were awarded UniTech's new Graduate Certificate in Communication of Science and Technology after completing prescribed coursework through their participation in the project's workshops in 2002. Learning materials to support delivery of two core subjects and five elective subjects were developed using a participative action learning process that also trained the participants to be trainers for new cohorts at their own institutions in 2003.

Oil palm seedlings in PNG

Coconuts in Fiji

Pacific islands

Active projects in 2002–03	15
Bilateral country expenditure in 2002–03	$1 583 522
Bilateral country expenditure in 2001–02	$575 333
Bilateral country expenditure in 2000–01	$1 076 185

Position

ACIAR's program with the Pacific has grown significantly in the past year, in line with broader Australian official development assistance priorities. A stable and economically viable Pacific is in Australia's interests. There are many factors constraining socioeconomic development of Pacific island countries. The region's small renewable resource subsectors are dominated by subsistence agriculture. Commodity exports are an important income source, as is income gained from fishing resources rents.

Many Pacific island countries have limited capacity to participate effectively in ACIAR's normal mode of bilateral collaborative research partnerships. Their participation in regional or multi-country programs and projects addressing common problems partly helps overcome these constraints. Projects are designed to address risks associated with institutional instability, personal security, high staff turnover and limited depth of national staff resources. ACIAR also supports some collaborations by Pacific island countries with two CGIAR centres, the WorldFish Center and the International Plant Genetic Resources Institute (IPGRI).

Achievements

A project on **Fiji's sugar industry** has helped the Government to re-evaluate restructuring options for the Fiji Sugar Corporation. Institutional reforms to improve the efficiency of production to the milling chain are being considered. Another Fiji-based project has used diaries to collect dietary nutrition information. The methodology will be used in the upcoming national nutrition survey to be funded by AusAID. A low-cost food choice model is being developed for use in training nutritionists and educators and for use in policy analysis around the national survey.

Fisheries research is a key part of ACIAR's Pacific activities. With the Forum Fisheries Agency, a bio-economic model, used in the determination of harvest levels and rents payable for the South Pacific tuna fishery, was updated with biological, catch, price and cost parameters. Two potential charging systems for obtaining access fees from Distant Water Fleet Nations fishing in the exclusive economic zones of the Pacific island nations were examined for feasibility and economic efficiency. The project identified that 'charge-on-effort' schemes should be considered, using a formula based on catch parameters and fishing days.

A re-examination of the stocks of coconut crabs in Vanuatu to determine if the management arrangements introduced 10 years ago have been sufficient has shown that significant stocks of crabs still remain. At that time management arrangements were introduced to conserve the remaining stocks that were in danger of being fished out. The study findings, which have been discussed with the relevant Vanuatu Minister, suggest there is reason to be optimistic about the success of the arrangements, but that fine-tuning of management options is still needed. Follow-on research in trochus reseeding has commenced in Vanuatu with a focus on developing a framework for community consultation and participation, stock enhancement on selected reefs, and eventual dissemination of the project results nationally and regionally. The work has been extended to Samoa where it is hoped the establishment of a trochus fishery will provide employment and income-generating opportunities.

Pacific islands clam cleaning

In Fiji, following a second introduction of the GIFT *Tilapia* fish (bred in the Philippines by the WorldFish Center and the GIFT Foundation), fingerlings are being provided routinely at no cost to commercial farmers through government–supported hatcheries. Demand has increased significantly for the fry, and new hatcheries have been developed in other regional areas on the two large islands as tilapia aquaculture has expanded.

In 1998, ACIAR funded the transfer of blacklip pearl oyster spat collection techniques from the Solomon Islands to Fiji. These techniques are being used by Fiji Fisheries to collect spat near Savu Savu to supply a 200 000 shell commercial oyster operation. A successful hatchery and culture facilities for these oysters have also been developed in Kiribati. A demonstration pearl farm has become a focal point for training members of the community and for hosting potential investors. A draft Development Plan formulated during the project will provide a continuing framework for the future development of a cultured pearl industry in Kiribati and address both technical and political issues relating to this development.

Working in close cooperation with AusAID's TaroGen project, an ACIAR project has used **genetic fingerprinting to classify the many varieties of taro**. Virus indexing was also conducted to ensure safe movement of germplasm between countries. All viruses of taro in the region have now been identified, and reliable diagnostic tests are available for almost all viruses. Genetic fingerprinting of all varieties is complete, and a regional training workshop was held to transfer relevant molecular techniques to South Pacific scientists. An ACIAR-funded plant genetic resources specialist was assigned to the Secretariat of the Pacific Community to help preserve the valuable plant resources of the region. The specialist is aiding in information dissemination of genetic resources of several important Pacific crops, notably taro and breadfruit. A project on yam nutrition in PNG, Vanuatu and Tonga has seen good progress. Yams are one of the

most valuable of the Pacific root crops, but are also nutrient-demanding. A database of nutrient deficiency symptoms is being assembled. Tonga has made most progress, demonstrating good response to phosphorus and to mucuna cover crops for yams. Vanuatu is also starting to make progress, with widespread testing during the year.

Modelling and monitoring of the major fresh groundwater resources of Kiribati has demonstrated that a 30 per cent increase in sustainable freshwater extraction is possible in the capital, South Tarawa. This is a significant increase in a country with less than 30L/capita/day of available reticulated freshwater. Analyses of demand and the impact of frequent severe El Niño-related droughts have demonstrated that additional groundwater sources will have to be found for South Tarawa by 2010.

Studies into three zoonotic diseases which can substantially reduce animal productivity are underway in several Pacific island communities. Zoonotic diseases are carried by animals, but are capable of being transferred to humans, with the possibility of transmittal increasing as human and animal populations share the limited land areas often found in the Pacific. Two types of tests to detect the presence of the diseases have been developed and are being refined to allow identification of low–level infections. Information on the prevalence of one of the diseases in trial sites in Fiji has been determined, and the life cycle of the second of the three diseases, including animals involved in passing on the disease, identified.

Sea cucumbers

Southeast Asia

Financial year	Regional expenditure	Percentage of total bilateral expenditure	Board target as percentage of expenditure
2002–03	$12 713 502	47.8%	50-60%
2001–02	$12 901 088	52.8%	50-60%
2000–01	$11 743 438	47.0%	50-60%

ACIAR's programs cover five regions, of which Southeast Asia is the largest, with nine countries involved. Of these nine Indonesia is, and will remain, our largest partner. For the region, the Board and Minister have set an expenditure target of between 50 and 60 per cent of our overall bilateral research expenditure.

In 2002–03 expenditure did not meet this target of 50–60 per cent, expenditure being 47.8 per cent. This was due to security problems in Indonesia that stopped ACIAR and Australian research partners from travelling for significant periods in 2002–03, delaying both project development and implementation, and reduced outlays in Vietnam.

Buffalo ploughing

Workers in Burma

Burma

Active projects in 2002–03	2
Bilateral country expenditure in 2002–03	$153 903
Bilateral country expenditure in 2001–02	$0
Bilateral country expenditure in 2000–01	$0

Position

After exploratory visits in 2002 to determine the feasibility of collaborative research activities, ACIAR has developed a small program with Burma, the first projects commencing in 2003. Although there has been rather limited international development cooperation in agriculture with Burma since 1988, several trained researchers and some basic facilities are present to allow effective cooperation. Initial projects are focusing on spillovers from related ACIAR projects. Burma has already indirectly benefited through the Food and Agriculture Organisations (FAO) from the spillover of other ACIAR projects in the region, most notably production of vaccines against Newcastle disease in chickens.

Achievements

ACIAR's Burma program has only recently begun, with the commencement of projects to extend capabilities in **delivering Newcastle disease vaccines** and for **rodent control** through use of the successful trap barrier system, mid-way through the financial year. Early reports indicate good progress.

Rat burrows in rice crops

Cambodia

Active projects in 2002–03	6
Bilateral country expenditure in 2002–03	$721 584
Bilateral country expenditure in 2001–02	$489 597
Bilateral country expenditure in 2000–01	$291 754

Position

Cambodia is a relatively new partner country for ACIAR, although Australia has provided significant development assistance over the medium term. A major component of the AusAID assistance in Cambodia continues to be in agriculture, and ACIAR has taken the opportunity to link several of its research projects to AusAID-supported extension, industry development and institutional capacity-building initiatives. Cambodian farming is largely based on rice systems of relatively low productivity. The suite of current, pipeline and completed projects is correspondingly targeted at improving rice production as well as agricultural diversification, and at developing animal health research and development capacity. Cambodia has made good recent progress in developing a group of internationally trained researchers and its infrastructure has improved through other donors. These needs and capacity make it an important partner country for ACIAR.

Achievements

Drought-screening methods developed in previous ACIAR research projects have been used to identify **rice genotypes that are adapted to drought-prone environments**. The method uses a low-rainfall location, under normal wet season conditions, simulating drought conditions by draining standing water from the crop during the reproductive phase of growth. This method is being integrated into breeding programs. Drought-resistant lines identified are being used to rapidly develop new populations of acceptable, widely adapted cultivars that are also well adapted to rainfed lowland environments and have high potential yields under irrigated conditions. The first extensive multi-location yield trials using 32 rice varieties are underway across a range of soil types. The trials, examining the effects of 'genotype-by-environment' interaction on yield, found a smaller degree of difference than anticipated. As a result, genotypes can be selected for broad adaptation to one main environmental type.

A **rodent control** project is focusing on the common property issues of implementing the successful trap barrier system, developed through ACIAR-supported research, that is used elsewhere in Asia. The main experimental site has been successfully implemented and there has been spontaneous adoption at a second site. There are clear benefits deriving from farmers being involved in the experimental processes, with local farmers having developed strong self-reliance in managing rat problems. Project work on **controlling the parasitic-borne fasciolosis disease**

Cambodian farmers with ACIAR Director Peter Core

Ms El Sotheary - Allwright Fellow

in cattle and buffaloes has identified when animals are infected, based on knowledge of the disease host and its role in transmission. This understanding has also benefited the development of control methods suited to different climatic and agricultural conditions. Application of suitable controls to match the systems has successfully increased animal weight and productivity. These results are being more widely disseminated, through both the establishment of a regional network of scientists and the building of capacity in Cambodia and other Southeast Asian countries.

ACIAR is managing the Research Trust Fund component of the AusAID-funded 'Cambodian Agricultural Research and Development Institute Assistance Project', which is aimed at providing an environment of competitive tender for agricultural research. In addition to managing the fund itself, the project provides both formal and one-on-one training in research problem identification, the preparation of research proposals, and scientific report writing. In two rounds in 2002–03, 14 projects were funded, involving a broad range of topics and six different Cambodian research institutes.

East Timor

Active projects in 2002–03	2
Bilateral country expenditure in 2002–03	$681 219
Bilateral country expenditure in 2001–02	$479 366
Bilateral country expenditure in 2000–01	$893 838

Position

ACIAR has been involved with East Timor since late 2000. Agriculture provides both a livelihood for more than 80 per cent of East Timorese and through coffee is also one of the main sources of export income. Australia has a comparative advantage in working with East Timorese agriculture in several ways, including proximity, similarity of climatic and production systems to Australia's arid and wet/dry tropics, and relevant experience of Australian agricultural scientists in nearby regions. Current projects aim to build local agricultural research capacity, both in the field and in the laboratory.

Achievements

The Seeds of Life project which is **introducing staple crop varieties better suited to local growing conditions** conducted planned third-year crop trials successfully at three experimental sites during the December–April wet season. A fourth site failed due to drought. Harvesting has been completed for seven of the eight crops sown, excluding cassava which takes 12-14 months to mature. Some introduced lines of maize, peanut and sweet potato continue to show much higher yields than local varieties. Seed of the better varieties of sweet potato, peanut and maize was distributed to villagers around the trial sites, with villagers excited about the improved yields compared with their local varieties.

A conference 'Agriculture: New Directions for a New Nation', co-sponsored by ACIAR, was held in conjunction with the annual technical meeting of the Seeds of Life project in Dili on 1-3 October 2002. This was the first international conference on agriculture held in the country. A strong focus was placed on technical information and experiences relevant to local development, with strong representation from local speakers, and a broad agenda to cover cropping, fisheries, forestry and livestock. Around 140 scientists and agricultural and extension specialists from 10 countries attended.

Through ACIAR support there has been considerable progress in **capacity development at the National University of East Timor Agriculture Faculty.** The focus of this work has been research and development and teaching, including the completion of the rehabilitation of the University farm and laboratory facilities. Xanana Gusmao, President of East Timor, and Australian Ambassador Mr Paul Foley officially opened the facility on 13 February. It is now being used intensively by students under the supervision of academic and technical staff from the Departments of Agronomy and Animal Science of the Faculty of Agriculture. Eight final-year students are conducting research work at the Hera field station while seven students completed their dissertations, based on work at the station during 2002.

President of East Timor Xanana Gusmao inspected the newly opened facilities at the Hera Campus of East Timor Agricultural University

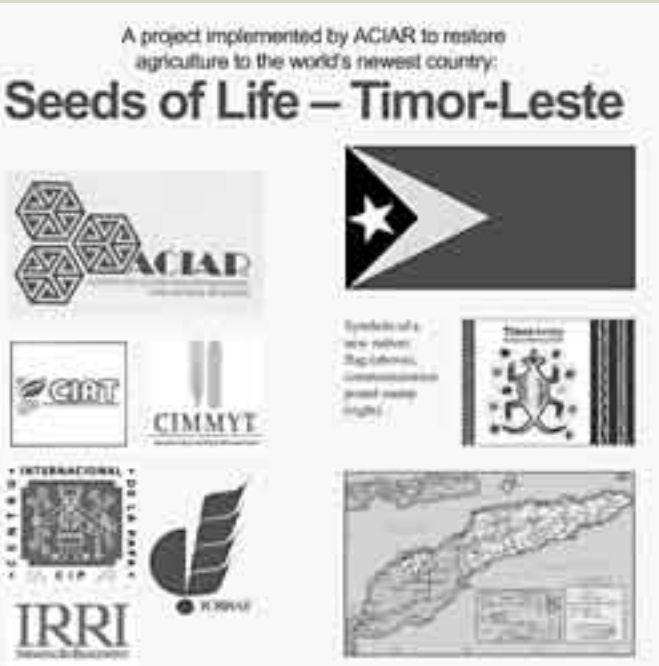
Facilities at the Hera campus of East Timor University that were damaged or destroyed in the country's crisis in 1999 have been restored through an ACIAR project. The newly refurbished experimental station and laboratories were recently reopened.

The ACIAR project has funded a twinning arrangement between the Faculty of Agriculture at the University and agricultural faculties from several Australian universities.

A dedication ceremony of the refurbished buildings took place on 13 February 2003.

Seeds for a better life

The Seeds of Life project has helped improve food security in the fledgling nation of East Timor, through the introduction of seed germplasm for staple crops. The need for germplasm emerged after the conflict surrounding independence in 1999. Many seed reserves were destroyed, stolen or consumed. ACIAR, together with five CGIAR centres, the Timorese Ministry of Agriculture and Catholic Relief Services, established a project to assess a variety of seed germplasm for its suitability to local growing conditions. Improved varieties of maize, rice, sweet potatoes, beans, cassava and peanuts have been identified, all with the added benefits of years of breeding to improve yields and disease resistance. Maize varieties tested near Baucau in the north have yielded at 6 tonnes per hectare, compared to the average for local varieties of 1.5 tonnes per hectare. The best of these varieties are now being used in on-farm trials involving local farmers. Seed multiplication and the establishment of a seed production/distribution system is in the initial stages of development. Substantial capacity building of the skills of East Timorese field staff in integrated crop management technologies has also been undertaken. Former CSIRO plant breeder Dr Brian Palmer has been instrumental in helping to evaluate the best varieties, through his work during the three years the project has been running.



Dr Brian Palmer with East Timorese workers

Indonesia

Active projects in 2002–03	53
Bilateral country expenditure in 2002–03	$4 062 457
Bilateral country expenditure in 2001–02	$4 784 157
Bilateral country expenditure in 2000–01	$3 475 852

Position

Indonesia is ACIAR's largest bilateral program and has more projects than any other partner country. The country's proximity and strategic importance to Australia, and the large proportion of its population relying on agriculture, mean that its prominence in ACIAR's program will continue. The agreed geographical focus of the collaboration continues to shift towards eastern Indonesia, in line with the emphasis of the Australian aid program. Most research capacity is in Java but ACIAR has made good progress to link this to eastern Indonesian institutions and to regional adaptive research agencies and planning authorities. The majority of projects developed since 1998 have strong eastern Indonesian components. ACIAR also targets Indonesia in its multilateral program, delivered in conjunction with international agricultural research centres such as the Center for International Forestry Research (CIFOR), the International Potato Centre (CIP) and the World Agroforestry Centre.

Achievements

ACIAR supports collaborative projects in both animal health and production. Diagnostic tests, based on enzyme-linked immunosorbent assay technology (ELISA) were developed for the **detection of the antibody to jembrana disease virus, a significant health problem in Bali** cattle in parts of eastern Indonesia. Training courses were conducted by the Disease Investigation Centre in Denpasar, to transfer the technology to regional laboratories. A vaccine trial demonstrated that immunisation with a recombinant protein vaccine provided immunity against Jembrana disease of cattle. Development of a number of options for control based on knowledge of the epidemiology of fasciolosis, which are appropriate for the farming systems in Southeast Asia, can help minimise the use of expensive anthelmintic drugs. Transfer of control recommendations to extension services is underway. The Research Institute for Animal Health in Bogor is now a reference centre for fasciolosis in Southeast Asia. In work on gumboro, a disease of poultry, a preliminary test to detect the presence of the most virulent form of the disease has been developed. Five strains have been identified including a dominant strain, which will be used in vaccine development.

A simple and practical method of **overcoming the low reproduction rate of Bali cattle** in mixed crop–livestock systems in eastern Indonesia has been demonstrated. After consultation with all farmers in Kelebub village in Lombok, the twin strategies of controlled mating (one bull,

Bali cattle

Rhonda McLellan is our Indonesia Manager

Mud crab fattening pens

three-month mating period) and weaning of calves at six months were adopted. This resulted in cows in better condition that were less costly to feed, and calves growing better when fed appropriately. The controlled seasonal mating has been a further boon, with over 90 per cent of eligible cows producing a calf, compared with about 60 per cent under traditional management. A new project is being developed to scaleup this initiative to other villages where the strategies can be applied. Discussions with farmers at Kampung on Sumbawa (one of eastern Indonesia's trans-migration areas) identified that a better rice variety for their upland conditions was the highest priority. A dozen accessions were assembled and established for the 2002 wet season and farmers made their selection. Seed was bulked up during the dry season, with the new variety achieving record yields, about 50 per cent higher than from the existing varieties, during the 2003 wet season.

Plant protection remains an important aspect of research activities. A project on *Liriomyza huidobrensis*, a new leaf-mining fly devastating many vegetables in parts of Asia, has uncovered much information about various pest leaf miners and their natural enemies. Information gathered through this project was able to help the Northern Australia Quarantine Strategy interpret results from some of their offshore surveys. A project on fungal diseases of significant crops in Indonesia has identified the complex factors causing clove yield decline and vanilla stem rot, and the modes of spread of both diseases. Trials are now underway to design management strategies.

A 'National Rodent Management Program' (Gama Pamati) was developed based on recommendations arising from collaborative work funded by ACIAR in West Java. This program now forms the basis for the national policy on **rodent pest management in Indonesia**. This was based in part on research into ecologically-based rodent management that demonstrated consistent increases in rice yield (range 0.1 to 0.9 t/ha). Chemical usage amongst farmers involved in the project dropped from 98 per cent in 1999 to 46 per cent in 2002. A project to reduce incidences of disease and pest management problems of cocoa is examining resistance traits in cocoa varieties. Cuttings of promising varieties identified throughout Indonesia have been identified and collected, with cuttings grafted to existing trees at the trial site. Additional project work is determining the best methods of grafting cuttings, with preliminary results indicating improvements that can benefit local cocoa farmers, are possible.

Options for **reducing contaminant risks in peanuts** have been enhanced by market chain studies showing that most fungal contamination from aflatoxins occurs during postharvest handling and storage. Excessive contamination was not a problem in freshly harvested nuts, allowing research to focus on finding improvements in postharvest handling and storage systems to reduce risks to consumers. Alternatives to traditional cropping tillage practices on vertisol soils based on permanent raised beds, using vegetables like onions and chillies, are

proving successful. The traditional 'gogorancha' methods produce lower yields and can damage the long-term sustainability of the vertisol soils.

Fisheries is ACIAR's largest program discipline in Indonesia. ACIAR and the Indonesian Ministry for Marine Affairs and Fisheries collaborated to present a major showcase of outcomes of almost two decades of jointly sponsored work in capture and culture fisheries. The showcase, held in Jakarta on July 31, attracted almost 400 participants including senior officials from government and industry. Five key project results were highlighted, covering the areas of shared fish stocks; grouper mariculture; illegal, unregulated and unreported fishing; remediation of degraded shrimp ponds; and shrimp disease control and management. All presentations, posters and information products were in Bahasa and English. The showcase generated strong commitment to continuing collaboration, with increased emphasis in future on applications of research and technology transfer.

A typical aquaculture set-up, common in coastal areas of Indonesia

An effective low-cost technique for the **remediation of ponds** in areas with medium or low levels of acid sulfate in soils has been developed and successfully trialled in southern Sulawesi. When exposed to air through excavation, the acid sulfate is released, leaching into ponds and waterways, significantly reducing productivity. The main cause of this leaching was identified as dyke soils rather than pond bottoms, which are often the focus of management. Modified dyke soil management strategies, using acid- and salt-tolerant species, dramatically reduced soil erosion.

Drying rice crops

Mono- or polyculture methods to growout shrimp, milkfish and seaweed have also been demonstrated for affected ponds. Geographic information systems (GIS) and remote sensing methods were successfully used to describe relationships between acid sulfate soil distribution and coastal landforms in Indonesia and to classify land suitable for shrimp production. Biological, physical and production indicators were also identified and integrated into simple site assessment techniques for farmers.

Nutrition research has identified many of the **nutritional requirements of several species of high-value grouper**, which has allowed the development of artificial (pellet) diets. Trials are now being undertaken with commercial feed companies to develop commercial grouper feeds. ACIAR also supported a request of the Indonesian Government to address a serious carp disease epidemic (Koi carp herpes) in Java. The outbreak represented a grave threat to common carp, a major food fish and source of cheap protein. ACIAR assisted Indonesian scientists to undertake a detailed disease survey, and provide training on the suite of epidemiological tools developed under a past project. This study will input directly into the development of a national control and management plan for the virus.

Preparations for rice crop

Project work in agricultural economics has advanced the development of **a sustainable microfinance system for agricultural producers**. The study showed that successful schemes needed to serve the wider community, not just farmers, and have low transaction costs. Dissemination of the research has included interactions with provincial government committees on the poverty alleviation program, as well as the Ministry of Finance to look at the model being applied nationally. The issue of whether farmers participating in contract farming were better off than those that did not was addressed through project work. The results showed lower transaction costs were a key aspect of the success of the contract under study, which provided a low-cost way for farmers to access the seed corn market. This allowed diversification in production, reducing risk, providing guaranteed prices and enhancing profitability. The involvement of grower groups also provided the contractor with benefits in terms of the costs of drafting, negotiating and enforcing the contracts.

Constraints to the **development of the banana industry** are being analysed, with a focus on markets. A workshop brought together key stakeholders from throughout the industry to develop a picture of the constraints throughout the supply chain. The result is a classification of the roles, resources used and barriers to productivity of the two main groups within the industry, smallholder farmers and larger commercial operations. A suitable model to test several improvements is now under development before application on a small scale to the smallholder sector.

A suite of forestry projects is underway, aiming at enhancing the sustainability of forestry resources through improved productivity and management. Domesticating Australian trees offers opportunities to improve the sustainability and profitability of Indonesia's forestry sector. A project focusing on the provision of seeds and technical support and training has supplied seed to 14 countries. Training and technical support have been provided, with a focus on establishing productive seed orchards, many of which are now producing seeds for *Eucalyptus* and *Acacia* species. Heartrot, which occurs when *Acacia mangium* is planted in Indonesia, is a significant barrier to using acacia wood for timber. Surveys of the incidence of heartrot in acacias show it is widespread, but have also revealed that its incidence increases dramatically in trees selected for characteristics associated with thin trunk growth. Some management techniques to increase these traits also increase the likelihood of heartrot. A separate project is using molecular technologies to develop more efficient breeding strategies for *Acacia mangium*. Screening of seed from eight provenances (locations from which the seed is derived) to determine rust susceptibility has been undertaken. Training in the microsatellite technology used has been passed on to the Indonesian project personnel.

Improving the broad-scale management of forests and of productive sectors of the forestry industry is also progressing. A project examining **alternatives to traditional slash-and-burn agriculture** has identified

carbon stock accumulation in soils for the main cropping options practised. Of these options, shade-coffee crops provide the greatest levels of carbon storage in soils, minimising the levels of carbon reaching water supplies. Erosion control measures that suit these options, which also reduce carbon loss to water supplies, have been tested, with initial findings showing that the growth of plants, and even weeds, on these measures have the added value of acting as filters. Potential conservation measures based on local practices have also been identified, with computer modelling used to test the likely benefits on soil conservation. This has allowed various options to be matched to locations for field trials, which are now underway. A separate project focused on the essential oil industry in Indonesia has used seed collected from the Maluku Islands in Indonesia and parts of northern Australia to improve breeding, through screening of oil and growth characteristics. This included the planting of breeding populations and laboratory testing using gas chromatography. Thinning of breeding populations based on the best identified varieties and provenances is underway to allow for scaling up of seed populations for plantation planting throughout Java.

We publish in Indonesian

Limiting the **emission of greenhouse gases,** particularly carbon dioxide, with the potential to cause climate change, is the focus of another ACIAR-funded project. Results included demonstrating the ability of land-use change and forestry projects to offset permanent emissions of carbon dioxide from the energy sector, based on accounting approaches for carbon sequestration. Approaches have been proposed, with strongly divergent implications for both landholders and investors. These implications are expected to influence the design of projects and **policies to capture carbon sequestration benefits**.

Lao fish market

Laos

Active projects in 2002–03	9
Bilateral country expenditure in 2002–03	$545 329
Bilateral country expenditure in 2001–02	$613 852
Bilateral country expenditure in 2000–01	$613 684

Position

ACIAR has had a program in Laos since 1992, coinciding with a period of expansion of Australia's aid program among the Mekong countries. ACIAR's program with Laos is relatively small, with most projects being components of multi-country projects addressing special research needs and capacity-building. Projects are designed to complement major donor programs on crops, animal health, forages and forestry.

Achievements

Drought in rainfed lowlands in central-southern Laos and low temperature in irrigated lowlands in northern Laos are limitations to rice production. These problems are being characterised to develop methods and resistant cultivars to minimise climatic impacts. Monthly minimum temperature maps and probabilities for the occurrence of different temperatures have also been calculated and mapped. The temperature maps and accompanying documentation have been published. GIS-based maps of annual rainfall have also been completed, based on rainfall data from 25 meteorological stations and six hydrological stations in Laos and 17 meteorological stations in Thailand. With World Vision involvement, **rice yields in central Laos are being increased by the application of improved varieties and management practices**, such as the use of manures and rotation crops. This has significantly improved food security for farm families in participating districts.

A rodent taxonomic key specifically for the upland regions of Laos was developed and issued to four provinces of Laos. The key, the first for rodents in agricultural systems in Laos, allows clear definition of pest and non-pest species and strengthens the ecologically based approach to rodent pest management. An equivalent key is currently being finalised for Vietnam, and work is underway on a comprehensive computer-based key that will cover the entire Southeast Asian rodent fauna.

Salinity, a major problem in areas of Laos and Thailand, is being addressed through the development of management strategies that are raising awareness of the salinity process. Local authorities are now aware of the problem and are beginning to manage and prevent salinity. The project work is **mapping potentially saline areas** and providing villagers and local authorities **with information to prevent salinity.** Strong links have been forged between government departments, increasing awareness of the need to begin managing salinity in coordination with agricultural development.

A project **adapting low-chill temperate fruits to Lao**, Thai and Vietnamese conditions has sent more than 1300 stone-fruit trees with 25 varieties of peach, plum, nectarine and persimmon to Vietnam and Laos for field-planting. Testing at locations in Vietnam and Laos has identified late-season, high-quality, medium-chill plum cultivars to complement early-season production from the lower-chill regions. Local germplasm with breeding potential has also been identified. Five training courses were conducted for local technicians, extension officers and farmers from two provinces in Vietnam and one in Laos. Varieties introduced as part of the project are attracting price premiums when sold with locally produced varieties, because of their higher quality.

A project aimed at building capacity in the identification and management of animal diseases has established a field investigation network and operational virology laboratory. Tests to identify the presence of **foot and mouth disease in cattle** and **classical swine fever in pigs** have been developed and are now in use. Molecular studies of the epidemiology of the two diseases are now underway. These tests, backed by the enhanced skills and infrastructure, have significantly expanded the diagnostic capabilities of Lao authorities involved in monitoring disease outbreaks.

Lao vegetable market

Site visit to Laotian smallholder livestock producers (chickens, goats and cattle)

Rambutan

Malaysia

Active projects in 2002–03	10
Bilateral country expenditure in 2002–03	$296 572
Bilateral country expenditure in 2001–02	$316 686
Bilateral country expenditure in 2000–01	$355 148

Position

Malaysia is a longstanding partner country for ACIAR. It has been engaged in ACIAR projects since the earliest days. However, in recent years ACIAR's program of work with Malaysia has tapered down, reflecting Malaysia's economic progress. Malaysia now has a strong research infrastructure and capability, and the push for privatisation and commercialisation of agriculture is strong. No bilateral project development has been initiated since 1998, with the last project commencing in July 2000. Malaysian organisations are welcome to participate in ACIAR projects as non-funded collaborators. On occasions, ACIAR supports Malaysian scientists as specialist advisers to assist in projects in the region and through multilateral projects that deal with subjects of a regional nature.

Achievements

A project operating across several Southeast Asian countries (Thailand, Philippines, Vietnam and Malaysia) developing advanced technologies, including biotechnological approaches, to conserve tropical fruit germplasm has developed and refined protocols to study rambutan. Germplasm of calamansi, pummelo, mandarin and lime was collected, established and indexed as virus-free for use in experiments on *in vitro* culture studies. Lychee and longan embryos free of contaminants were also isolated. A long-term conservation strategy has also been achieved for papaya.

Developing resistance to blackheart in pineapples, a serious quality defect, has been addressed through a project using an Agrobacterium method of transformation. Through the method, in which DNA is introduced through the method of Agrobacterium mediation, resistance to black heart has been established under laboratory conditions.

Philippines

Active projects in 2002–03	35
Bilateral country expenditure in 2002–03	$2 948 986
Bilateral country expenditure in 2001–02	$2 471 426
Bilateral country expenditure in 2000–01	$1 862 018

Position

ACIAR's program in the Philippines has been underway since 1983. Initially the program focused on soil and land management issues and postharvest technology. During the 1990s research on livestock management and biotechnology was initiated. A shift in project location, to emphasise poorer areas of Mindanao and the Visayas, also occurred. Increasingly ACIAR underpins new research projects with design processes that include the end-users of the research. Project activities that enhance the impact of earlier ACIAR projects are now a particular focus.

Achievements

Work to extend the Landcare model within the Philippines continues, through expansion of project activities to new geographical areas. In Mindanao more than 350 Landcare groups involving 4500 members are operating. Five hundred communal nurseries, providing trees and plants to aid in land regeneration, have also been established. Insights into some of the key resource limitations of smallholder forestry producers have been gained by surveys in the Visayas. Availability of suitable planting material has been identified as one such constraint. A training workshop has been developed and a manual for socioeconomic research techniques in forestry produced.

A separate project on **watershed monitoring** in Bohol involving government researchers and NGOs has developed a database and monitoring program to better inform decision makers. The Provincial Planning and Development Office has already incorporated project-generated GIS image materials into their own planning documentation and planning capacity. The project is developing an image and map database which has already enhanced the capacity of the Bureau of Soil and Water Management to better evaluate its own mapping techniques and accuracy of soil classification and land-slope maps. A team involved in a project on minimising the impacts of pesticides beyond agricultural sites has been trained in risk-based approaches for assessing the impact on local species. This includes the use of ecotoxicological assays. The risk-based approach has been very enthusiastically received by the stakeholders, including natural resource managers, regulatory agencies and others.

Marketing and agribusiness studies are an important research emphasis. A survey of 209 farm vegetable-producing households in southern Mindanao, conducted during 2002, revealed a range of

Philippines landcare projects

Cecilia Honrado is our Philippines Manager

Philippines model farm project

reasons for traders not supporting farmers by providing the prices expected for vegetables. Most traders are either unwilling or unable to provide market information or to help the farmer grow better crops by providing technical information or training programs. The University of the Philippines in Mindanao now offers a course in supply chain management. The University is also developing strong links with the regional node of the Department of Agriculture, a USAID-funded project and players along the vegetable supply chain including supermarkets. An overview of production and marketing systems and government policy pertaining to the Philippine poultry industry has been completed.

The Leyte Livestock Improvement Project has established a regional network designed to build the infrastructure and capacity required to achieve continuous improvement and innovation of smallholder livestock enterprises. The network brings together local teams of farmers with clear roles and focuses for action. Project staff and members of the network design and manage research and development services to achieve 5 per cent improvements in profit, environment and efficiency per year every year. **A pig and chicken profit improvement process has been developed** focused on achieving improved gross margins of smallholder pig enterprises.

Surveys of smallholder farms in the Philippines and Indonesia demonstrated that resistant parasites are not yet common in the sheep and goat industry. This finding creates **an opportunity to maintain the effectiveness of chemical dewormers** amongst stock dispersed throughout government farms and the smallholder sector. A diagnostic capability for tick-borne disease has been established at the Philippines Animal Health Centre. A pilot survey of these diseases in Batangas Province indicates that about 20 per cent of cattle have been exposed, but cases of clinical disease in smallholder-owned cattle are rare, suggesting a high degree of innate resistance in local herds. The project has also developed the capability to differentiate between parasite strains, important to identify if Australian or Filipino cattle are the source of disease outbreaks. ACIAR-supported work into the parasitic disease surra has identified the best available treatment option against the strain found in the Philippines. This is a commonly available, effective drug with added preventive benefits. The treatment previously favoured was shown to be ineffective.

A novel technique has been developed to transplant coconut embryos into surrogate nuts. The embryos obtained from de-husked nuts were inserted into surrogate nuts under sterile conditions with the transplanted nuts then allowed to germinate and grow. The first transplanted coconuts have germinated and produced healthy seedlings. The technique is still at an early stage of development, but could be used as an alternative to embryo culture for safe germplasm movement and to rescue the embryos of mutant-type coconuts like makapuno and kopyor which cannot germinate in nature. In collaborative research with

the University of the Philippines, Los Baños, the first fruits were harvested from glasshouse-grown transgenic papaya cultivars. Fruit development was somewhat slower than in non-transgenic lines, with delayed ripening characteristics, but the fruit otherwise displayed normal characteristics for the cultivars.

A comprehensive **key to rice disorders** has now been completed, and a pathway version is available for public access on the Internet. Adjusting and testing of the product is now underway, and final versions will shortly be available on both the Internet and CD-ROM.

Following the successful completion of the pilot project working on the identification of researchable options for the **development of policy and management frameworks to combat illegal, unreported and unregulated (IUU) fishing activities,** both the Indonesian and Philippine Governments have expressed high-level support to move ahead with firm agreements on bilateral cooperation to contain IUU fishing. ACIAR has initiated a new project to facilitate the process of developing an IUU management plan for the Sulawesi Sea.

Five companies are now manufacturing **woodwool-cement boards** that can be used to erect rapidly assembled, robust and durable houses to fulfil needs for urgent shelter. The boards were **developed through ACIAR-supported research**. One company has developed an emergency shelter that is being tested for resilience in earthquakes.

Tree nursey for Philippines Landcare project

A member of the World Vision supported vegetable grower cooperatives demonstrates his simple tool for cutting holes in which to plant cucumber seedlings

Experimental site at Ubon Research Centre

Chirapom Sunpakit is our overseas Manager for Thailand, Cambodia and Laos

Thailand

Active projects in 2002–03	23
Bilateral country expenditure in 2002–03	$1 090 643
Bilateral country expenditure in 2001–02	$1 148 593
Bilateral country expenditure in 2000–01	$1 609 973

Position

Thailand was an early and large collaborator with many projects successfully undertaken. However, as research capacity has increased, its involvement in ACIAR projects has diminished. ACIAR's investment in projects has decreased in line with the increasing ability of Thai partners to co-invest in projects of strong mutual importance. In some cases, there are spillovers to less developed countries from drawing on the development experiences of Thailand. Project investment with Thailand is highly selective, focusing only on implementation of the results of earlier ACIAR projects.

Achievements

Through an alliance with World Vision, ACIAR is building on past project results. The first component of this alliance has established community centres to train local villagers in farming fish and developing feeds based largely on locally available ingredients. More than 550 families have adopted fish farming practices. In a second component, farmer groups near the Thai-Burma border have been trained in temperate fruit production, with a number of orchards established. A third component is extending knowledge to reduce agrochemical use in horticulture and water pollution in southern Thailand. Based on a past ACIAR project the extension work has resulted in the development of farmer cooperatives that are reducing chemical use in vegetable farming, opening up new markets.

A project examining **shrimp viruses** has established a common platform of understanding on the prevalence and importance of the three major viruses attacking shrimp, which is important to future trade-related negotiations on aquatic animals and products. International advances in virology have been achieved with the identification and reclassification of these viruses into a new family.

The domestication of Australian tree species through the production of well-adapted seed has focused on *Eucalyptus camaldulensis*. Improved seed from seed orchards established under the project is now being produced in commercial quantities and distributed in Thailand and Cambodia. Villagers in northeast Thailand are working with the Land Development Department to revegetate saline land using species and techniques pioneered in ACIAR-funded work. A flowing saline bore has been capped in one rural area, ending years of saline contamination and enabling rehabilitation to begin. The project has brought together

groundwater, land management, forestry, social geography, economics and computer programming experts to help establish a multi-discipline database, facilitating socioeconomic and environmental approaches to research on salinity management.

Acidity risk maps have been prepared for northeast Thailand for rice and cassava cropping systems. These will be used by land managers to better plan for future land uses. One site continues to show that nitrate-based fertilisers have the capacity to rapidly reverse soil acidification, previously caused by ammonia-based fertilisers and crop removal. A decision support system for land use planning has been developed with the Land Development Department, the Royal Irrigation Department and the Royal Forestry Department. A re-specification of the base land unit within the decision support system has added flexibility and power to analysis capabilities. The results of this study are being used in establishing policy and water resources management plans appropriate to the characteristics of each catchment.

Commercial production of the peach variety **Tropic Beauty**, introduced through a project adapting **low-chill temperate fruit**s, has commenced in hill tribe villages near Ang Khang. Recently established cool storage facilities and refrigerated transport have ensured that high quality fruit is reaching the Chiang Mai and Bangkok markets. Insect pests cause considerable damage to mango crops. A project investigating the use of green ants as a pest control measure has demonstrated that the use of ants results in higher yields of better quality or similar quality fruits than in trees without ants. The combination of ants and minimal chemical use was also shown to produce better quality fruits without a drop off in yield, than chemical controls alone. Regional awareness and coordination of research and development was enhanced through a major workshop on distribution and control of *Phytophthora* diseases in Southeast Asia in Chiang Mai during November 2002. Serious losses in cocoa, pepper, durian, citrus and other crops were discussed and priorities for future research and development identified.

A study of the *Effects of globalisation and economic development on the Asian livestock sector* confirmed **the growing demand for livestock products** in the five Asian case study countries (Thailand, Indonesia, Philippines, Vietnam and China). The model took into account a range of factors and identified that seafood, pork and poultry are the major livestock products consumed. Demand for these products, and for the lesser consumed beef, are anticipated to grow at 2.5–7 per cent per annum to 2020, depending on country and commodity. The study determined that improvements are needed on the supply side for these countries to remain competitive as protection diminishes with trade reform. The relationships between grain prices and smallholder and commercial sectoral advantages were also determined.

Temperate fruit orchards in Thailand

Shrimp-rice farming systems research site in Soc Trang province

Vietnam

Active projects in 2002–03	36
Bilateral country expenditure in 2002–03	$2 212 809
Bilateral country expenditure in 2001–02	$2 597 411
Bilateral country expenditure in 2000–01	$2 641 171

Position

Since the initiation of ACIAR's Vietnam program in 1993 a significant program in forestry, land and water resources, animal sciences, crop sciences, fisheries and postharvest technology has emerged. There has been an evolution from an emphasis on capacity-building to practical farmer and policy impact. Some new projects focus on extension or adaptation of outputs from earlier ACIAR projects in Vietnam and elsewhere in the region. Appropriate technologies arising from these projects are also being applied and capacity developed in R&D through the AusAID Capacity-building for Agriculture and Rural Development (CARD) program. ACIAR is also seeking greater involvement of the private sector and NGOs in projects, linkages with other donors and development of closer linkages between Vietnamese research and extension organisations.

Achievements

Many research activities in Vietnam have a strong emphasis on agricultural and natural resource policy. A project with the Hanoi Agricultural University is examining impacts of alternative agricultural policies on Vietnamese farmers. The research undertaken was drawn on by both sides in the recent Vietnam–US catfish anti-dumping debate. Investigations into **the economics of developing reservoir aquaculture** are examining a range of factors in the viability of this emerging industry. The extent of markets, impacts on prices, management to improve incomes, the best species economically, appropriate institutions and socioeconomic impacts are being examined, with the early data revealing this methodology should be appropriate to fish and other commodities.

Jo Leong is our Vietnam Manager

A strategy for including environmental benefits and costs of **alternative water allocation scenarios in the Mekong Delta region** within an economic-hydrological model is being developed in conjunction with the International Food Policy Research Institute (IFPRI). In a separate project the application of irrigation main system operation modelling frameworks at three different sites improved operational rules for physically controlling water. This overcame existing system-specific constraints to achieve a more efficient use of water. At one site at Cu Chi a reduction in annual water use of about 98 MCM is possible, allowing excess supply to be diverted to Ho Chi Minh City with minimal impact on the supply security of the system. Subsequent field trials at other sites improved equitable supply to farmers.

The successful **improvement of soybean varieties** and their adaptation to Vietnamese conditions has moved a step closer through a project to identify suitable varieties. Two varieties with improved drought tolerance, through greater leaf survival in severe water stress, have been identified. A third variety has shown a 75 per cent increase in grain yield in the spring season, with increased yields also demonstrated in the summer and winter growing seasons. This variety has great potential for wide adoption in Vietnam.

Demonstrations with smallholder farmers provided evidence that agricultural by-products, particularly molasses, supported effective production from local cattle at a lower cost than other energy sources. The application of this knowledge and its transfer to a wider group of farmers is an objective of a new project to intensify smallholder beef production in central Vietnam.

ACIAR's work to adapt **better pig varieties** continues to deliver benefits to smallholder farmers. A fourth artificial insemination facility, jointly funded by ACIAR, AusAID and the Vietnamese Government, was opened in Quang Ngai in early 2003. This facility houses boars of Australian genetic origin, with semen distributed by facility staff and on-sold to private sector inseminators. The skills and knowledge developed in this project are now being widely applied in the commercial feedmill sector through the formulation of least cost rations.

Management of pest fruit flies has lacked an **up-to-date survey of fly species of economic importance**. Nine species have been identified as having pest status, and data on the hosts, ranges and distributions of these flies have been compiled. A large-scale plant for conversion of brewery waste to bait to attract and kill fruit fly has been installed at the Fosters Brewery at Tien Giang, with support from Fosters and Aventis. Pilot-scale batches are being produced and field tested in order to evaluate the best processing technique, and full-scale production for sale to farmers should commence soon. Field management research will commence as soon as the bait supply is available. A project developing crop disease management capacity has been working with farmers' advisers to provide plant disease information. This will strengthen advisory capacity, allowing farmers to better identify and manage diseases. An ACIAR/World Vision project led to strong adoption of community-based management of rodents in Binh Thuan province, Vietnam. An AusAID capacity-building project on rodent management in the Mekong Delta, based on outputs from ACIAR-funded research, has seen widespread adoption in five provinces in the delta.

Research has commenced in the northern mid-highland region to provide relevant advice and inputs in support of government development planning aimed at **significantly increasing the fish yield from reservoirs**. This would contribute to the availability of fish supplies at a price affordable to the rural poor, and provide income generation opportunities for communities living in the vicinity of the reservoirs. The project involves two distinct components: one focused on the culture-

Mr Ho Van Chien, extension specialist in Vietnam, explains the concept of a community rodent trap barrier system

based fishery of 'farmer-managed reservoirs' and the other on reservoir capture fisheries in Vietnam. A survey of the supply and uses of feed fish (trash fish) in aquaculture activities has been completed in Vietnam. This completes the first step towards a larger, regional study on the uses of and problems associated with feed fish in aquaculture.

An *Acacia mangium – A. auriculiformis* hybrid has been shown to have superior growth characteristics to both parent species on many sites in Southeast Asia. The hybrid was artificially created as part of the project and methods developed for its vegetative propagation. **The hybrid is now being widely spread throughout Vietnam, with almost 40 000 ha planted to date and a target planting of 150 000 hectares**. Glasshouse trials in Australia of the mangrove *Avicennia marina* from different provenances have shown that plants maintain differences in morphological and growth characters when grown in the same environment. This demonstrates that these traits are genetically determined. It still needs to be determined what characteristics are considered desirable for reestablishment of new plantations in specific locations, and the extent to which these can be sought out in natural populations.

Assessment of the benefits and risks associated with use of composted green wastes, biosolids (sewage sludge) and organic wastes has begun to quantify and highlight benefits and potential **food quality issues relating to heavy metals**. Skills development for assessing nutritional and detrimental effects has emphasised quality control. Cost-effective contaminant monitoring of produce has been enhanced with the development of prototype residue test kits for aflatoxin B1, cyclodienes and DDT. Preliminary evaluation of the test kits commenced in laboratories and feed mills. Using skills acquired through ACIAR support, the Vietnamese team is developing test kits for other contaminant risks such as *Salmonella* in seafood and processed meats and shrimp virus diseases. Grain storage pest losses are being reduced as a result of surveys, demonstration trials and training which have addressed the different requirements for farmer storage, central grain stores and the animal feed industry. The commercial sector extensively uses the grain fumigant phosphine; however, work is examining methods that farmers can also safely apply.

Project site for assessing impact of heavy metals on fertilisation and waste recycling in Vietnam

North Asia

Financial year	Regional expenditure	Percentage of total bilateral expenditure	Board target as percentage of expenditure
2002–03	$4 158 518	15.7%	10-20%
2001–02	$3 838 370	15.7%	10-20%
2000–01	$4 329 770	17.3%	10-20%

Expenditure for North Asia has remained within the range defined by the Board. A small program has been underway in Democratic People's Republic of Korea (DPRK) for two years. The focus of activities in China has been shifting to the less developed western regions of that country.

Canola harvesting in Tibet, China

Chris Brittenden manages our North Asia Program

China - wheat

China

Active projects in 2002–03	38
Bilateral country expenditure in 2002–03	$3 951 287
Bilateral country expenditure in 2001–02	$3 723 944
Bilateral country expenditure in 2000–01	$4 329 770

Position

The focus of ACIAR's program, which began in 1984, is shifting towards western China in line with the poverty-reduction emphasis of the Australian aid program and China's own priorities. There is also an increasing emphasis on sustainability aspects of agricultural production. In view of the significant human and financial resources available within the Chinese national agricultural research system and the strong mutual benefits to Australia, ACIAR projects in China usually have significant sharing of costs by Chinese and Australian research providers. Collaborative research on aspects of agricultural development policy continues, while some other current projects in eastern China aim at increasing the impacts of earlier projects.

Achievements

Policy options for the Chinese grain sector have been furthered through a household survey and follow-up seminar in which options for reform of the domestic marketing system were discussed by Government policy makers. The implications of World Trade Organisation (WTO) accession for achieving food security were examined and presented at a series of seminars and forums. Institutions and policies for improving water allocation and management in the Yellow River Basin are being analysed, drawing on relevant modelling and research undertaken by ABARE on the Murray River Basin in Australia. The research is focusing on the impacts of varying levels of likely water availability on future Chinese agricultural production.

John Skerritt, Dr Zhang Zhibin and Chinese scientist at the Institute of Biolagy, CAS

A wool mill management model was developed which helps mills manage information and make decisions in a systematic way in areas such as pricing, input purchases, inventories and cost controls. The project has successfully linked mill buyers with wool producers, and has educated Chinese mill managers on detailed, reliable and publicly available sources of information on Australian wool prices. The introduction of objective measurements into processing of Chinese wool is clarifying issues relating to the quality required by mills. A reduction in wool sorting operations indicates that large savings in the costs of processing wools can be expected. Benchmarking during the project of Chinese and Indian wool mills against world's best practice revealed the gap between current quality and that required for best commercial practice. Staff at the Xi'an Institute of Science and Technology have established a well-equipped, conditioned textile and functional testing laboratory, and are developing expertise in processing prediction software leading to the development

of their own prediction models. In joint research between China, India and Australia to treat effluent resulting from wool scouring, audits have determined the elements causing pollution. Key factors influencing both the profitability of operation and potential pollutants were identified, with links between the two demonstrating that good management both benefits profitability and reduces pollution.

Collaboration in crop production, management and processing continues on several fronts. Testing has been completed for doubled haploid populations developed from Chinese breeding lines showing useful preharvest sprouting tolerance, as part of **a project to improve wheat** in Sichuan Province. Analysis using microsatellite markers in genetic mapping indicates that Sichuan breeders have available, in Chinese breeding lines, sources of sprouting tolerance that are similar to those currently used in Australia. **Hybrids of improved sugarcane germplasm** produced by the Guangzhou Sugar Industry Research Institute using *Erianthus* germplasm were assessed using molecular markers and verified as being fertile. These results are significant for sugarcane breeding because it is believed to be the first time fertile hybrids of this kind have been produced. This opens the door for sugarcane breeders in Australia and China to use clones, utilising a number of traits of potential value to sugarcane improvement such as disease resistance. Work has commenced on genetic characterisation of nearly 1000 clones from China and Australia for future use in breeding programs. Laboratories in the Yunnan and Guangzhou Sugar Industry Research Institutes have been equipped for undertaking molecular marker characterisation.

Legumes are widely used in China and Thailand to increase nitrogen levels in soils, boosting productivity. Poor management of these legumes, however, can result in raised levels of soil acidity, the accumulation of which reverses productivity gains and results in a net productivity loss. A project examining this problem identified the reduction of soil organic matter as the main driver of diminishing soil productivity. A simple, computer-based means of estimating the time taken for soil to decline to dangerous levels was developed. A study of soil management practices to reduce acidity without losing the benefits of nitrogen fixing offered by legume crops has identified strategic burning of dry matter as a potential tool. A project examining **the use of lucerne to enhance environmental stabilisation** and increase animal productivity has identified a variety of germplasm possibilities. Suitable varieties are being multiplied and trialled at two sites in China. Soil characterisation and screening of chosen varieties demonstrated some early indicators of both waterlogging and salinity tolerance.

Economic analysis of **different storage options for leafy vegetables,** together with training workshops for farmers and agricultural technicians, has resulted in improved returns to growers and supermarket cooperatives in the Beijing and Zhengjiang regions. National fumigation standards have been established for grain pest control in China's

Local seeder

Corn field at Hexi

Corn

modern grain stores, and more than 2500 personnel have been trained in fumigation practice. A CD-ROM based training system was developed for domestic quarantine in China in a previous project. Subsequent project work is now tackling the more complex situation of international quarantine.

Project work in China continues to have a strong natural resources management emphasis. The rapid expansion of eucalypt plantations in southern China has raised **concerns about the depletion of groundwater reserves essential for crop irrigation during the dry season**. Research showed that under the climatic conditions in southern China eucalypt plantations do not prevent the recharge of groundwater and use no more water than agricultural crops such as sugarcane. This information is now being regularly used in negotiations between forest developers and farmers for planning and establishing new plantations.

Research identified that ammonia volatilisation was the main pathway of **fertiliser nitrogen loss** when applied to grain crops **using the traditional surface broadcast method**. The losses were reduced to 18 per cent when urea was applied by the broadcast method followed by irrigation, and to 11 per cent when urea was applied with deep placement. Site demonstrations and an effective extension program by research staff in the Fengqiu experimental station, with strong support from the Fengqiu County Government, have seen these methods widely adopted. A village-based survey revealed 40 per cent of farmers used the deep placement method and 30 per cent used the surface/irrigation method. This represented an estimated cost saving on nitrogen fertiliser for the year of A$260 000 for the county. This lowered the average expenditure per farmer on fertiliser from 50 per cent of total capital input to 32–37 per cent. The proposed application methods are gradually being adopted across Henan province. ACIAR Monograph 84, *Regional water and soil assessment for managing sustainable agriculture in China and Australia*, is an English-Chinese summary of the results of a successful project to improve agricultural water use efficiency and thereby increase agricultural productivity and sustainability in China and Australia.

Fruit stand - Dingxi

The cause of **deteriorating water quality,** polluting groundwater in the Yinchuan Plain in the west of Jilin Province, has been identified as **agricultural pesticides and fertilisers**. The area is part of the Yellow River catchment and the project's findings have helped improve water quality through the introduction of strict control measures. The degree of salinity in wasteland of the Yinchuan Plain is also being decreased. Early studies of water saving for rice in China have focused on improving water use efficiency by examining the use of aerobic rice instead of paddy rice to cope with water shortages. Research is confirming that farmers can reduce water input without affecting rice yield, by alternate wetting and drying. This finding is allowing water system managers to divert more water from agriculture to other users. Water-saving irrigation systems by themselves, or when combined with the use of aerobic rice, decrease

seepage from paddy fields, which in turn reduces fertiliser losses.

Through farmer networks **substantial interest** has been generated **in conservation tillage technology**. The first crop of conservation tillage wheat grown at one site outyielded the conventionally sown wheat by 20 per cent, with a similar result also reported for pea crops. Progress towards developing viable beef-production systems in the degraded red soils of China's western provinces has been furthered through identification and testing of grasses palatable for cattle. Data characterising feed resources based on availability and dry-matter yield have underpinned this process. Testing of dietary components has demonstrated that the quantity of forages can be increased without affecting growth rates.

ACIAR's Tony Fischer with researchers in Chinese corn field

An example: Agricultural research—poverty reduction

Increased yields of 30 per cent and productivity increases valued at $US145M annually have been obtained from sweet potato production in Shandong Province, China. These increases have been achieved from the introduction of a new method of propagating virus free sweet potato seed roots and vines developed by the International Potato Centre (CIP). The seven million sweet potato growers, mostly poor households, have increased their incomes by 3–4 per cent. Virus-free seed programs are being extended to major seed potato producing producers with potential benefits to all China of around $US 1600 M a year.

Chinese villagers will benefit from increased yields of sweet potato

ACIAR is a funder of the International Potato Centre

Dr Luis Salazar from the CIP was awarded the ATSE Crawford Fund Derek Tribe Award for 2003 for this work

Maize project

Family returning home

Democratic People's Republic of Korea

Active projects in 2002–03	1
Bilateral country expenditure in 2002–03	$207 232
Bilateral country expenditure in 2001–02	$114 426
Bilateral country expenditure in 2000–01	$0

Position

ACIAR's small collaborative research program addresses the Democratic People's Republic of Korea's pressing problems of food insecurity. Food shortages have been severe since the mid-1990s. Staple crops are low in productivity, in major part due to low soil fertility. Most agriculture is conducted by farmer cooperatives or state-owned farms. ACIAR began in 2001 by training DPRK scientists in Australia, to ensure that their isolation from developments elsewhere in the world was no longer a barrier to research. ACIAR commenced its first project in DPRK in early 2002.

Achievements

Progress was delayed with ACIAR and Australian project staff being unable to visit the country for significant parts of the year. However, the project **to improve soil fertility** through reduced tillage practices and the **use of legumes** in maize and rice cropping rotations was able to achieve some useful progress. Equipment, instruments and fertilisers have been delivered, and the first yields of maize and rice from the plantings that were provided have been harvested.

Dr Tony Fischer and Korean officials checking a crop

South Asia

Financial year	Regional expenditure	Percentage of total bilateral expenditure	Board target as percentage of expenditure
2002–03	$3 593 919	13.5%	10-20%
2001–02	$3 004 923	12.3%	10-20%
2000–01	$3 955 937	15.8%	10-20%

ACIAR's South Asia program expenditure has remained within the Board's defined target levels, with a slight dip in 2001–02. India remains the main focus, with small programs in some countries that are centred on one or two projects, having minor adjustments in overall expenditure.

Vicki Poole manages our South Asia Program

Garole sheep, Maharashtra, India

India

Active projects in 2002–03	29
Bilateral country expenditure in 2002–03	$2 398 203
Bilateral country expenditure in 2001–02	$2 080 586
Bilateral country expenditure in 2000–01	$2 980 463

Position

ACIAR engages mainly with centres in north and central India, where research projects are presently underway to manage scarce water and nutrient resources more efficiently, improve yield and quality of grains and legumes, and diversify production and raise farm incomes. Recent research has assisted in adoption of minimal tillage approaches in rice–wheat farming systems, with significant benefits for moisture conservation and weed management in crops. India has a large and well-developed national agricultural research system that has collaborated strongly in ACIAR projects. Additional linkages with groups such as State Agricultural Universities, the National Dairy Development Board and technical NGOs have facilitated technology development and the delivery of benefits.

Achievements

Sustainable crop production and management is a central theme of ACIAR's activities in India. Determining environmental characteristics of waterlogging prone environments is essential for providing clues to improved cereal crop varieties and management. Results demonstrated that may be waterlogged after irrigation and drainage soils even though there is no water showing at the soil surface. This can significantly limit crop production. Identification of physiological traits indicates that 'recovery ability' accounts for 70-75 per cent of variation in waterlogging tolerance. Methods have now been established to evaluate soil recovery ability following waterlogging. **Waterlogging-tolerant wheat varieties** have been identified for sodic and for neutral soils. Management techniques developed for sowing wheat in rice–wheat rotations at the end of the rice season should also reduce yield losses from subsequent heat stresses and drought.

Permanent raised beds for rice–wheat rotations continue to show promise in India. Research in one project has shown that, with the exception of rice, crops do as well or better on beds compared to the flat. Part of this project has been looking at methods of direct zero-till seeding of wheat into the heavy straw residues. The 'Happy Seeder' is a unique tillage machine, developed by CSIRO and the Punjab Agricultural University, that allows seed to be planted under straw deposits without permanently removing the straw. Experiments in 2002–03 showed that wheat could emerge through up to 8 tonnes per hectare of rice straw and yield normally. The potential role of the high vigour lines of wheat, developed in an ACIAR project examining integrated management

options for herbicide resistant weeds of wheat, has been recognised by the Grains Research and Development Corporation (GRDC). Funding has been allocated by the GRDC for the next 5 years to use the elite weed-suppressive material for developing weed-competitive wheats for Australia. A thorough survey of use of manure by villages revealed that the 50 per cent of farmers with the smallest holdings get more crop nutrients from farmyard manure than they do from fertiliser. A workshop to disseminate the results was held in February, 2003.

More than 50 Indian and Nepalese scientists received training in a comprehensive package covering the major issues in the design and analysis of quantitative field experiments as part of a project on improving chickpea in drought-prone environments. **Chickpea lines** derived from a cross made earlier in the project are being **field-tested for their compatibility to local conditions in India and Australia.** A project on improving subtropical citrus production in Sikkim has germinated an extensive range of citrus lines supplied as seed from Australia. These trees will be used in scion (grafting) and rootstock experiments at various sites throughout the citrus-growing regions of Sikkim.

Drought and climate variability play a significant role in cropping in India, as they do in Australia. Long-term climate data for breeding centres and major peanut growing regions in India involved in a project on **breeding drought-resistant peanuts**, are being collated to define a range of environments. This information allows breeding programs to apply selection parameters based on the predominant drought pattern for a given environment. A number of elite drought-tolerant genotypes generated from the project are being evaluated. A separate project looking at improving seasonal climate forecasting ran a workshop in September 2002 to inform on progress. A publication *Will it rain, India?*, based on the successful Indonesian version outlining factors in seasonal climate forecasting, including the effects of El Niño and the southern oscillation, is in development.

A project to integrate technologies to help assess **the extent and cause of degradation in arid areas** has established a remote sensing laboratory at the Central Arid Zone Research Institute and acquired equipment, software and imagery. Determining if the degradation is caused by natural elements or land-use patterns is vital to effective land management. Indian scientists have been trained in field methodology, use of equipment, data analysis and image processing and interpretation. A project looking at institutional change to improve water policy and management of scarce Indian water resources held its first workshop, attended by researchers interested in the issue as well as practitioners involved with Australian water arrangements.

Livestock productivity improvements including through better feeds are very important in Indian agriculture, particularly for poor smallholder farmers. Dairying is the sole source of income for about 11 million

Indian tillage machine

Farming for vegetables in the Punjab

farming families in India. ACIAR-funded project work has developed **an oilseed-based protein meal supplement that significantly increases milk production**, fat and protein yield in cows and buffaloes. Economic benefits of the increased production have been estimated at an additional Rs10 ($A0.32) per animal per day, potentially a significant additional income source to farmers. A semi-commercial plant capable of producing up to 50 tonnes per day of protein meal was opened in September 2002 by Her Excellency Penny Wensley, the Australian High Commissioner to India, and Chairman of the National Dairy Board of India, Dr Amrita Patel. The basis of prolificacy in the Garole breed of sheep has been identified as a single gene – the Booroola mutation. The Garole is the only genuinely prolific sheep breed in India, making the identification of the gene an important step in improving sheep production in Maharashtra. The mutation ensures a higher level of multiple births in the Garole breed.

A pioneering pilot trial on the **suitability of stylo leaf meal as a component of poultry rations** has been completed at one of the largest commercial poultry integrators in India. Initial results have demonstrated increased feed intake and daily weight gain but with slightly increased feed conversion ratio and cost. The leaves are derived from improved stylosanthes that are higher yielding and resistant to anthracnose. These have been distributed to a small group of farmers as part of initial extension activities associated with the project.

Under **the multi-country shrimp virus project,** previously identified best management practices focussing on white spot disease control in shrimp were implemented on participating aquaculture farms. Although there were some disease outbreaks, demonstration ponds had significantly better performance compared to the same ponds in 2001 and nearby non-demonstration ponds during 2002.

Eucalypt plantations in southern India are significantly less productive than elsewhere. Through a project located in Kerala State, practices for manipulating soil organic matter and to determine soil and tree nutrient and water status in eucalypt plantations have been developed. Silvicultural regimes that optimise conservation and use of site resources, and enable increased and sustainable wood production from eucalypt plantations, have been implemented. The project has gathered much practical information on fertiliser use, weed control and ground cover planting. The research has produced a better understanding of the dynamics of fertiliser response, including the role of soil organic matter in nutrient cycling. Soil management prescriptions are now being adopted by the State Forestry Department and smallholders. As well as suffering from poor nutritional management practices, the eucalypt plantations in much of India are grown from seed of sub-optimal genetic quality. Simple selection and breeding programs have been developed for several Australian species, and improved seed of eucalyptus and acacia species from seed orchards established under the project in southern India is now starting to be distributed widely.

A review of the existing system of **food safety standards** and quality control in India and Thailand was undertaken, with emphasis on the **compatibility of the system with WTO commitments**. The review is aimed at helping facilitate trade while legitimately protecting the health and safety of consumers. Two workshops have been run on the project over the last year.

Farming in Goa

Research into reducing the harmful environmental impacts of **wool scouring effluent** has resulted in compulsory procedures being put in place for wool mills involved in scouring. The procedures focus on identifying environmental impacts and utilise audits developed during the project. As in China, links between profitable operating procedures and reductions in effluent discharge were identified.

Inland saline fishpond in Haryana, India

Tannery project

Buffalo grazing on kellar grass - irrigated saline soil

Pakistan

Active projects in 2002–03	5
Bilateral country expenditure in 2002–03	$212 104
Bilateral country expenditure in 2001–02	$211 617
Bilateral country expenditure in 2000–01	$216 019

Position

Past projects have emphasised management of irrigation and drainage, and management of agriculture and forestry on saline soils within a broader focus on overcoming biotic and abiotic constraints in broadacre crop production. Since late 2001, security considerations have hindered the development of further project work in Pakistan.

Achievements

Pakistan is a water-deficient country and needs to maintain the quantity and quality of its water resources to keep pace with the rapid population growth. Conjunctive management of all water resources relies on knowledge of the systems and management techniques. Staff from the Centre of Excellence in Water Resources, Lahore, Water and Power Development Authority, the International Water Management Institute (IWMI) and private consultants have received hands-on GIS and modelling training leading to new knowledge, models and databases for the conjunctive management of water resources in Pakistan.

Measuring soil salinity

Growing maize and wheat on permanent beds has improved yields despite the reduced use of water. During the project's four years of experimentation summer maize yields on beds yielded 54 per cent higher than on the flat while using 33 per cent less irrigation water. For wheat grown on raised beds yields over a three-year period were only three per cent above those on the flat, but 37 per cent less water was used. Nearby farmers who have adopted raised beds are achieving similar efficiency gains with the new system. Research to better understand the Gemini virus diseases of cotton and tomato through molecular characterisation of these viruses is underway. The studies are leading to a better understanding of the nature of crop plant resistance, which will help in the development of effective management techniques.

Grazing on saltbush

Other South Asian countries

Afghanistan

Active projects in 2002–03	1
Bilateral country expenditure in 2002–03	$0*
Bilateral country expenditure in 2001–02	0
Bilateral country expenditure in 2000–01	0

** $650 000 in multilateral funding*

Position

Two decades of war coupled with the worst drought in 40 years have devastated Afghanistan's food-production capabilities and depleted critical seed stocks, leaving the nation heavily dependent on food aid from international donors. ACIAR's multilateral project in Afghanistan provides short-term support to wheat and maize production, wheat being by far the most important crop and maize the third most important.

Achievements

The Seeds of Strength project carried out by the International Maize and Wheat Improvement Centter (CIMMYT) to identify and deliver **better suited wheat and maize cultivars** has started well, with 300 tonnes of seed of an improved wheat variety imported and distributed to 9000 farmers in four provinces. Fertiliser has also been imported and distributed. Thirty-five wheat variety trials were conducted at six sites, and 24 trials were conducted with open pollinated maize varieties. The project has initially been funded by AusAID for two years beginning July 2002.

Inspecting crops

Afghanistan crops

Afghani establishing crops

Bangladeshi members of the ACIAR scientific team at work in the field

Bangladesh

Active projects in 2002–03	4
Bilateral country expenditure in 2002–03	$368 485
Bilateral country expenditure in 2001–02	$310 423
Bilateral country expenditure in 2000–01	$449 768

Position

ACIAR's program in Bangladesh is small, given Australia's relatively limited comparative advantage to deal with this country's rice-dominated agricultural problems. Several projects deal with legume rotation crops in the rice farming system. Future ACIAR-supported initiatives in Bangladesh will be led by the Consultative Group on International Agricultural Research (CGIAR) centres. Donor collaboration is encouraged and a current ACIAR-funded project on analysis of the fate of arsenic from groundwater is the research component of a larger initiative on the arsenic problem in Bangladesh, which is funded by AusAID and several international donors.

Achievements

Several vegetables commonly grown in Bangladesh, such as arum and aramanthus, have been identified as accumulators of elevated concentrations of arsenic. The growing conditions under which this may occur have also been identified, allowing information to be disseminated to the local communities either to limit consumption or to carefully control conditions under which these crops are grown. Project researchers also identified that the concentration of **arsenic in rice** varies with the species, with many species accumulating less arsenic than the maximum acceptable concentration defined by Australian Food guidelines. However, the amount of rice ingested by Bangladeshis ranges from 500 to 800 grams per meal, which leads to the intake of the maximum recommended level of arsenic being exceeded.

An ICARDA-led project focused on disease resistance and integrated **disease management for faba beans, chickpeas and lentils** has combined resistant genes from various sources to develop lines with high levels of resistance to chocolate spot. New sources of resistance to chickpea *Ascochyta* blight and *Fusarium* wilt as well as new sources of resistance to lentil wilt were confirmed. Combined resistance to *Ascochyta* blight, certain viruses and chocolate spot in faba bean and to *Ascochyta* blight and vascular wilt in chickpea were also identified. Major advances were made in the detection of the causal agent of a faba bean root rot. Testing to improve integrated disease management packages to control chickpea *Ascochyta* blight in farmers' fields demonstrated a yield increase of 2.5 to 3.0 tonnes per hectare.

Bhutan

Active projects in 2002–03	1
Bilateral country expenditure in 2002–03	$44 145
Bilateral country expenditure in 2001–02	$67 575
Bilateral country expenditure in 2000–01	$140 798

Position

ACIAR's small program with Bhutan began in 1998. Because of Australia's relatively low comparative advantage, the program will remain very small, with a current focus on pest and disease management.

Bhutan fields

Achievements

Footrot, caused by the endemic strain *Dichelobacter nodosus*, has been **eliminated** from the national breeding and distribution flock **through delivery of a specific vaccine.** The vaccine targeted the only strain of *D. nodosus* identified in Bhutan. A national survey established that footrot was widely distributed throughout the districts of Bhutan, with its incidence correlated to the receipt of sheep from the national breeding centre.

A survey of fruit fly species to determine which cause **crop losses of citrus fruit** has identified a single species responsible for the majority of these losses. Three other species that have a lesser impact were also identified. Management options, both against the dominant species and also for fruit, based on the breeding cycle of the fly, have been developed and are being trialled. These include the use of bait sprays and other options over a two-month period that coincides with the sexual maturation of female flies, using locally available substances.

Livestock keeping in Nepal

Nepal

Active projects in 2002–03	3
Bilateral country expenditure in 2002–03	$188 503
Bilateral country expenditure in 2001–02	$175 304
Bilateral country expenditure in 2000–01	$11 778

Position

Almost 85 per cent of Nepal's population live in rural areas and the majority of these are involved in agriculture. ACIAR has had a small program of projects in Nepal, with an emphasis on crop production and management, and some aspects of animal health in the lowland Terai, which has most in common with Australian environments. ACIAR-funded research has made progress in the fields of crop and livestock health and productivity and land management.

Achievements

Useful resistance to the wilt-root disease syndrome has been defined in nine lentil selections, representing a significant improvement in the resistance level of current Nepali and Australian cultivars. A mapping exercise has defined the extensive range of acid soils where a combination of rhizobial strain with best adapted genotypes can boost **lentil production**. Research into seed priming technology has resulted in the Nepal Agricultural Research Council framing a recommendation for its use by growers, following yield increases in some trials of up to 43 per cent.

Nepal

Project leaders meeting in Nepal

Sri Lanka

Active projects in 2002–03	4
Bilateral country expenditure in 2002–03	$382 480
Bilateral country expenditure in 2001–02	$159 417
Bilateral country expenditure in 2000–01	$157 111

Position

Sri Lanka was an original partner of ACIAR's; the high quality of training of many Sri Lankan agricultural scientists and their excellent English facilitated development of the program. Most collaboration has been in animal sciences, especially animal health. Other areas have included fisheries, farming systems economics, agricultural development policy, crop sciences, forestry and crop postharvest technology. Several past project outputs are being used in new Asian Development Bank-funded projects. ACIAR maintains a small program in Sri Lanka. On occasions, ACIAR supports Sri Lankan scientists as specialist advisers to assist in projects in the region.

Achievements

ACIAR is supporting research on **enhancement of disease resistance** and loss reduction **in mangoes and bananas** in Sri Lanka. In Sri Lanka, preliminary investigations of disease resistance in banana fruit have documented cultivar differences in phytoalexin production and tissue acidity. Studies on mango found the same preformed defence compound in nine local cultivars. In Australia, research has commenced on treatments which enhance the natural defence mechanisms in mangoes.

Sri Lanka pond harvest

First harvest from a project-supported small reservoir in north-central Sri Lanka

Southern Africa

Financial year	Regional expenditure	Percentage of total bilateral expenditure	Board target as percentage of expenditure
2002–03	$1 219 403	4.6%	5-10% (from 2003–04 <5%)
2001–02	$1 343 916	5.5%	5-10%
2000–01	$1 150 791	4.6%	5-10%

In 2002–03, the Board, in consultation with the Minister, reviewed the expenditure targets for each of the five regions. It was decided to reduce the target range for southern Africa from between five and ten per cent, to less than five per cent with effect from 2003–04. This decision was consistent with the *Statement to Parliament by the Minister on Australia's Development Cooperation Program* in September 2002.

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Southern Africa

Southern Africa

Active projects in 2002–03	11
Bilateral country expenditure in 2002–03	$1 219 403
Bilateral country expenditure in 2001–02	$1 343 916
Bilateral country expenditure in 2000–01	$1 150 791

Position

ACIAR has been involved in research in Africa since 1983, with around 40 projects completed. IARC projects have in the past carried out activities in a number of central, eastern and western African countries as well as southern Africa. The focus for ACIAR's bilateral program over the last three years has been on southern Africa (Republic of South Africa (RSA), Zimbabwe and Mozambique). New projects are only considered for South Africa, emphasising crop–livestock systems and forestry, with a focus on delivering benefits for previously disadvantaged emerging farmers. ACIAR also requires new International Agricultural Research Centre (IARC) projects to focus on the same countries that are emphasised in the bilateral program.

Achievements

The Newcastle disease project, which developed **heat-stable vaccines against the disease in village chickens,** is being extended by AusAID. The project is now in a major development phase. A study in Zambia and Mozambique, which have been hit by both drought and cattle disease in recent years, found that households with chickens were more able to survive drought and recover the following year than households without chickens. Households with chickens sell or barter poultry and poultry products to pay school or medical expenses, or to buy oil, salt and other essential items not produced on the farm.

In RSA, a comparison of indigenous cattle breeds (including cross-breeds) used by resource-poor farmers, with breeds developed by the commercial sector, found no difference in **performance between the breeds under standardised conditions**. The key finding was that cattle reared by resource-poor farmers meet the specifications of the commercial meat sector. The trial included measurement of growth rates, and carcass and meat quality for 250 steers from Limpopo and North West Provinces. As a result of this trial, the National African Farmers Union has developed a proposal to establish a new feedlot system, based on cattle of resource-poor farmers, which provides ongoing training and regional development to resource-poor communities. Members of the South African Feedlot Association have established buyers in the region to access this previously untapped supply of cattle, creating a valuable income source for poor farmers.

Research is improving nutrient management by smallholder maize growers in Malawi and Zimbabwe. Scientists are now delivering simple

Village poultry keepers are being helped by Newcastle disease vaccines

Eucalyptus grandis – an Australian native tree that is widely used in reforestation in Southern Africa, Asia and Latin America

rules of thumb and decision trees for farmers for use in decisions about where and how to use scare resources in a risky, low rainfall environment. These rules particularly focus on fertiliser, legume, and weeding decisions which interact substantially to determine sound investment strategies. The seasonal climate forecasting project's Zimbabwe component has developed models for pasture growth that can use historical weather records to test grazing strategies (principally herd size) against seasonal climate forecasts. The El Niño Southern Oscillation indicator provides some forecasting capacity ahead of each summer's wet season, with other ocean temperature indices also showing promise for enhancing forecasting capacity.

Increasing nitrogen levels in soils has been the aim of a project improving the sustainability of cropping and livestock systems. The project **introduced legumes in cropping systems**, as both complementary and rotation crops, as an improved protein supplement for dairying and beef production and into pastural grazing to reinforce grazing–crop rotations. Farmers involved in the project have already adopted new practices arising from the knowledge they gained working with project personnel, with wider dissemination of the results now beginning.

Simple test kits to determine **the cyanogenic potential of cassava flour and tubers** have been developed. The kits, usable under primitive field conditions, measure the levels of cyanogens, a form of cyanide found in cassava roots, cassava leaves and cassava flour. Ingestion of any cassava-based foods without prior elimination of cyanogens leads to eventual partial paralysis (called *konzo* in parts of Africa). A further kit has been developed to measure thiocyanate in urine, a direct indicator of the level of cyanide ingestion. These kits have given health authorities in Africa tools for monitoring problem areas before the onset of the irreversible paralysis, allowing remedial measures to be put into place. The project has supplied kits to over 20 African countries, particularly Mozambique, where they are being used in the north of the country.

A rust disease indigenous to Latin America (*Puccinia psidii*) has been found to be very damaging to some eucalypt species grown in South America, raising concerns of the potential consequences should the **disease spread to eucalypts** in southern Africa and Australia. Screening of a wide range of eucalypts and related genera has indicated the species that are most likely to be at risk should the disease spread. A molecular diagnostic test for detecting contamination of plant material with *Puccinia psidii* spores has been developed. *Grevillea robusta* is an Australian tree species widely used throughout Africa for timber, shelter and shade over coffee and other crops. Trials in Africa comparing seed from Australian selected sources of *Grevillea robusta* and the local African seed have shown that the Australian seed produces about 30 per cent more wood volume than the local material. Seed orchards based on the Australia sources are now starting to produce commercial quantities of seed for local distribution.

Multilateral program

Expenditure in 2002–03	$9 827 219
Expenditure in 2001–02	$10 460 768
Expenditure in 2000–01	$11 030 561
Proportion of total ACIAR expenditure 2002–03	19.7%

The program's goal is to ensure the effectiveness of, and benefits to, developing countries and Australia from agricultural research conducted by the international agricultural research system with funds provided by Australia.

Program progress

ACIAR administers Australia's contribution to the internationally funded autonomous non-profit International Agricultural Research Centres (IARCs). The 19 IARCs carry out research and related activities to achieve sustainable food security and reduce poverty in developing countries through scientific research-related activities in the fields of agriculture, forestry, fisheries, policy and environment.

ACIAR operated its IARC contributions under new policy positions for the first time in 2002–03, after a major internal review of the multilateral program. The policy involves:

- allocating about 20 per cent of ACIAR's total appropriation to the IARCs;
- allocating between one-third and half of ACIAR's annual IARC investment as project-specific funding (an increase from pre-review conditions); and
- focusing its unrestricted (non-project specific) funds on a reduced number of Centres.

Disbursement of multilateral funds, 2002–03

ACIAR allocated $9.827 million to the multilateral program this year, representing nearly 20 per cent of total appropriation.

In 2002–03, unrestricted contributions to IARCs amounted to 56 per cent and project-specific funding to 43 per cent of total research funding. The remaining 1 per cent was spent on other multilateral activities. Fifteen IARCs received funding, 13 of which received core (untied) funding. Allocations are based on the comparative advantage of individual IARCs to deliver research applicable to Australia's regional priorities. Five of the 13 centres receiving core funding are located in the Asia-Pacific region and another six have a mandate that covers staple crops in that region. The remaining two, CAB International (CABI) and IFPRI, are responsible for research information systems and food policy.

All 15 funded centres received project-specific funding through ACIAR this year. Fourteen of the centres are associated with the Consultative

www.cgiar.org

Heather Crompton oversees the Multilateral Program

Group on International Agricultural Research (CGIAR), while one works in an area of agricultural development of particular interest to Australia.

Project-specific funding aims to build tripartite research linkages involving IARCs, advanced research institutions in Australia and national agricultural research institutes in developing countries, particularly those that are ACIAR bilateral partners. Project-specific funding supports projects that are developed and managed by ACIAR's 11 discipline-based research programs. In this way, the project-specific funding complements and adds value to the bilateral program. In 2002–03, five new activities were initiated and eight completed. Including these, a total of 25 projects were active in 2002–03.

Funding categories

	Expenditure	Percentage of total expenditure
Unrestricted contributions to core programs	$5 530 000	56%
Project-specific funding linked to Australian research groups	$4 194 262	43%
Other	$102 957	1%
Total	$9 827 219	100%

ACIAR provides support to relevant CGIAR systemwide initiatives (cross-centre programs that utilise research complementarities for addressing and resolving global and regional issues through strategic research approaches). Support was provided to the following initiatives:

- Technical support for regional plant genetic resources development in the Pacific
- Sustainable integrated pest management of white flies as pests and vectors of plant viruses in Asia
- Integrated nutrient management in tropical cropping systems: improved capabilities in modelling and recommendations
- Sustainable endoparasite control for small ruminants in Southeast Asia
- Fish in food: the critical role of fish in world food issues
- CGIAR agricultural science and technology indicators initiative

Regional support activities include contributions to the Asia-Pacific Association of Agricultural Research Institutions (APAARI) and the Asia-Pacific Association of Forestry Research Institutions (APAFRI).

Project examples

CIFOR, in conjunction with regional partners and networking with national and international institutions, is assisting Indonesia to assess and monitor progress and implementation of **decentralisation of forestry management** and its impact on forests and forest communities.

A joint WorldFish/IFPRI project is examining **fish supply and demand in a single framework integrated with other foods**. ACIAR funding supported post-study workshops and dissemination efforts. The research results are helping shape policy through a better understanding of key drivers of demand and supply issues for fish industries.

A two-year CABI project to initiate an **Aquaculture Compendium** has been funded. The total project will cost approximately A$2.9 million, with funding coming from a consortium of donors, including ACIAR. CABI is also working under ACIAR support with a range of organisations in Vietnam developing disease management capacity in the country. A focus has been strengthening advisory capacity by working with farmers' advisers to provide plant disease information and advice.

The sustainable integrated management of whiteflies as pests and vectors (living transmitters) of plant viruses in Asia continues. Research is providing inputs to a global CGIAR initiative focused on a new whitefly that is a major crop disease vector.

Through an IPGRI-led project a plant genetic resources specialist has been provided for the Secretariat of the Pacific Community to aid in the **preservation of genetic resources of several important Pacific crops**, notably taro and breadfruit.

An International Crop Research Institute for the Semi-Arid Tropics-led (ICRISAT) project in India has identified several **peanut lines that have low levels of aflatoxin contamination** under conditions where there is usually a high risk of contamination.

The CIMMYT-led Seeds of Strength project in Afghanistan has imported seed for **wheat and maize** to provide for immediate production. Testing of a range of cultivars is underway to identify those most suitable for Afghan conditions.

The International Rice Research Institute (IRRI) and IWMI are collaborating with Chinese and Australian researchers on studies on **water saving for rice in China**. These have focused on improving water use efficiency to develop potential options to cope with water shortages.

The International Livestock Research Institute (ILRI), in conjunction with Australian and in-country partners, has carried out surveys of smallholder farms in the Philippines and Indonesia to determine levels of **parasite resistance in sheep and goats**. The survey has found that resistant parasites are not yet common in either industry.

An International Centre for Agricultural Research in the Dry Areas-led (ICARDA) project **collecting plant genetic resources** from the Central Asian and Caucacus republics continued with collection missions to Armenia and Tajikistan. The development, support and training of small

genetic resource units in each of the CAC republics also continues. The project is collecting valuable and endangered cereals and legumes from throughout the region, ensuring their ongoing preservation.

Molecular studies conducted by IRRI, to achieve apomixis (asexual reproduction) in **hybrid rice**, have discovered three fertilisation-independent seed (FIS) genes in *Arabidopsis thaliana*. This has allowed the isolation of related genes performing the same function in different rice varieties, for use in experiments to determine if autonomous development is possible. Transgenic lines using one of the three FIS genes are now available. Analysis of *Hieracium*, which undergoes a natural process of apomixis, was conducted in relation to the function of its *FIS* gene in transgenic studies. A transgenic mechanism has been found in some rice lines that may be useful in ensuring seeds capable of fertilisation-independent formation of parts of the reproductive process.

Funding to Centres for 2002–03

Acronym	Centre title and location	Core funding ($)	Project-specific funding ($)	Total ($)
CABI[1]	CAB International, United Kingdom	300 000	262 003	562 003
CIAT	International Center for Tropical Agriculture, Colombia	0	55 000	55 000
CIFOR	Center for International Forestry Research, Indonesia	300 000	118 257	418 257
CIMMYT	International Maize and Wheat Improvement Center, Mexico	700 000	1 185 731[2]	1 885 731
CIP	International Potato Center, Peru	330 000	241 574	571 574
ICARDA	International Center for Agricultural Research in Dry Areas, Syria	250 000	305 250	555 250
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics, India	550 000	131 754	681 754
IFPRI	International Food Policy Research Institute, United States of America	450 000	150 000	600 000
IITA	International Institute for Tropical Agriculture, Nigeria	0	111 619	111 619
ILRI	International Livestock Research Institute, Kenya	300,000	106 150	406 150
IPGRI	International Plant Genetic Resources Institute, Italy	300 000	339 195	639 195
IRRI	International Rice Research Institute, Philippines	850 000	195 917	1 045 917
IWMI	International Water Management Institute, Sri Lanka	500 000	241 014	741 014
World Agroforestry Center	World Agroforestry Centre (formerly International Centre for Research in Agroforestry), Kenya	250 000	436 277	686 277
WorldFish Center	WorldFish Center (formerly International Center for Living Aquatic Resources Management), Malaysia	450 000	314 521	764 521
Total funds to IARCs		5 530 000	4 194 262	9 724 262

[1] *Centre not associated with the CGIAR.*

[2] *Includes funding from AusAID, provided through ACIAR.*

CGIAR at a glance: mobilising agricultural science

The CGIAR is a strategic alliance of countries, international and regional organisations, and private foundations supporting 16 international agricultural research centres that work with national agricultural research systems, the private sector and civil society. The alliance mobilises agricultural science to reduce poverty, foster human wellbeing, promote agricultural growth, and protect the environment.

Five focus areas

Increasing productivity of crops, livestock, fisheries, forests and the natural resource base

Strengthening national systems through joint research, policy support, training and knowledge-sharing

Protecting the environment by developing new technologies that make more prudent use of land, water and nutrients and help reduce the adverse impacts of agriculture on ecosystems

Saving biodiversity by collecting, characterising and conserving genetic resources (the CGIAR holds in public trust some of the world's largest seed collections, which are freely available to all)

Improving policies that affect agriculture, food, health, the spread of new technologies, and the management and conservation of natural resources

Some features

ACIAR provides annual funding of:

> $A5M to 13 CGIAR Centres, untied

> $A4M pa in project specific funding

CGIAR staff:

- 8000 scientist and other staff
  - > 1000 internationally recruited staff
  - > 6500 support staff

CGIAR funding:

- $US357M in 2002:
  - of which 42% is untied
  - compared with 61% in 1998 when funding was $US338M

The latest evaluation of the CGIAR completed by the World Bank in early 2003

Building research capacity

Expenditure in 2002–03	$2 513 554
Expenditure in 2001–02	$1 995 000
Expenditure in 2000–01	$2 062 942
Proportion of total ACIAR expenditure 2002–03	5%

The goal of the training program is to build the research capacity of agricultural research institutions in partner countries by providing discipline-specific and broader training opportunities.

Project-specific training

ACIAR only supports training that relates directly to our active, recently completed and advanced pipeline projects. The training program focuses on the formal training provided through fellowships and courses targeting specific issues. Training opportunities arising as a component of ACIAR-funded projects are not included in this. The majority of training provided by ACIAR takes place within individual research projects.

Each ACIAR project is designed to include capacity-building, through formal and informal training to enable project personnel from partner countries to engage in the full range of activities. Formal courses may be built into the project, for example to provide training in a particular research methodology or use of new equipment, and often to develop essential skills in computing or scientific communication. This can include 'on-the job' training in Australia in specialised techniques for developing country project scientists or sponsorship of these scientists to attend short training courses in such techniques. Informal training varies according to the type of project, the ability of the project team and opportunities that arise.

Achievements

Training managed and funded by the ACIAR training program falls into four categories, the first representing the main expenditure:

- postgraduate fellowships (John Allwright Fellowship Scheme);
- research management training (John Dillon Memorial Fellowship);
- short-term cross-discipline training courses for ACIAR project staff;
- training courses provided through the Crawford Fund for International Agricultural Research for staff from ACIAR-funded projects.

Capacity-building is important for all of our developing country partners, but especially so for ACIAR's newer, poorer partner countries. There is a particular emphasis on providing postgraduate and short-course training for ACIAR project scientists from PNG, the Pacific, eastern Indonesia, East Timor, Cambodia, Vietnam, Laos and Burma.

Sharon Harvey works with John Skerritt in managing our training program

Postgraduate fellowships

John Allwright Fellowships are awarded to developing country project

scientists who are or have worked on an active ACIAR project, to undertake Masters or PhD training at Australian universities. Studies focus on the theme of the project in which the awardee is engaged, but do not directly form part of the project. In 2003–04 fellowships will be available to scientists from Papua New Guinea, the Pacific, East Timor, Indonesia, Vietnam, Cambodia, Laos, Burma, Philippines, India, Bangladesh, Pakistan, the Democratic People's Republic of Korea and the Republic of South Africa.

In 2002–03, $1.46 million was expended on the John Allwright Fellowship Scheme with 50 active fellowships, representing 15 countries. Ten fellows completed their studies during the year, and 16 candidates, from Vietnam, Cambodia, India, Indonesia, Fiji and Papua New Guinea, commenced at nine institutions in Australia, including two Papua New Guinea fellows studying externally for a Graduate Diploma in Science through the University of Queensland. ACIAR aims to maintain about 45 active students. Fellows now have the option of undertaking a significant part of the fieldwork for their thesis in their home country. Each year a group of Fellows spend a week visiting ACIAR headquarters, where they receive training in science communication, writing research papers and a range of other activities.

Returnee small project awards

ACIAR provides grants of up to $10 000 for John Allwright Fellows who, after completion of their postgraduate studies, have returned to relevant employment in their home country. The follow-on funding scheme provides for an activity which continues, or is related to, the research done within an ACIAR project associated with postgraduate work. These funding grants for former John Allwright Fellows are primarily aimed at developing small-scale research projects in the returnee's institution, which may catalyse longer-term support. In 2002–03 four small projects totalling $36 696 were awarded.

John Dillon Memorial Fellowship

The John Dillon Memorial Fellowship provides a career development activity for a small number of outstanding partner country agricultural scientists or agricultural economists actively involved with ACIAR projects. Its aim is to develop the leadership skills of Fellows in the areas of agricultural research management, agricultural policy and/or extension technologies, through exposure to Australian best-practice organisations involved in research, extension and/or policy making. Programs are tailored to meet the needs of individual Fellows.

The four inaugural John Dillon Fellows (from Indonesia, Papua New Guinea and Cambodia) visited in February–March 2003 for approximately six weeks each. A highlight of the visit was a meeting with Minister Downer at Parliament House. Each Fellow had the opportunity for a brief discussion about their training with the Minister, who presented them with a plaque.

Minister Downer presenting awards to the four inaugural John Dillon Fellows. In order from top:

Rina Oktaviani, Indonesia
Nalish Sam, PNG
Suon Sothoeun, Cambodia
Lastus Kuniata, PNG

www.ausaid.gov.au

Australian Youth Ambassadors for Development

ACIAR provides assignments for Australian Youth Ambassadors for Development (AYADs), an AusAID-funded scheme where young Australians spend a period of between three and 12 months assisting on a development activity in a partner country. During 2002–03 ACIAR had 10 Youth Ambassadors working on projects in developing countries. One has successfully completed his work in Vietnam on pesticide and mycotoxin analysis and control, while two in Cambodia, one in Vietnam and another in Laos have finished working on assignments on rodent management projects. The sixth was carrying out socioeconomic surveys with an ACIAR project on improved village cattle growth and reproduction in Lombok, Indonesia.

A further four Youth Ambassadors are currently working in: the Philippines supporting a Landcare project as a Waterwatch co-coordinator; China, building capacity in survey and evaluation methodology; Laos, sharing knowledge on plant quarantine work; and Vietnam, on a measurement survey of stands of indigenous trees growing in the country's north. Four more ACIAR projects were approved as suitable, with Youth Ambassadors assigned to them to begin in the new financial year. However, of these the Indonesia assignments are currently on hold for security reasons.

ATSE Crawford Fund fellowships, training courses and master classes

In 2002–03, total funding through ACIAR was $799 380, including management of an Australian Government allocation of $650 000, as well as $149 380 funding from ACIAR for joint training activities. The ATSE Crawford Fund also attracted contributions from State Governments and the private sector.

In 2002–03 the Crawford Fund conducted short-term training activities associated with ACIAR projects, including a Master Class in Research Management held in Sydney. Participants on the course included ACIAR project personnel from Vietnam, Indonesia and Papua New Guinea. Another seven training courses and related capacity-enhancing activities were associated with ACIAR projects:

- Interpreting soil chemical analyses for the management of upland soils workshop in Thailand (Queensland Department of Natural Resources & Mines);
- Population breeding methodology and plant improvement for India, Nepal and China (University of Western Australia);
- National Workshop on the laboratory diagnosis of tick-borne diseases for Philippines (Queensland Department of Primary Industries);
- Improving R&D outcomes in rural and regional agricultural systems for Philippines (Queensland Department of Primary Industries);
- Presence and importance of phythopthora in Southeast Asia (Queensland Department of Primary Industries);

- Workshop on writing scientific papers in English in western China (The University of Adelaide); and
- Pond fertilisation and polyculture techniques for highland areas in Vietnam (South Australian Research and Development Institute).

These classes and workshops also helped ensure ACIAR research results were more widely applied in developing countries, since in some cases they gave ACIAR project leaders the opportunity to instruct scientists from countries other than those where their projects are situated.

The Crawford Fund also sponsors short-term training fellowships. In 2002–03 the Fund sponsored ten fellowships to enable members of ACIAR project teams to undertake training activities in Australia of up to three months.

Cross-program training

ACIAR conducts cross-program training courses on the priority topics of:

- research management and scientific priority-setting;
- intellectual property management in agriculture;
- research methodology, including experimental design and data analysis;
- research proposal writing and scientific report and paper writing in English;
- economics for biophysical agricultural scientists;
- agricultural extension principles; and
- research impact assessment.

The following cross-program training courses were undertaken in 2002/03:

- Scientific writing in English (Western China) was held in Lanzhou, China during November 2002 for ACIAR project scientists from Gansu and neighbouring provinces.
- Research problem identification and proposal writing (Cambodia) was held in January 2003 to assist participants in developing and submitting proposals.
- On-line training in statistical methods (Indonesia), an internet-based data analysis/statistics course provided by the University of Canberra, commenced in February 2003 with six ACIAR project personnel from Lombok involved. Successful participants are eligible for a Graduate Certificate in Envirostats. This is an experiment for ACIAR in the delivery of project-related training on-line, and its effectiveness will be closely monitored before deciding if further on-line training is provided.
- Scientific writing and editing in English (Laos) was provided for a small group of four editors in Laos working on the Lao Journal of Agriculture and Forestry during February 2003 with follow-up personal coaching by email or fax available for the remainder of 2003.
- Genotype x Environment Analysis (India and Nepal) for data management and statistical analysis was conducted in Hyderabad and Kanpur, India during March and April 2003 with 15 students in each

course. An abridged version was held in Kathmandu, Nepal during March with 24 people attending.

- Research Management (Vietnam) for Vietnamese researchers and officials responsible for planning, implementing and evaluating research programs was held in Hanoi in March 2003. Seventeen people attended this course which was based on the Crawford Fund Master Classes in Research Management in Agriculture.
- R&D Evaluation and impact assessment – Evaluation Training for Agricultural Research Projects (Vietnam and Philippines) for ACIAR project scientists was conducted during March and April 2003. The three, three-day training courses focused on frameworks and processes for developing and implementing evaluation plans for research projects.
- Research Management (Pacific), a six-day training workshop on research management, based on the Crawford Fund Master Classes in Research Management in Agriculture, was conducted for Pacific scientists in June 2003 in Fiji with 18 people attending.

Sugarcane research - sampling for disease analysis

Dick Drew and participant on a training course in Fiji for fruit fly research

Communicating research

Expenditure in 2002–03	$702 225
Expenditure in 2001–02	$897 000
Expenditure in 2000–01	$954 894
Proportion of total ACIAR expenditure 2002–03	1.5%

ACIAR has a statutory obligation to communicate the results of the research it funds, and currently allocates approximately 1.5% of its budget to these activities. ACIAR's scientific publishing program aims to help bridge the gap between research and its adoption by providing low-cost access to syntheses of information from individual projects or programs of work, and 'how to' manuals for field workers and trainers. Building the capacity of partner countries and their researchers in the art of good written and oral scientific communication is also a priority.

Achievements

During 2002–03 ACIAR published and distributed 16 new titles in its scientific series (monographs, proceedings and technical reports), and eight titles in its impact assessment series (reports and working papers). These are listed in Appendix 3. All titles are distributed electronically and in hard copy. Hard copy distribution of books during the year amounted to almost 9000, of which 780 were sold to the developed world. About 2660 overseas subscribers received copies of ACIAR's corporate newsletter and magazine, with another 1050 copies of each issue distributed in Australia. Many more people from both developed and developing countries accessed and downloaded publications and parts of publications from ACIAR's website.

Noteworthy books published during the year include the monograph *Rats, Mice and People: Rodent biology and management*, which was launched by the Parliamentary Secretary, the Hon. Chris Gallus, MP. This book brings together the best current information from all parts of the world on rodent biology and management, including the sociology and economics of rodent management, and health effects on humans.

Fruits of Oceania is an English translation by ACIAR crop protection research program manager Dr Paul Ferrar of a French title. It will benefit researchers throughout the Pacific region.

Four titles address issues associated with the rapidly growing Asian livestock industries. Monographs 95 and 97 report results of studies on the Indonesian beef industry and on the effects of globalisation

and economic development on the Asian livestock sector respectively. Proceedings 108 and 110 include papers presented at workshops on genetic improvements for beef production, and strategies to improve Bali cattle.

The year's outputs also included the final in a series of three handbooks on *Controlling Newcastle disease in village chickens*, and a new title in a series of booklets on extending the use of forages among smallholder livestock keepers. The latter were produced in six languages by the International Center for Tropical Agriculture, in association with ACIAR.

Vietnam's Information Centre for Agricultural and Rural Development continued to collaborate with ACIAR in translating and distributing selected ACIAR publications in the Vietnamese language. During 2002–03 the following books were translated: *Controlling Newcastle disease in village chickens: a field manual*; *Elimination of aflatoxin in peanuts*; and *Postharvest handling of fresh vegetables*.

Dissemination of ACIAR's information was strengthened during the year through redevelopment of its website (www.aciar.gov.au). The new, fully searchable site provides easy-to-navigate access to information on ACIAR's projects by country and discipline, customised information for researchers and consultants, and comprehensive information on training and impact assessment activities as well as online access to full text and abstracts of publications.

The Communications and Information Services Program is coordinating ACIAR's contributions to the joint World Bank-AusAID Virtual Colombo Plan (VCP) initiative. About 8 per cent of ACIAR's bilateral research project funding in 2002–03 was invested in disseminating Australian knowledge through information and communication technologies, which is a major goal of the VCP. ACIAR is providing extensive in-kind contributions to the agriculture and rural development segments of the Australian Development Gateway project (www.developmentgateway.com.au). Links between ACIAR's website and the Gateway bring additional users to ACIAR's project information and publications.

Measuring research impacts

Expenditure in 2002–03	$228 685
Expenditure in 2001–02	$333 000
Expenditure in 2000–01	$448 552
Proportion of total ACIAR expenditure 2002–03	0.5%

The Impact Assessment Unit (IAU) provides information and commissions impact assessments on past and expected project impacts to support the activities of the research areas of the Centre. This complements the documentation and reporting of 'qualitative' project impacts coordinated by the Communications and Information Services program. While the main focus of the commissioned economic impact assessments continues to be on measuring the dollar returns to agricultural research, during 2002–03 much greater emphasis was given to analysing impacts of projects on poverty reduction.

The unit also seeks to advance methods associated with assessing research impact as well as building the capacity of ACIAR staff and project leaders to identify how agricultural research contributes to improved economic, social and environmental conditions in Australia and in our partner countries. During 2002–03, impact assessments which develop and/or implement 'cutting-edge' methods used for impact assessment were commissioned. This included investment in the DREAM (Dynamic Research EvaluAtion for Managers) impact assessment tool, and through workshop activities on achieving and measuring impact.

Achievements

Framework for analysis of poverty impacts of ACIAR research

The Centre for International Economics prepared a document that describes an economic analytical framework for analysing the impact of ACIAR projects on poverty. This document clarified the important economic mechanisms that need to be captured in a poverty analysis. It also showed how the underlying framework could be applied to different projects with different levels of data, and indicated where ACIAR's definition of poverty reduction fits into a broader economic framework. References and an overview of where and how poverty impact analysis is taking place in other agencies and research institutions were also included. This study was published in the Impact Assessment Series (no. 19).

Mama Lus Frut Scheme

Wastage of fallen fruit in the small landholder oil palm industry in Papua New Guinea was addressed through the Mama Lus Frut scheme, first introduced in 1997. The scheme allows participants to harvest this wastage, providing a valuable income source. A study commissioned to assess the contribution of the Mama Lus Frut Scheme to poverty reduction concluded that the scheme has increased the incomes of oil-palm producers, many of whom struggled to stay above the poverty line. This has resulted in increased expenditure on items such as food,

A user-friendly tool for evaluating agricultural research

... estimates the magnitude and distribution of the economic benefits of agricultural research. Go to.... ***www.ifpri.org/dream.htm***

Deborah Templeton is our Impact Assessment Manager

clothing and education as well as the empowerment of women through a greater degree of economic independence. The analysis was published as Number 20 in the Impact Assessment Series.

Impact assessment of ACIAR projects on foot and mouth disease

In October 2002 a study was commissioned to assess the economic benefits of the foot and mouth disease (FMD) projects supported by ACIAR over a 12-year period in Southeast Asia. The assessment showed that the gains attributable to ACIAR-improved FMD diagnostic capability are $6.5 million in net present value terms over the next 30 years. With a total cost of $6.1 million (in 2000–01 dollars), the benefit–cost ratio was around 1.7:1. A major benefit for Australia has been the development of diagnostic and FMD management skills within the team of collaborating Australian scientists. Given the substantial economic cost an FMD outbreak would impose on the Australian meat industry – estimated to be $2.7 billion in the first year alone – enhanced FMD management would generate substantial economic returns, in terms of losses avoided. This impact assessment was published as Number 21 in the Impact Assessment Series.

Poverty analysis of the banana skipper project

A previous study of the economic benefits of work to control the banana skipper butterfly, a pest of banana crops in PNG, was extended to cover the impact of the project on poverty. The analysis showed that the banana skipper control program has increased effective incomes across all income levels of banana producers and consumers. The overall effect has not lifted people out of poverty, but the importance of bananas as a subsistence food crop means that these people are not as poor as before the project. This impact assessment was published in IAU's Impact Assessment Series (no. 22).

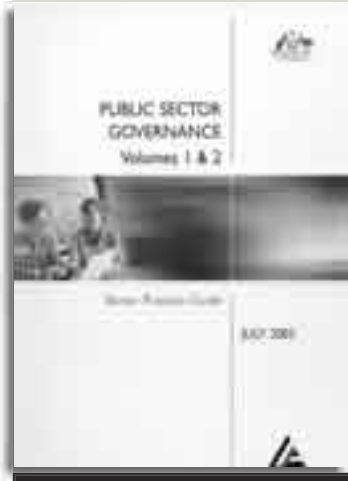
Assessment of ACIAR's bluetongue projects

Bovine ephemeral fever (bluetongue) has been the subject of a number of projects aimed at reducing the incidence of this disease, reported in sheep in China since the 1950s. During epidemics, prevalence of the disease reaches 30 per cent, with mortality rates of 1-2 per cent. The existence of the disease had been a major barrier to trade with China. Additionally, Malaysia was importing sheep from Australia throughout the 1990s, but importation of Australian sheep has been hampered by bluetongue-related deaths reported in 1987, 1988 and 1989. To gain an understanding of the impact of these projects a study assessing their worth was commissioned. The ACIAR ephemeral fever/bluetongue projects have resulted in a net present value of $4.6 million, with a benefit–cost ratio of 2.3:1. This impact assessment will be published in 2003–04 as part of the IAU's Impact Assessment Series.

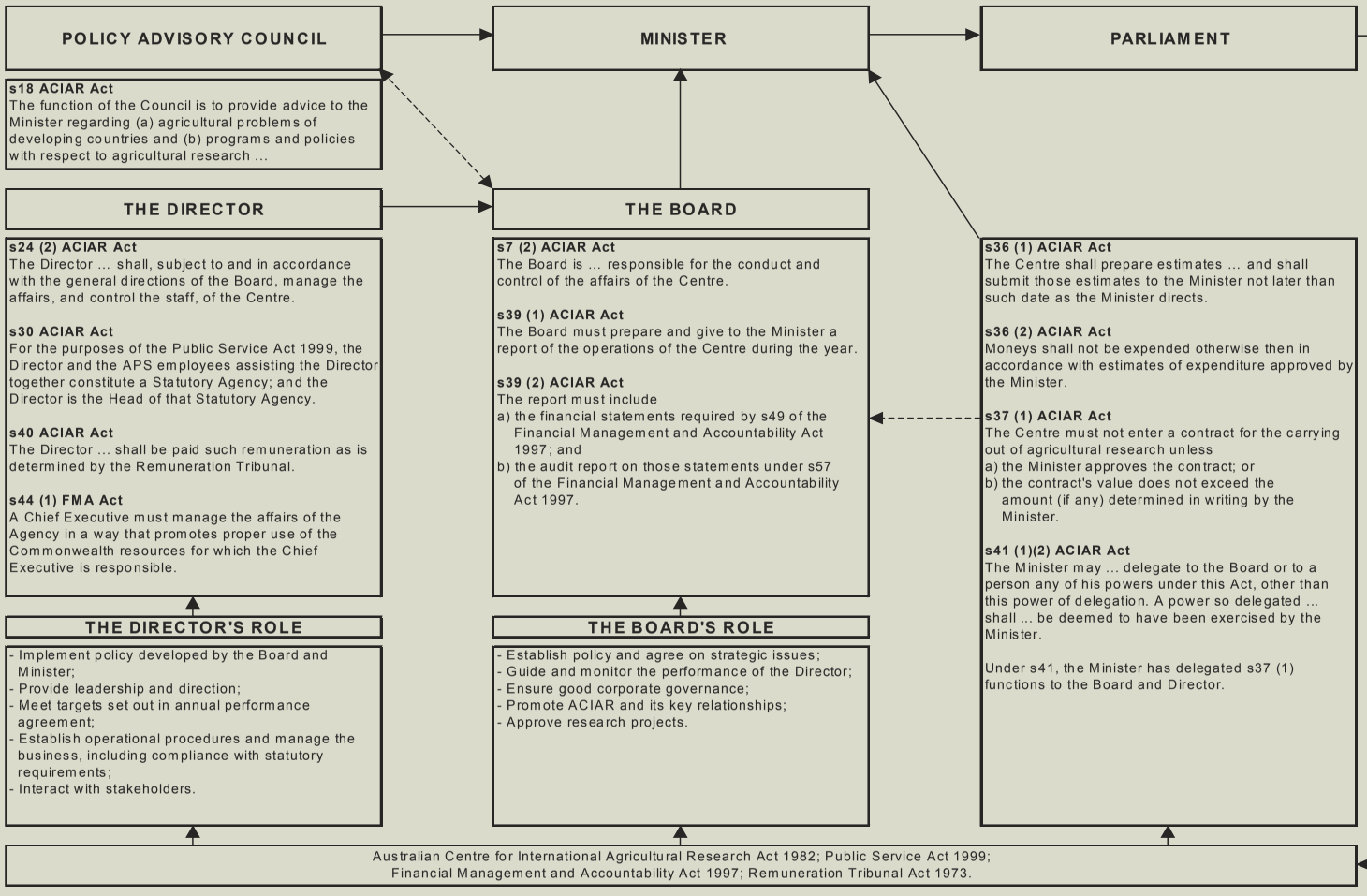
Capacity-building workshops

Three-day research evaluation workshops were held in conjunction with the ACIAR training program for project leaders in Hanoi and Ho Chi Minh City in Vietnam, and at Los Baños in the Philippines. The workshops demonstrated to attendees how to evaluate the likely and actual impacts of agricultural research. A demonstration of the DREAM model was also given at each of the workshops.

Corporate governance



Accountability framework



Board of Management

Section 7 of the ACIAR Act establishes the Board of Management. The Board is responsible for the overall corporate governance of ACIAR. In consultation with the Minister, it sets the strategic directions of the Centre with responsibility for management resting with the Director and senior management. The Board is committed to achieving the highest possible standards of corporate governance, emphasising performance oriented management practices and accountability to Parliament and the Minister. The Board's role is to:

- establish policy and agree on high-level strategic issues;
- advise the Minister in relation to appointment of the Director, and guide and monitor the performance of the Director;
- ensure good corporate governance;
- promote ACIAR and its key relationships; and
- approve research projects.

The Board monitors corporate and program performance and provides feedback on program development, is advised of project proposals at an early stage of their development, approves research projects in the bilateral and multilateral programs (subject to subsequent endorsement by the Minister), monitors and appraises the Director's performance, and ensures that operational plans and control processes are in place and working.

Board composition

The Board comprises five members:

1. the Chair, who is also the President of the Policy Advisory Council (see later section on the Policy Advisory Council);
2. the Director (CEO) of ACIAR; and
3. three part-time members of the Policy Advisory Council.

Recognising the strong linkages between ACIAR and AusAID, the Director General of AusAID is invited to attend Board meetings. Details of Board members are on the next page.

Board meetings

Meetings of the Board are scheduled approximately quarterly, to enable the Board to fulfill its governance and statutory responsibilities.

The Board held four meetings in 2002–03, as follows:

87th meeting	15–19 July 2002	Indonesia
88th meeting	20 August 2002	Canberra
89th meeting	4 December 2002	Canberra (Postponed to 31/1/03)
89th meeting	31 January 2003	Canberra
90th meeting	8 May 2003	Canberra

John Williams and Beth Woods in PNG

Stephanie Adler supports Board operations

The Board

Professor Beth Woods
OAM
Chair

Professor Woods is the foundation Professor of Agribusiness at the University of Queensland's Gatton campus.

She has a background in agricultural extension and research management in Queensland, specialising in field crops and horticulture.

She was formally a member of the CSIRO Board and is the current Chair of the Rural Industries Research and Development Corporation.

Re-appointed 1 June 2003 for three years.

Mr Donald McGauchie

Member

Chair, The Rural Finance Corporation of Victoria; Director, Reserve Bank of Australia, Telstra, Ridley Corp Ltd, National Foods Ltd, GrainCorp Ltd; and a past President of the National Farmers Federation.

Re-appointed 1 November 2000 for three years.

Mr Michael Taylor

Member

Secretary, Federal Department of Agriculture, Fisheries and Forestry; former Secretary, Department of Natural Resources and the Environment Victoria.

Re-appointed 1 November 2000 for three years.

Dr John Williams

Member

Chief, CSIRO Land and Water since November 2001. One of Australia's leading experts on sustainable agricultural practices and the nature of agriculture as part of the natural ecosystem.

Appointed 25 July 2002 for three years.

Mr Peter Core

Director

Director of ACIAR since 31 July 2002. Former Managing Director of Rural Industries Research and Development Corporation and held numerous senior positions in the Australian Public Service.

Appointed 31 July 2002 for five years.

The Board seeks to consult at a high level with ACIAR's stakeholders. For this purpose it holds one meeting each year in a partner country. The Board visited Indonesia in July 2002 with the objective of obtaining a closer understanding of Indonesia's agricultural research and development framework, policy directions and priorities. During its visit the Board met with a wide spectrum of people who were well placed to inform them of Indonesia's research and development policies and priorities, of current research and development initiatives, and of the progress being achieved with particular ACIAR projects.

Board performance

Major milestones for the Board in 2002–03 included:

- the appointment of a new Director, effective 31 July 2002;
- finalisation of a performance agreement with the new Director for 2002–03 and monitoring of his performance for that period;
- a review of the Centre's funding and program focus in the light of the Minister's Statement to Parliament on Australia's Development Co-operation Program on 23 September 2002; and
- development of a new Annual Operational Plan for 2003–04, which seeks to codify program priorities for partner countries and provide enhanced operational transparency.

Conflict of interest

The stakeholder character of the Board membership has the potential to give rise to a conflict of interest in some decisions, notably with regard to approval of projects with institutions from which Board members are drawn. Board members are required to disclose any interests that may affect their position, and where a conflict exists, the relevant Board member(s) must withdraw from a decision on that particular matter. Potential conflicts are recorded in the Board Minutes and are available for consideration by the Centre's Auditors.

Powers of the Centre

Section 6 of the ACIAR Act spells out the powers of the Centre. This includes the power to do all things necessary or convenient for or in connection with the performance of its functions, subject to the limitations of the Act. Further powers, relating to accepting gifts, devises, bequests or assignments and associated trustee arrangements, are also defined.

Ministerial delegations, instruments and directions

The Board has delegated authority from the Minister under s37 of the ACIAR Act to approve contracts for the carrying out of agricultural research (ACIAR's research projects). The Director has delegated authority from the Minister to approve research projects and variations up to $165 000 and to enter into all contracts for projects approved by the Board of Management. The Board reports to the Minister on the exercise of this delegation after each Board meeting. In effect, this enables the Minister to review the proposed project-specific decisions to ensure consistency with broader portfolio considerations.

The Minister may give directions in writing to the Board with respect to the exercise of its powers or the performance of its functions, including directions with respect to the commissioning of particular research.

There were no directions given in 2002–03, though the Minister indicated his desire for ACIAR to:

- maintain a strong program with Indonesia;
- expand the program with PNG and the Pacific; and
- proceed with small programs with Burma and the Democratic People's Republic of Korea.

Insurances

Corporate insurance for the Centre is provided by Comcover as the Commonwealth's manager of its insurable risks. Comcover's coverage includes general and products liability, professional indemnity, directors' and officers' liability, property loss and damage, personal accident and official travel overseas. The premium paid for 2002–03 was $176 380 (excludes GST). The comparable figure for 2001–02 was $108 033.

Liability and professional indemnity insurances were not required to be invoked in 2002–03.

Board costs

During 2002–03 the direct cost of Board operations was $68 530. These costs included fees, travel and other meeting expenses. They did not include the Director's salary, Director's selection costs or other management costs. The comparative figure for 2001–02 was $70 602.

Board remuneration

Member fees are set by the Remuneration Tribunal. As at 30 June 2003 the daily fees were $479 for the Chair and $427 for Members (other than the Director). The Chair declines to receive a daily fee. Administrative costs in support of the Chair's ACIAR activity are invoiced to ACIAR by the University of Queensland. The cost of these services in 2002–03 inclusive of GST was $20 000.

The Director's remuneration is subject to the relevant determinations of the Remuneration Tribunal. These provisions enable the Board to determine the total remuneration, superannuation salary and performance pay components of the remuneration package, within the parameters of Remuneration Tribunal Determination 1999/15.

The remuneration package for the Director at end June 2003 consisted of:

- base salary of $161 082;
- PSS superannuation with an employer contribution of 12.8 per cent of base salary; and
- annual performance bonus of up to 15 per cent of base salary. For 2002–03 no bonus was paid.

Risk management accountability and compliance

As a statutory authority ACIAR is subject to the policy guidelines determined by government from time to time regarding accountability, reporting, review and general operations and is accountable through the Minister to the Parliament. It is also subject to government financial and accounting policies and procedures. Staff members located in Canberra are employed under the Public Service Act. Within these constraints, the Centre has the power to do all things it considers appropriate for the performance of statutory functions.

ACIAR derives its financial authority from the ACIAR Act. Under the ACIAR Act the Centre, as a body corporate, may acquire, hold and dispose of real and personal property, and may sue and be sued in its corporate name. Financial powers and duties derive from the *Financial Management and Accountability Act 1997* (FMA Act) and subordinate Regulations and Orders.

The Centre follows accounting practices in accordance with the FMA Act, other related legislation and recognised accounting standards. The Annual Financial Statements, presented in accrual accounting format starting on page 98 of this report, along with all financial transactions made by the Centre, are subject to Australian National Audit Office examination.

Audit Committee

The Audit Committee is established in accordance with s47 of the FMA Act. The Committee is a primary forum within the Centre for communication between the Centre's auditors (both internal and external) and management. Its overarching objectives are the good management of public resources, enhancement of controls, improvement of the reliability of financial statements, and fostering of increased accountability for the Centre's operations. Specifically, the Committee:

- develops and advises the Director on a program of audits to manage risk;
- oversees and appraises the quality of the audits conducted by both the Centre's internal auditors and the Australian National Audit Office (ANAO);
- ensures that recommendations of audits are acted upon or addressed to the satisfaction of the Director;
- maintains, by scheduling regular meetings, open lines of communication among management, the internal auditors and ANAO to exchange views and information, as well as to confirm their respective authority and responsibilities;
- serves as an independent and objective party to review the financial information presented by management at each year end;
- assists the Director in assessing and improving the adequacy of the Centre's administrative, operating and accounting controls; and
- emphasises to staff the need for the effective control and good management of public resources.

In fulfilling its corporate governance responsibilities and overall accountability for the Centre's operations, the Board provides advice on each three-year audit program, and provides general advice on arrangements for the Audit Committee and on audit matters arising from the Committee's deliberations. Management presents an audit report to each Board meeting.

Audit Committee membership and attendance in 2002–03 are as follows. The Audit Chair is an external appointee and each Committee meeting is supported by advisers from our external auditors (ANAO), internal auditors (Acumen Alliance) and the Centre's Finance Manager.

Member		Meetings attended	Held
Mr G Lillicrap	Chair	3	3
Mr M Brown	Centre Deputy Director	3	3
Dr K Menz	Centre Program Manager	3	3
Dr R Trewin	Centre Program Manager	1	3

Acumen Alliance Pty Ltd is contracted to undertake various internal audit reviews to support the Committee in its work. Internal audit reviews conducted in 2002–03 were:

- General ledger integrity;
- Travel security;
- IT security review*; and
- Project impacts*.

**conducted in 2002–03 but reports to be provided in 2003–04*

Risk management

ACIAR has in place a risk management policy, an overall risk management plan and a series of more specific risk assessments and risk treatment plans. These risk assessments and risk treatment plans address significant business risks and are reviewed and updated annually. They include, at the highest level, the risks associated with the critical success factors of ACIAR's 2001–06 Corporate Plan.

Each annual update is considered by the ACIAR Audit Committee. The Committee's rolling three-year program of internal audits is developed directly from these risk assessments. The 2002–05 Audit Program plan is set out on the following page. Those activities assessed as carrying the highest risk are audited during the three-year cycle wherever it is likely that there will be 'value-add' from an internal audit. This program of internal audits is considered by the Board in outline every three years and the annual program is considered in greater detail. The internal audits carried out in 2002–03, the first year of the three-year cycle, were on the integrity of the general ledger; travel security; IT security; and the capturing and recording of the impacts arising from ACIAR projects.

Every second year, in accordance with the Commonwealth Fraud Control Guidelines 2002, a fraud-specific risk assessment is carried out and the fraud control plan is reviewed and updated. Both the assessment and the plan were therefore redrafted in 2002–03, updating the previous one completed in June 2001.

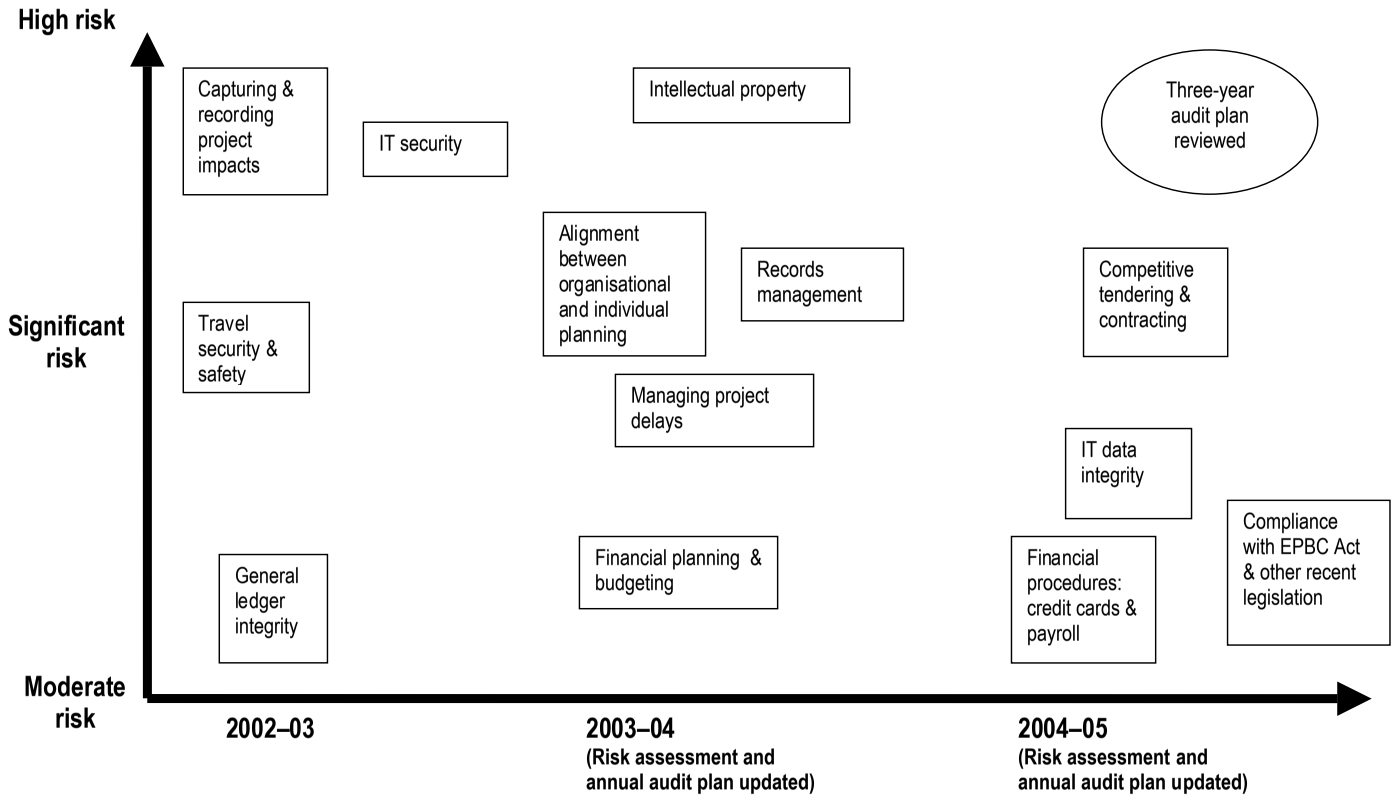
During 2002–03 ACIAR fulfilled its annual reporting requirements on fraud control to the Attorney General's Department (1 October 2002) and the ANAO (22 November 2002).

Certification is provided that ACIAR has prepared fraud risk assessments and fraud control plans, and has in place appropriate fraud prevention, detection, investigations, reporting and data collection procedures and processes that meet the specific needs of the agency and comply with the Commonwealth Fraud Control Guidelines 2002.

Each project proposal is assessed by senior ACIAR staff and the Board against various risks, such as duplication of effort; intellectual property concerns; capacity and expertise issues; non-adoption of results; and negative environmental outcomes.

ACIAR has specific programs to manage various aspects of risk including purchase of appropriate insurance cover; an occupational health and safety committee and program; and fire safety and emergency procedures.

Audit plan 2002–05



The Director

Section 24 of the ACIAR Act establishes the office of Director as the Chief Executive Officer of the Centre. Subject to, and in accordance with, the general directions of the Board, the Director manages the affairs, and controls the staff, of the Centre. Specifically, the Director's functions are to:

- develop strategic and operational plans for presentation to, and approval by, the Board;
- ensure that these plans and their component parts are implemented;
- ensure the Board is provided with relevant and timely decision support information;
- ensure the Board is properly informed about evolving key issues and alternatives for dealing with them;
- manage the operational functions of the Centre consistent with its strategic and operational plan;
- provide Centre staff with strong and empowering leadership to enhance the motivation, focus and satisfaction they derive from their contribution to the Centre;
- nurture and enhance research alliances and represent and promote the Centre at forums and workshops; and
- maximise the adoption of research outputs.

The Director is appointed by the Governor-General for a term of up to seven years. The office is subject to the determinations of the Remuneration Tribunal. The Tribunal has determined the Director to be an officer in the Principal Executive Officer (PEO) structure, at PEO Band C. The Board of Management is the identified Employing Body for remuneration purposes.

The current Director, Mr Peter Core, began a five-year term on 31 July 2002.

The Policy Advisory Council

The Policy Advisory Council is established by s17 of the ACIAR Act. The function of the Council is to provide advice to the Minister regarding:
(a) agricultural problems of developing countries;
(b) programs and policies with respect to agricultural research for either or both of the following purposes:
(i) identifying agricultural problems of developing countries;
(ii) finding solutions to agricultural problems of developing countries.
The Council thereby fills a valuable overview role, advising the Minister, the Board of Management and the Centre on matters including:

- national and regional development constraints;
- opportunities for research and development collaboration;
- national and regional research priorities, particularly those of ACIAR's partner countries;
- the matching of Australian expertise (Australia's competitive advantage) with these priorities;
- modes of operation for ACIAR; and
- sources of national and international expertise.

Council meeting

To fulfil its role, the Council meets annually, in Australia, over several days. During 2002–03, it met in Perth on 19–20 March 2003, and in Adelaide to hold discussions with the Minister, on 21 March.

At its meeting, the Council gave priority consideration to:

- research priorities as set out in a draft of the Centre's *Annual Operational Plan 2003–04*;
- a review of ACIAR's achievements in 2001–02, with specific reference to the performance indicators in its Corporate Plan;
- a presentation from AusAID on emerging issues and trends in Australia's aid program; and
- perspectives on the status of R&D and current priorities in the countries represented on the Council. This standing item provides a unique opportunity for the Council members, individually and collectively, to discuss their countries' research and development priorities. It thereby forms a key input to ACIAR's planning processes and also, by bringing together policy makers from a range of Southeast Asian countries, India, China and Papua New Guinea, has the potential to highlight regional needs and opportunities, including bilateral cooperation between those countries themselves.

Membership of the Policy Advisory Council at the time of its meeting in Perth on 19–20 March 2003, and attendance, is set out in the following table.

Council membership

Membership of the Council is limited to 14, comprising a President, the Director of ACIAR, the Director General of AusAID or his nominee, and not fewer than nine nor more than 11 other members appointed by the Minister for Foreign Affairs. Members bring a range of agricultural and development experience. The Minister is required, under the Act, to ensure that a substantial number of the members of the Council are residents of countries other than Australia, and to have regard for the knowledge of appointees concerning the agricultural problems of developing countries or their experience in organising or conducting agricultural research.

Council costs

During 2002–03, the direct costs of the Policy Advisory Council were $66 172. The comparable figure for 2001–02 was $52 502.

Council membership

Member	Appointment and term	Meeting
Professor Elizabeth J **Woods** OAM Professor of Agribusiness School of Natural and Rural Systems Management University of Queensland Gatton, QLD	President 1/6/2000–31/5/2003 1/6/2003–31/5/2006	Yes
Mr Peter **Core** Director ACIAR Canberra, ACT	Ex officio member 31/7/2002-30/7/2007	Yes
Mr Bruce **Davis** (or his nominee) Director General Australian Agency for International Development Canberra, ACT	Ex officio member	Yes (nominee)
Dr Joko **Budianto** Director General Agency for Agricultural Research and Development Jakarta INDONESIA	Appointed member 19/11/1998–18/11/2001 1/3/2002–28/2/2005	Yes
Dr Patricio **Faylon** Executive Director Philippine Council for Agriculture, Forestry and Natural Resources Research and Development Los Banos PHILIPPINES	Appointed member 10/3/2003–9/3/2005	Yes
Mr **Jia** Jingdun Deputy Director General Department of Rural and Social Development Ministry of Science and Technology Beijing CHINA	Appointed member 10/3/2003–9/3/2006	Yes
Mr Donald G **McGauchie** Farmer and Company Director including several agribusiness companies Prairie, VIC	Appointed member 1/11/1994–31/10/1997 1/11/1997–31/10/2000 1/11/2000–31/10/2003	No
Dr Mangala **Rai** Secretary Department of Agricultural Research and Education, and Director General Indian Council of Agricultural Research New Delhi INDIA	Appointed member 10/3/2003–9/3/2006	No
Dr Graeme **Robertson** Director General Department of Agriculture – Western Australia Perth, WA	Appointed member 1/3/2001–29/2/2004	Yes
The Hon Sir Anthony **Siaguru** KBE Statesman and Consultant Port Moresby PAPUA NEW GUINEA	Appointed member 1/5/2000–30/4/2003	Yes
Mr Michael J **Taylor** Secretary Department of Agriculture, Fisheries and Forestry Canberra, ACT	Appointed member 1/11/1997–31/10/2000 1/11/2000–31/10/2003	No (attended meeting with Minister)
Dr John **Williams** Chief CSIRO Land and Water Canberra, ACT	Appointed member 16/7/2002–30/6/2005	Yes
Professor Vo-tong **Xuan** Professor of Agronomy and Rector Angiang University Angiang VIETNAM	Appointed member 1/11/1997–31/10/2000 1/3/2001–29/2/2004	Yes

Programs and operations

John Skerritt, responsible for our R&D Programs

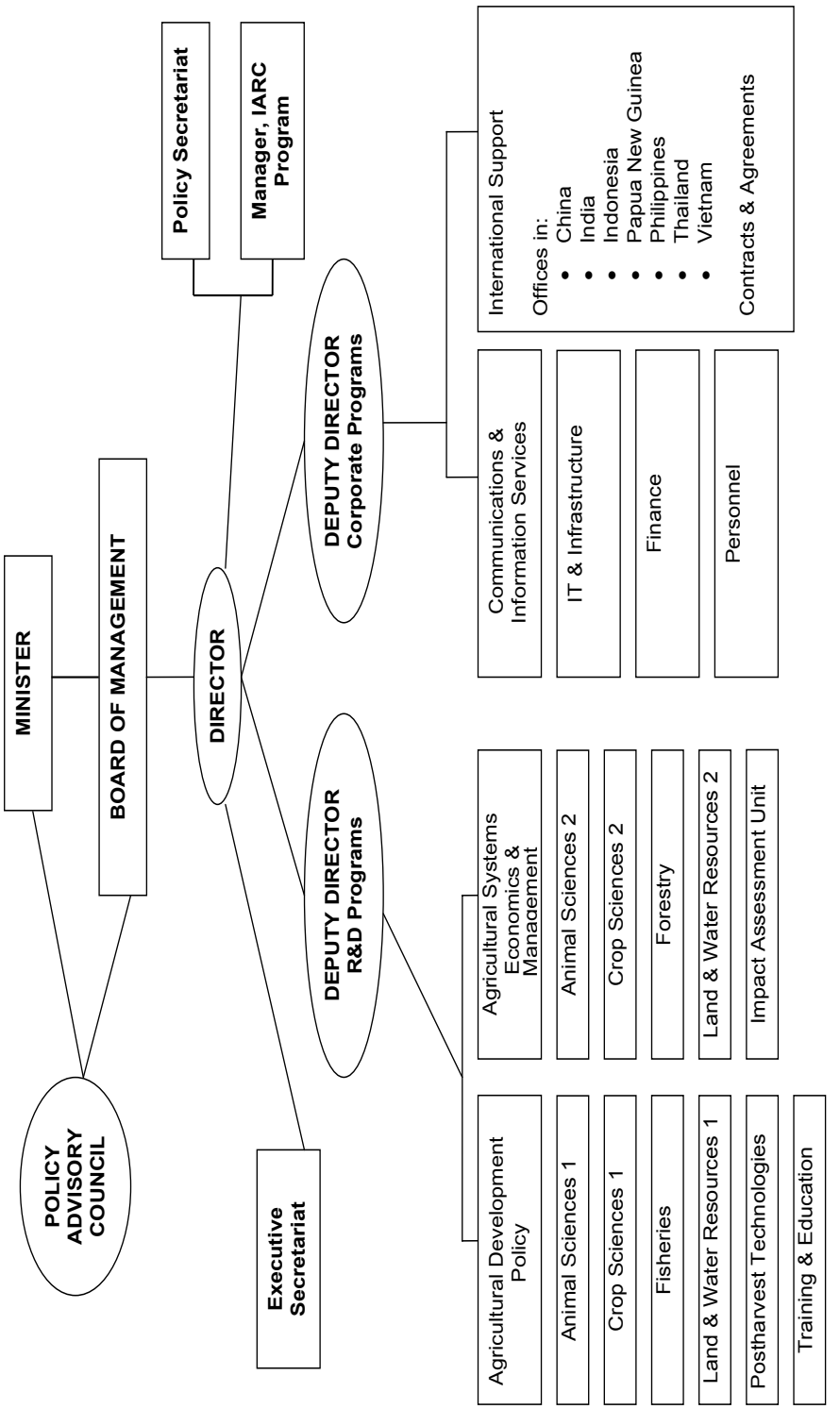
Sally Moon supports John Skerritt

Michael Brown, responsible for our corporate operations

Heather Crompton, Policy Secretariat and IARC Program

Melina Tensen and Nicholas Sophiadakis, Executive Secretariat

The organisation



Programs

Programs	Objectives
Bilateral R&D programs	To work with developing countries in the identification and solution of their important agricultural and natural resource management problems by: - commissioning, monitoring and evaluating research conducted through partnerships between Australian and developing-country research institutions in those fields where Australia has special expertise; and - building research capacity in both Australia and developing countries
Multilateral R&D program	To ensure that funds provided by Australia for research conducted by the international agricultural research system are used effectively, and that benefits flow to developing countries and Australia
Impact Assessment	To provide systematic information and impact assessments to support the activities of ACIAR and to enhance the Centre's public accountability
Training and Education	To build the research capacity of agricultural research institutions in partner countries by providing discipline-specific and broader training opportunities for partner country researchers
Communications and Information Services	To contribute to successful outcomes from ACIAR-supported research and development by communication of research results to potential beneficiaries and through promoting awareness of the Centre's activities
Corporate Services	To facilitate and contribute to the effective management of ACIAR's people and programs
International Support	To facilitate effective administration of ACIAR's collaborative research programs in partner countries

Research programs

Bilateral R&D programs are responsible for developing, monitoring and evaluating projects, including multilateral projects. A brief description of each program is included below. The achievements reported by region are delivered through these program areas. Multilateral R&D is delivered through a combination of core funding to IARCs and restricted funding tied to projects, administered by program areas.

Agricultural Development Policy

The Agricultural Development Policy program has the goal of supporting economic policy research in the areas of trade, rural development and natural resource management, as well as to build partner country capacity in these areas.

The program is organised under three main themes: trade policy, rural development policy, and natural resources policy, with a geographic focus on Vietnam, China, Indonesia, India and the Pacific. Projects were

Ray Trewin, Manager, Agriculture Development Policy

Trish Andrew supports Ray Trewin

Ken Menz, Manager, ASEM Program

Muriel Davies supports Ken Menz

John Copland, Manager, Animal Health and Product Processing

Astrid Jeffress supports John Copland

Bill Winter, Manager, Animal Nutrition and Livestock Systems

Catherine Hanley supports Bill Winter

Colin Piggin, Manager, Crop Improvement Program

Ralph Southwell supports Colin Piggin

developed within all these themes, sometimes in combination. In trade the focus was on WTO related issues given the current negotiations, in rural development on new institutions, and in natural resources policy on water and the use of market-based approaches. The program for 2002–03 comprised 20 active projects of which two were extensions of previous projects. Seven were multilateral IARC projects and two involved contributions by other Australian research organisations. Two projects were reviewed, two concluded and 11 commenced during the year.

Agricultural Systems Economics and Management

The Agricultural Systems Economics and Management program operates in a multidisciplinary manner, commissioning integrative economic, social and biophysical research within a systems context. The ASEM program has a geographic focus on Papua New Guinea, the Philippines and Cambodia. It has single projects in other key ACIAR partner countries.

Seventeen projects were active during the year. Of these, 11 were small/medium and six were large. Agricultural extension is a key factor limiting the uptake of new technologies in many of our partner countries. In line with ACIAR's commitment to enhance the impact of its projects, a major program research thrust in agricultural extension techniques and methodology has been developed. Three active projects have this theme, as do two pipeline projects due to commence in July 2003.

Animal Sciences

The Animal Sciences program has the goal of optimising the contribution of livestock and their products to the economic, environmental, cultural and social wellbeing of people in developing countries and Australia. The program is divided into two parts, the first focusing on animal health and product processing issues, the second on animal nutrition and livestock in farming systems.

In 2002–03 the Animal Sciences program had 34 active projects, three of which were multilateral projects, covering a range of topics, including animal health, genetic improvement, pest control, nutrition, farming systems, forage production, livestock husbandry, reproduction, information systems and livestock policy.

Crop Sciences

The Crop Sciences program has the goal of contributing to greater productivity, sustainability and profitability in small-farmer cropping in ACIAR's mandate region (and also cropping in Australia), through support to research partnerships in crop plant improvement, crop agronomy, and weed, disease and pest management.

The program is divided into two parts. One focuses on genetic improvement of crop plants and, where appropriate, improved crop management including through matching suitable crop varieties to cropping areas; the other focuses on protection of horticultural crops,

cereals, food legumes, forages and oilseeds, with an increasing focus on biosecurity, reflecting the growing importance of this subject to all partner countries. During the year 36 bilateral projects were active, along with eight multilateral projects. Two projects concluded, and eight were under development.

Fisheries

The goal of the Fisheries program is to improve the productivity and sustainability of fisheries and aquatic farming systems in partner countries and in Australia through international research partnerships directed at: innovative resource management approaches; the elimination of serious adverse environmental impacts arising from fishing or farming practices; better utilisation of existing harvests; and the development of productive and sustainable aquatic farming systems.

During the year, the Fisheries program managed 18 active bilateral projects, including nine large projects, five medium and four small projects. The Fisheries program covers both modes of fish production—wild harvest fisheries and aquaculture, with activities spread across a variety of production strategies and environments, from wild capture marine and inland fisheries to aquatic farming systems, mariculture and fisheries enhancement. The program aims to solve key problems constraining the productive use and sustainability of fisheries and aquatic resource systems in developing countries.

Forestry

The Forestry program contributes to poverty reduction and natural resource conservation and rehabilitation through scientific support for the establishment, management and sustainable utilisation of forests, providing optimum social, economic and environmental benefits to partner countries and Australia.

During 2002–03 the program consisted of 25 projects (including two multilateral projects). The program has a central theme of developing Australian tree germplasm for use in developing countries, to address the growing shortage of forest products and alleviate environmental problems caused by loss of native forests. Projects test tree species for particular soil and climatic conditions, and undertake genetic improvement for selected promising species. Research into increased productivity and profitability through improved nutrition and management of pest and diseases, and enhancement of environmental benefits of reforestation, such as catchment protection or salinity control, are other areas of focus.

Land and Water Resources

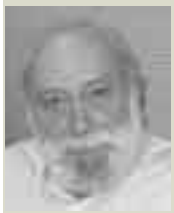
The primary goal of the Land and Water Resources program is to contribute to food security and wealth by enhancing long-term productivity, management and conservation of agricultural land and water resources in developing countries and Australia.

Paul Ferrar, Manager, Crop Protection

Klara Beresnikoff supports Paul Ferrar

Barney Smith, Manager, Fisheries Program

Leonie Jenkins supports Barney Smith



John Fryer, Manager, Forestry Program

Tony Fischer, Manager, Land and Waterr Resources Program

Narelle McLaughlin supports Tony Fischer

Ian Willett, Manager, Land and Water Resources Program

Margaret Hampton supports Ian Willett

Greg Johnson, Manager, Postharvest Technology Program

Betty Robertson supports Greg Johnson

The program is organised into four themes: Water Management; Agriculture and Environmental Quality; Land and Cropping Systems; and Soil Management. Land and Water 1 concentrates on the first two themes, while Land and Water 2 focuses on the latter two. Altogether there were 31 active projects in LWR in 2002–03, including seven IARC projects. Eight new projects started and five projects were completed. LWR1 concentrates on broad-scale issues such as water and catchment management while LWR2 works more at the farm and individual field level, in particular with cropping systems and soil management.

Postharvest Technology

The goals of ACIAR's Postharvest Technology program are to: improve application and efficiency of postharvest systems for crop products; optimise the quality and suitability of produce for market requirements; assure food security and improve trade and market access; and minimise losses or undesirable health, environmental and social impacts of the products or technologies. The Postharvest program focuses on crops, with livestock, fish and forestry products integrated into the corresponding ACIAR programs.

A total of 16 projects were active during the year, including three medium and one small project. Major support was also provided for workshops on *Phytophthora* diseases of tropical crops in Southeast Asia, strengthening farmer–market linkages, grain drying and management of mycotoxin and pesticide residues.

Cages for grow-out trial for barramundi, Bali, Indonesia

Corporate programs

Communications and Information Services

The objective of the Communications and Information Services program is to contribute to managing ACIAR's information and successful communication outcomes from ACIAR-supported research and development by communication of research results to potential beneficiaries and through promoting awareness of the Centre's activities. Key communication outcomes are reported under Communicating Research, beginning on page 71.

The program led redevelopment of ACIAR's website, which has attracted favourable feedback about the ease of finding information, and praise for the format of country and project information. The redevelopment of the ACIAR website www.aciar.gov.au enabled broader dissemination of publications in electronic format.

ACIAR makes publications freely available to those working in agricultural development in developing countries. ACIAR's publication distribution lists were revised during the year, and are now being maintained in-house. The revised list includes email addresses for notification of new publications in specified areas of interest. A publications subscription form is available on ACIAR's website. ACIAR's publishing and distribution costs have fallen while maintaining outputs at previous levels, due mainly to appropriate uses of information and communication technologies.

Support was provided for several key communication activities, most notably the Fisheries Showcase held in Jakarta, Indonesia on 31 July 2002. The Communications and Information Services program also supported the annual Fellows week, when a group of John Allwright Fellows visited ACIAR headquarters. A key activity was training the students in science communication.

Internally, ACIAR documents project outcomes, and the benefits of ACIAR-funded work, and communicates this to targeted audiences through print and electronic media and personal interactions in Australia and partner countries. The Centre's Communications and Information Services Program also provides information resources and briefing materials to support communication activities of its portfolio partners, country offices and Australian posts in partner countries.

Corporate Services

The objective of the Corporate Services program is to facilitate and contribute to the effective management of ACIAR's people, resources and programs.

ACIAR's Communications team

Heather Briggs, Manager, Communications and Information Services Program

Maureen Kenning, Program Assistant

Warren Page, Science Communicator and Web Manager

Robin Taylor, Publications Manager

Kay Murtha, Reception

Our team at reception

Serena Maher, Reception

Sue Allen, Human Resources/ Personnel Administrator

Personnel

Jeff Galea, Manager IT and Infrastructure

Jaques Varlet, Assistant Manager IT and Infrastructure

Our IT team

All legislative and reporting requirements were met during 2002–03. Financial and personnel delegations were updated. Technical and procedural changes were carried out to project information, finance and travel management systems to increase efficiency, reliability and accessibility. ACIAR's running costs were reduced during the year as a proportion of total costs, with streamlining occurring through natural attrition and procedural improvements in Corporate Services.

The ANAO confirmed that the financial statements for 2001–02 presented a true and fair view of the Centre's financial position. Following assessment of tenders, a new contract for internal audit services was entered into with Acumen Alliance for a period of three years. An internal audit program based directly on an ACIAR-wide risk assessment was implemented. The 2002–03 internal audit plan addressed travel security, the integrity of the general ledger, IT security and capturing and recording benefits from projects.

Budget-related developments were negotiated with the Department of Finance and Administration including a revised application of the efficiency dividend and abolition of the Agency Banking Incentive (interest) Scheme. ACIAR's levels of cash and equity were managed to optimum levels. Changes to the budget module of ACIAR's finance system were prepared to enable whole-of-project financial information to be more easily captured and accessed. An improved database of financial information was developed. Rises in insurance premiums were substantial but kept to the minimum practical level through best use of excess thresholds.

The third ACIAR Certified Agreement (2002-05) took effect and was implemented in August. Amongst other things, this included a revised and more efficient performance development and appraisal scheme that emphasises continuous improvement and sharing of skills and knowledge to increase the transfer and retention of corporate memory. In the same vein, fuller job profiles for some critical positions were developed, to guard against loss of corporate knowledge.

A comprehensive staff satisfaction survey was conducted and its findings evaluated, with implementation to occur in 2003–04. ACIAR's workplace diversity plan was updated. Corporate Services made available to staff a range of seminars, benefits and access to professional services to maintain and strengthen a healthy and safe work environment. Staff development was facilitated in several key areas including leadership and management skills, teamwork, performance management, information technology and poverty-related pre-project impact assessment.

New laptops and desktop PCs and associated software, including a new standard operating system (XP), were purchased as part of a three-year replacement/update cycle. A reduced number of IT helpdesk calls was logged during the year, indicating the improved reliability of ACIAR's

IT systems and growth in the IT skills of staff. The management of the Internet Gateway Security Functions (the firewall protecting ACIAR's IT infrastructure) is now carried out within ACIAR's IT environment. Security improvements were made in both IT and physical security, and there were no security breaches. IT contingency arrangements were strengthened. Improvements were made to the connectivity and information access of ACIAR's overseas offices, and to remote access for travelling ACIAR staff. The PABX phone system is now managed completely within ACIAR.

Regular consolidated updates of travel security advice were issued to ACIAR staff and beyond. ACIAR's travel policy was updated and supporting administrative procedures were changed.

International Support

The International Support program actively supports the R&D program through seven overseas offices, located in Australian embassies and high commissions in Papua New Guinea, Indonesia, the Philippines, Thailand, Vietnam, China and India. The program also provides advice to senior management, the ACIAR Board of Management and the Policy Advisory Council, on overseas research and development support and program implementation arrangements.

Three staff work in Canberra (one part time) and 20 staff are based in the overseas offices. The program also manages, coordinates and provides policy and operational services with regards to contracts and agreements (including intellectual property), and undertakes tasks associated with partner country consultations on the determination of program priorities.

Key activities and outputs during the year included conducting a review of the role and responsibilities of country offices, involving key stakeholders. The results of the review will be implemented in 2003–04. The ACIAR Project Agreement (the primary contractual document for the administration and conduct of ACIAR projects) was reviewed with revisions made. The agreement was amended in March to incorporate internal policy changes and to meet relevant new legislative requirements.

The program conducted post liaison visits to PNG, Thailand, Laos and Cambodia, and was actively involved in organising the formal country consultations on program priorities in Indonesia. Progress was made in consultations with the Indonesian Government, to establish an umbrella framework arrangement under which ACIAR may implement forestry projects.

An Intellectual Property Register was implemented to identify anticipated intellectual property generated by ACIAR-funded projects and catalogue pre-existing intellectual property used in projects.

Overseas offices in:

- China
- Vietnam
- India
- Thailand
- Philippines
- Indonesia
- Papua New Guinea

Marchien van Oostende, Project Officer

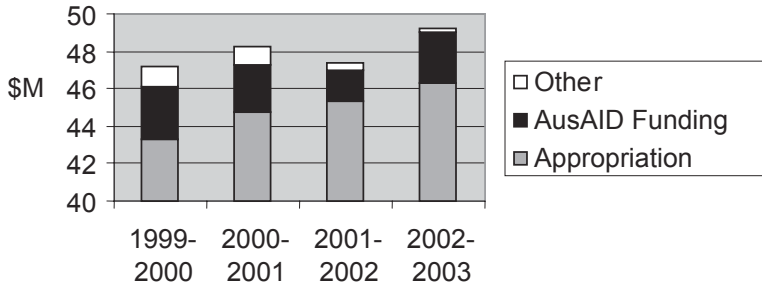
Kim Taylor, Executive Officer, Contracts and Agreements

Allan Barden has overall responsibility for our international offices

Chief Finance Officer's review

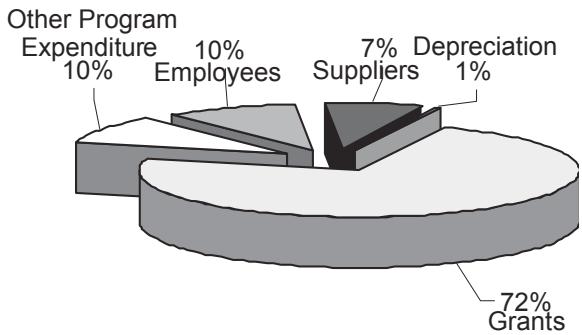
ACIAR obtains its funds primarily from the Commonwealth appropriation, with some external funding and other revenue from interest and sale of publications. Over recent years ACIAR has maintained its level of appropriation, in real terms. Other revenue and external funding have fluctuated over the same period.

ACIAR Revenue 1999-2000 to 2002-2003



About 82 per cent of ACIAR's expenditure is on bilateral and multilateral research (shown as 'Grants' in the graph below), and on education and training of researchers and publication to assist in project impacts (shown as Other Program expenditure).

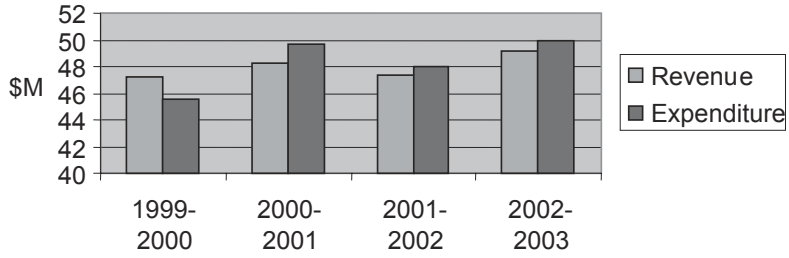
ACIAR Expenditure 2002–03



Paul Tyrrell, Finance Manager

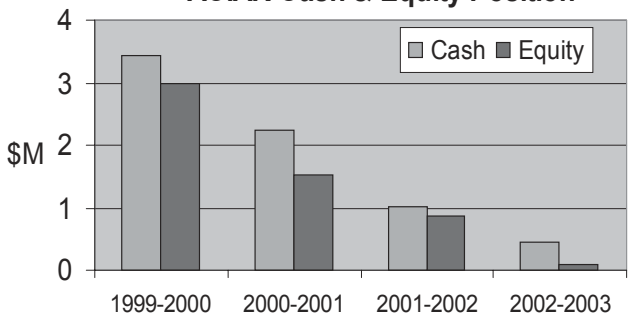
In 1999–2000 ACIAR had a surplus of $1.685m which resulted from delays in project start dates. During subsequent years ACIAR has refined its budgeting strategy to cater for such delays and has incurred operating deficits to achieve a more optimal level of cash and equity. For 2002–03 the deficit is $698 709.

Revenue and Expenditure 1999-2000 to 2002-2003



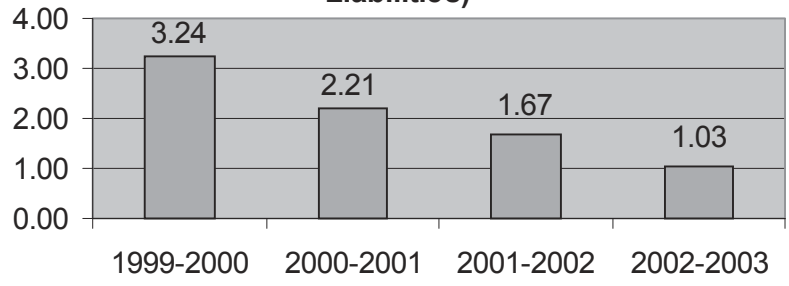
ACIAR has achieved an optimal financial position with an appropriate level of cash and equity. ACIAR intends to operate a balanced budget in future years to maintain this position.

ACIAR Cash & Equity Position



Our current ratio closely reflects these changes and is now at an optimal level.

Current Ratio (Current Assets / Current Liabilities)



ACIAR will continue its focus on good stewardship of its financial resources.

Financial statements

The Board noted:

(a) the financial statements for 2002-03 that ANAO had confirmed as a 'true and fair view' of ACIAR's financial position; ***Decision92/19***

and

(b) the text of the proposed management representation letter to the ANAO ***Decision 92/20***

9 September 2003

Paul Tyrrell, Manager

Gloria Radosavljevic, Accountant

ACIAR's finance team

Henry Lee, Finance Officer

Frances McPherson, Budget Officer

Independent Auditors Report

Australian National Audit Office

INDEPENDENT AUDIT REPORT

To the Minister for Foreign Affairs

Matters relating to the Electronic Presentation of the Audited Financial Report

This audit report relates to the financial report of the Australian Centre for International Agricultural Research for the year ended 30 June 2003 included on the Australian Centre for International Agricultural Research's web site. The Agency's Director is responsible for the integrity of the Australian Centre for International Agricultural Research's web site.

The audit report refers only to the statements named below. It does not provide an opinion on any other information which may have been hyperlinked to/from the audited financial report.

If the users of this report are concerned with the inherent risks arising from electronic data communications they are advised to refer to the hard copy of the audited financial report to confirm the information included in the audited financial report presented on this web site.

Scope

I have audited the financial statements of Australian Centre for International Agricultural Research for the year ended 30 June 2003. The financial statements comprise:

- Statement by the Director and Chief Finance Officer;
- Statements of Financial Performance, Financial Position and Cash Flows;
- Schedules of Contingencies and Commitments; and
- Notes to and forming part of the Financial Statements.

The Agency's Director is responsible for the preparation and presentation of the financial statements and the information they contain. I have conducted an independent audit of the financial statements in order to express an opinion on them to you.

GPO Box 707 CANBERRA ACT 2601
Centenary House 19 National Circuit
BARTON ACT
Phone (02) 6203 7300 Fax (02) 6203 7777

The audit has been conducted in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards, to provide reasonable assurance as to whether the financial statements are free of material misstatement. Audit procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial statements and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with Accounting Standards and other mandatory professional reporting requirements in Australia and statutory requirements so as to present a view which is consistent with my understanding of the Australian Centre for International Agricultural Research's financial position, its financial performance and its cash flows.

The audit opinion expressed in this report has been formed on the above basis.

Audit Opinion

In my opinion the financial statements:

(i) have been prepared in accordance with Finance Minister's Orders made under the *Financial Management and Accountability Act 1997*; and

(ii) give a true and fair view, in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Finance Minister's Orders, of the financial position of the Australian Centre for International Agricultural Research at 30 June 2003, and its financial performance and cash flows for the year then ended.

Australian National Audit Office

Willie Tan
Senior Director

Delegate of the Auditor-General

Canberra
10 September 2003

Statement by Director and Chief Finance Officer

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH
STATEMENT BY DIRECTOR AND CHIEF FINANCE OFFICER

In our opinion, the attached financial statements for the year ended 30 June 2003 give a true and fair view of the matters required by the Finance Minister's Orders made under the Financial Management and Accountability Act 1997.

Signed
Peter Core
Director
4th September 2003

Signed
Paul Tyrrell
Chief Finance Officer
4th September 2003

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

STATEMENT OF FINANCIAL PERFORMANCE

for the year ended 30 June 2003

	Notes	**2003** **$**	2002 $
Revenues from ordinary activities			
Revenues from Government	3A	**46,298,000**	45,389,000
Sales of goods and services	3B	**25,676**	24,832
Interest	3C	**37,549**	295,828
Revenue from sale of assets	3D	**200**	15,581
External funds revenue	3E	**2,703,340**	1,622,940
Other revenue		**137,280**	27,490
Total revenues from ordinary activities		**49,202,045**	47,375,671
Expenses from ordinary activities			
Administration			
Employees	4A	**4,826,528**	4,845,625
Suppliers	4B	**3,527,870**	3,241,855
Depreciation and amortisation	4C	**272,147**	237,060
Value of assets sold	3D	**10,020**	11,979
Programme Expenditure			
Grants	5A	**36,391,306**	34,824,948
Other programme expenditure	5B	**4,872,883**	4,844,819
Total expenses from ordinary activities		**49,900,754**	48,006,286
Borrowing costs expense	6	**-**	468
Net operating surplus (deficit) from ordinary activities		**(698,709)**	(631,083)
Net surplus (deficit)		**(698,709)**	(631,083)
Total revenues, expenses and valuation adjustments attributable to the Commonwealth Government and recognised directly in equity		**(698,709)**	(631,083)
Total changes in equity other than those resulting from transactions with owners as owners		**(698,709)**	(631,083)

The above statement should be read in conjunction with the accompanying notes.

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

STATEMENT OF FINANCIAL POSITION

as at 30 June 2003

	Notes	**2003** **$**	2002 $
ASSETS			
Financial assets			
Cash	7A	**456,460**	1,023,231
Receivables	7B	**1,099,277**	595,372
Total financial assets		**1,555,737**	1,618,603
Non-financial assets			
Infrastructure, plant, equipment	8A,C	**835,286**	694,335
Intangibles	8B,C	**176,431**	153,967
Prepayments	8D	**117,275**	401,536
Total non-financial assets		**1,128,992**	1,249,838
TOTAL ASSETS		**2,684,729**	2,868,441
LIABILITIES			
Provisions			
Capital use charge	9A	**-**	32,000
Employees	9B	**1,693,730**	1,605,666
Total provisions		**1,693,730**	1,637,666
Payables			
Suppliers	10A	**97,234**	77,772
Grants	10B	**610,818**	68,376
Other program expenditure	10C	**108,173**	211,143
Total payables		**816,224**	357,291
TOTAL LIABILITIES		**2,509,954**	1,994,957
NET ASSETS		**174,775**	873,484
EQUITY			
Contributed equity	11	**-**	-
Reserves	11	**-**	-
Retained surplus	11	**174,775**	873,484
TOTAL EQUITY		**174,775**	873,484
Current liabilities		**1,618,187**	1,205,056
Non-current liabilities		**891,767**	789,901
Current assets		**1,673,012**	2,020,139
Non-current assets		**1,011,717**	848,302

The above statement should be read in conjunction with the accompanying notes.

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

STATEMENT OF CASH FLOWS

for the year ended 30 June 2003

	Notes	**2003** $	2002 $
OPERATING ACTIVITIES			
Cash received			
Goods and services		**14,190**	20,088
Appropriations		**46,278,000**	45,369,000
Interest		**49,225**	305,171
GST received from ATO		**3,072,468**	2,621,536
External Funds		**3,369,674**	1,783,750
Other		**153,487**	32,635
Total cash received		**52,937,044**	50,132,180
Cash used			
Employees		**4,690,267**	4,718,532
Suppliers		**3,794,300**	3,367,480
Borrowing costs		**-**	468
GST paid to ATO		**309,856**	294,520
Cash transferred to the OPA		**724,954**	-
Grants		**38,495,502**	37,623,311
Other programme expenditure		**4,974,627**	5,097,508
Total cash used		**52,989,506**	51,101,819
Net cash from / (used by) operating activities	12	**(52,462)**	(969,639)
INVESTING ACTIVITIES			
Cash received			
Proceeds from sales of property, plant and equipment		**2,400**	15,581
Total cash received		**2,400**	15,581
Cash used			
Purchase of property, plant and equipment		**390,340**	209,581
Purchase of intangibles		**94,369**	41,675
Total cash used		**484,709**	251,256
Net cash (used by) investing activities		**(482,309)**	(235,675)
FINANCING ACTIVITIES			
Cash used			
Capital use charge paid		**32,000**	7,000
Repayment of finance lease liabilities		**-**	5,221
Total cash used		**32,000**	12,221
Net cash (used by) financing activities		**(32,000)**	(12,221)
Net increase / (decrease) in cash held		**(566,771)**	(1,217,535)
Cash at the beginning of the reporting period		**1,023,231**	2,240,766
Cash at the end of the reporting period	7A	**456,460**	1,023,231

The above statement should be read in conjunction with the accompanying notes.

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

SCHEDULE OF COMMITMENTS

as at 30 June 2003

	2003 $	2002 $
BY TYPE		
Other Commitments		
Operating leases[1]	**1,583,927**	2,146,183
Other commitments[2]	**25,570,199**	39,861,512
Total other commitments	**27,154,126**	42,007,695
Commitments Receivable	**(376,356)**	(515,235)
Net commitments	**26,777,770**	41,492,460
BY MATURITY		
All net commitments		
One year or less	**15,800,651**	21,405,492
From one to five years	**10,899,895**	19,932,520
Over five years	**77,224**	154,448
Net commitments	**26,777,770**	41,492,460
Operating lease commitments		
One year or less	**583,104**	633,864
From one to five years	**1,000,823**	1,512,319
Over five years	**-**	-
Net operating lease commitments	**1,583,927**	2,146,183

NB: Commitments are GST inclusive where relevant.

[1] Operating leases included are effectively non-cancellable and comprise:

- leases for office accommodation; and
- lease for computer equipment: and
- agreements for the provision of motor vehicles to senior executive officers.

[2] As at 30 June 2003, other commitments comprise amounts committed under grant agreements in respect of which the recipient is yet to either perform the services required, or meet eligibility conditions.

These have not been recognised as liabilities in the statement of assets and liabilities.

The above statement should be read in conjunction with the accompanying notes

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH
SCHEDULE OF CONTINGENCIES

as at 30 June 2003

CONTINGENT LOSSES

There are no contingent losses.

CONTINGENT GAINS

There are no contingent gains.

SCHEDULE OF UNQUANTIFIABLE CONTINGENCIES

There are no unquantifiable contingencies.

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS

as at 30 June 2003

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH

NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS

as at 30 June 2003

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1. Summary of Significant Accounting Policies

1.1 Objectives of ACIAR

The Centre's mission is to achieve more productive and sustainable agricultural systems, for the benefit of developing countries and Australia, through international agricultural research partnerships. Developing countries are the major beneficiaries but there are also spin-offs for Australia. To achieve this goal, ACIAR facilitates and supports bilateral and multilateral research and development activities in a broad range of agricultural areas, including crops, animals, fisheries, forestry, land and water resources management, post-harvest technology, and economic studies of agricultural and natural resource utilisation.

The Centre is structured to meet one outcome:

Agriculture in developing countries and Australia is more productive and sustainable as a result of better technologies, practices, policies and systems.

The outcome is identified under two outputs:

- Collaborative research that addresses agricultural and natural resource management problems of developing countries and Australia.

- Trained researchers in developing countries and Australia.

1.2 Basis of Accounting

The financial statements are required by section 49 of the *Financial Management and Accountability Act 1997* and are a general purpose financial report.

The statements have been prepared in accordance with:
- Finance Minister's Orders (or FMOs, being the *Financial Management and Accountability (Financial Statements for reporting periods ending on or after 30 June 2003) Orders)*;
- Australian Accounting Standards and Accounting Interpretations issued by the Australian Accounting Standards Board; and
- Consensus Views of the Urgent Issues Group.

The Statements of Financial Performance and Financial Position have been prepared on an accrual basis and are in accordance with historical cost convention, except for certain assets which, as noted, are at valuation. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

Assets and liabilities are recognised in the Statement of Financial Position when and only when it is probable that future economic benefits will flow and the amounts of the assets and liabilities can be reliably measured. However, assets and liabilities arising under agreements equally proportionately unperformed are not recognised unless required by an Accounting Standard. Liabilities and assets which are unrecognised are reported in the Schedule of Commitments.

Revenues and expenses are recognised in the Statement of Financial Performance when and only when the flow or consumption or loss of economic benefits has occurred and can be reliably measured.

The Centre is a Statutory Authority under the *Australian Centre for International Agricultural Research Act 1982*. The accounts have been prepared in accordance with that Act.

ACIAR is dependent on appropriations from the Parliament of the Commonwealth for its continued existence and ability to carry out its normal activities.

1.3 Changes in Accounting Policy

Changes in accounting policy have been identified in this note under their appropriate headings.

1.4 Revenue

The revenues described in this Note are revenues to the core operating activities of the Centre.

Revenues from Government - Appropriations

Departmental outputs appropriation for the year is recognised as revenue.

Resources Received Free of Charge

Services received free of charge are recognised as revenue when and only when a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Other Revenue

Interest revenue is recognised on a proportional basis taking into account the interest rates applicable to the financial assets.

All other revenue is recognised when it is probable that the inflow of future economic benefits has occurred and they can be measured reliably.

1.5 Transactions with the Government as Owner

Capital Use Charge

A Capital Use Charge of 11% (2002 : 11%) is imposed by the Government on departmental net assets of the Agency at year end. The net assets figure is adjusted to take account of asset gifts and revaluation increments during the financial year. The charge is accounted for as a dividend to Government.

In accordance with the recommendations of a review of Budget Estimates and framework, the Government has decided that the charge will not operate after 30 June 2003.

1.6 Grants

The Centre makes grant payments under the *Australian Centre for International Agricultural Research Act 1982*.

All grant agreements require the grantee to perform services or provide facilities, or to meet eligibility criteria. In these cases, liabilities are recognised only to the extent that the services required have been performed or the eligibility criteria have been satisfied by the grantee. (Where grants moneys are paid in advance of performance or eligibility, a prepayment is recognised.)

1.7 Employee Entitlements

Leave

The liability for employee entitlements includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by employees of the Centre is estimated to be less than the annual entitlement for sick leave.

The liability for annual leave reflects the value of total annual leave entitlements of all employees at 30 June 2003 and is recognised at its nominal amount.

The long service leave liability for 2002-2003 has been calculated using a shorthand methodology using the following probability weightings for each band of completed years from years one to ten:

Completed Years of Service	Probability Weight
0-1	0.5
1-2	0.6
2-4	0.7
4-6	0.8
6-8	0.9
8+	1.0

The liability reflects the future cash outflows in net present terms by applying a 5% discount factor.

For annual leave the maximum of four weeks is recognised as a current liability. The balance of annual leave is treated as non-current.

The non-current portion of the liability for long service leave is recognised and measured at the present value of the estimated future cash flows to be made in respect of all employees at 30 June 2003. In determining the present value of the liability, attrition rates and pay increases through promotion and inflation have been taken into account.

Separation and Redundancy
No provision is made for separation and redundancy payments as the Agency has not formally identified any positions as excess to requirements.

Superannuation
Employees contribute to the Commonwealth Superannuation Scheme and the Public Sector Superannuation Scheme. Employer contributions amounting to $543,829 (2001-2002: $534,733) in relation to these schemes have been expensed in these financial statements.

No liability for superannuation is recognised as at 30 June as the employer contributions fully extinguish the accruing liability, which is assumed by the Commonwealth.

1.8 Leases
A distinction is made between finance leases which effectively transfer from the lessor to the lessee substantially all the risks and benefits incidental to ownership of leased non-current assets and operating leases under which the lessor effectively retains substantially all such risks and benefits.

Where a non-current asset is acquired by means of a finance lease, the asset is capitalised at the present value of minimum lease payments at the inception of the lease and a liability recognised for the same amount. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a basis which is representative of the pattern of benefits derived from the leased assets.

1.9 Borrowing Costs
All borrowing costs are expensed as incurred except to the extent that they are directly attributable to qualifying assets, in which case they are capitalised. The amount capitalised in a period does not exceed the amounts of costs incurred in that period.

1.10 Cash

Cash means notes and coins held and any deposits held at call with a bank or financial institution.

1.11 Financial Instruments

Accounting policies for financial instruments are stated at Note 19.

1.12 Acquisition of Assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken.

1.13 Property, Plant and Equipment

Asset Recognition Threshold

Purchases of property, plant and equipment are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $2,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

Revaluations

Infrastructure, plant and equipment have been revalued in accordance with the 'fair value' principles.

All infrastructure, plant and equipment assets were revalued in June 2003. The revaluation process was performed by the Australian Valuation Office.

There was no significant variation between the depreciated replacement value and their fair value. Accordingly, all assets are shown separately at their gross value and related accumulated depreciation.

Recoverable Amount Test

From 1 July 2002, the Schedule 1 no longer requires the application of the recoverable amount test in Australian Accounting Standard AAS 10 Recoverable Amount of Non-Current Assets to the assets of agencies when the primary purpose of the asset is not the generation of net cash inflows.

No property plant and equipment assets have been written down to recoverable amount per AAS 10. Accordingly, the change in policy has had no financial effect.

Depreciation and Amortisation

Depreciable property plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the Centre using, in all cases, the straight line method of depreciation.

Depreciation/amortisation rates (useful lives) and methods are reviewed at each balance date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate. Residual values are re-estimated for a change in prices only when assets are revalued.

Depreciation and amortisation rates applying to each class of depreciable asset are based on the following useful lives.

	2003	2002
Plant and equipment	5-10 years	5-10 years
Computer Equipment	3 - 5 years	3 – 5 years
Intangibles	5-10 years	5-10 years

The aggregate amount of depreciation allocated for each class of asset during the reporting period is disclosed in Note 8.

1.14 Intangibles

From 1 July 2002, Schedule 1 no longer requires the application of the recoverable amount test in Australian Accounting Standard AAS 10 *Recoverable Amount of Non-Current Assets* to the assets when the primary purpose of the asset is not the generation of net cash inflows.

However Schedule 1 now requires such assets, if carried on the cost basis, to be assessed for indications of impairment. The carrying amount of impaired assets must be written down to the higher of its net market selling price or depreciated replacement cost.

All software assets were assessed for impairment as at 1 July 2002. None were found to be impaired.

Intangibles consist of software and are amortised over their useful lives, which range from 5 to 10 years.

1.15 Taxation

The Centre is exempt from all forms of taxation except fringe benefits tax and the goods and services tax.

1.16 Insurance

The Centre has insured for risks through the Government's insurable risk managed fund called 'Comcover'. Workers compensation is insured through Comcare Australia.

1.17 Comparative Figures

Comparative figures have been adjusted to conform to changes in presentation in these financial statements where required.

1.18 Rounding

All amounts in these statements are shown in whole dollars.

2. Events Occurring after Balance Date

There are no foreseeable financial effects of events or transactions after the reporting date which could materially affect Centre's financial position or operating performance for the next reporting period.

AUSTRALIAN CENTRE FOR INTERNATIONAL AGRICULTURAL RESEARCH
NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS
for the year ended 30 June 2003

3. Operating Revenues

	2003	2002
	$	$
3A - Revenues from Government		
Appropriations for outputs	**46,278,000**	45,369,000
Resources received free of charge	**20,000**	20,000
Total revenues from government	**46,298,000**	45,389,000
3B - Goods and Services		
Goods	**25,676**	24,832
Total sales of goods and services	**25,676**	24,842
Provision of goods to:		
Related entities	**-**	-
External entities	**25,676**	24,832
Total sales of goods	**25,676**	24,832
Costs of sales of goods	**12,509**	12,041
3C - Interest revenue		
Interest on deposits	**37,549**	295,828
3D - Net Gain / (Loss) from Sale of Assets		
Infrastructure, plant & equipment:		
Proceeds from disposal	**200**	15,581
Net book value of assets disposed	**10,020**	11,979
Net gain / (loss) from disposal of infrastructure, plant and equipment	**(9,820)**	3,602
3E - External Funds Revenues		
AusAID contributions	**2,543,340**	1,612,940
Industry contributions	**160,000**	10,000
Total	**2,703,340**	1,622,940

4. Operating Expenses - Administration

	2003 **$**	2002 $
4A - Employee Expenses		
Wages and Salary	**3,954,684**	3,944,599
Superannuation	**547,692**	534,733
Leave and other entitlements	**166,171**	220,002
Separation and redundancies	**4,058**	-
Other employee expenses	**138,641**	137,161
Total employee benefits expense	**4,811,246**	4,836,495
Worker compensation premiums	**15,282**	9,130
Total employee expenses	**4,826,528**	4,845,625
4B - Supplier Expenses		
Goods from related entities	**1,286**	785
Goods from external entities	**254,910**	123,388
Services from related entities	**477,670**	509,398
Services from external entities	**2,247,497**	2,087,616
Operating lease rentals*	**546,506**	520,669
Total	**3,527,870**	3,241,855

* These comprise minimum lease payments only.

4C - Depreciation and Amortisation		
Depreciation		
Other infrastructure, plant and equipment	**213,407**	179,115
Amortisation		
Intangibles - Computer Software	**58,740**	53,597
Leased assets	**-**	4,348
Total Amortisation	**58,740**	57,945
Total depreciation and amortisation	**272,147**	237,060
Leasehold improvements	**38,930**	38,915
Plant and equipment	**174,477**	144,548
Intangibles	**58,740**	53,597
Total depreciation and amortisation	**272,147**	237,060

5. Operating Expenses - Grants

	2003	2002
5A - Grants	$	$
Non-profit institutions	**26,579,160**	24,443,170
Overseas entities	**9,812,146**	10,381,778
Total grants	**36,391,306**	34,824,948
5B - Other Programme Expenditure		
Training	**2,511,394**	2,025,317
Communications research	**677,908**	859,137
Other research	**1,683,581**	1,960,365
Total other programme expenditure	**4,872,883**	4,844,819

6. Borrowing Cost Expenses

Finance charges on lease liabilities	-	468
Total borrowing costs expense	-	468

7. Financial Assets

7A - Cash		
Cash on hand:		
Special Account	**456,460**	1,023,231
7B - Receivables		
Goods and services	**31,517**	30,593
Other Debtors	**12,509**	49,544
	44,026	80,137
GST receivable from the Australian Taxation Office	**330,297**	515,235
Cash held in OPA	**724,954**	-
Total receivables	**1,099,277**	595,372

All receivables are current assets.

Receivables (gross) are aged as follows:		
Not overdue	**1,088,814**	290,988
Overdue by:		
Less than 30 days	**7,110**	286,500
30 to 60 days	**180**	5,462
60 to 90 days	**-**	-
More than 90 days	**3,173**	12,422
	10,463	304,384
Total Receivables (gross)	**1,099,277**	595,372

8. Non-Financial Assets

	2003 $	2002 $
8A - Infrastructure, Plant and Equipment		
Plant and equipment - at 2002-2003 valuation	**1,590,945**	1,306,688
Accumulated depreciation	**(755,659)**	(612,353)
Total Infrastructure, Plant and Equipment (non-current)	**835,286**	694,335

All valuations are independent and are conducted in accordance with the revaluation policy stated at Note 1.

8B - Intangibles		
Computer software		
Purchased computer software	**403,347**	332,056
Accumulated amortisation	**(226,916)**	(178,089)
Total Intangibles	**176,431**	153,967

8C - Analysis of Property, Plant, Equipment and Intangibles

TABLE A
Reconciliation of the opening and closing balances of property, plant and equipment and intangibles

ITEM	**Infrastructure, Plant and Equipment** $	**Computer Software** $	**TOTAL** $
As at 1 July 2002			
Gross book value	1,306,688	332,056	**1,638,744**
Accumulated depreciation / amortisation	(612,353)	(178,089)	**(790,442)**
Net book value	694,335	153,967	**848,302**
Additions			
by purchase	359,790	85,790	**445,580**
Net revaluation increment / (decrement)	-	-	**-**
Depreciation / amortisation expense	(213,407)	(58,740)	**(272,147)**
Recoverable amount write-downs	-	-	**-**
Disposals	(5,432)	-	**(5,432)**
Write-off	-	(4,587)	**(4,587)**
As at 30 June 2003			
Gross book value	**1,590,945**	**403,347**	**1,994,292**
Accumulated depreciation / amortisation	**(755,659)**	**(226,916)**	**(982,575)**
Net book value	**835,286**	**176,431**	**1,011,717**

8. Non-Financial Assets – cont.

TABLE B
Assets at valuation

ITEM	Infrastructure, Plant and Equipment $	Computer Software $	TOTAL $
As at 30 June 2003			
Gross book value	1,590,945	-	**1,590,945**
Accumulated depreciation/amortisation	(755,659)	-	**(755,659)**
Net book value	835,286	-	**835,286**
As at 1 July 2002			
Gross value	1,306,688	-	**1,306,688**
Accumulated depreciation/amortisation	(612,353)	-	**(612,353)**
Net book value	694,335	-	**694,335**

8D - Prepayments	**2003** $	2002 $
Employees	**2,057**	16,390
Suppliers	**115,217**	105,062
Grants	**-**	199,377
Other program expenditure	**-**	80,706
Total	**117,275**	401,535

All other non-financial assets are current assets.

9. Provisions

	2003	2002
9A - Capital Use Charge Provision	**$**	$
Capital Use Charge	**-**	32,000
Balance owing 1 July	**32,000**	7,000
Capital Use Charge provided during the period	**-**	32,000
Capital Use Charge paid	**(32,000)**	(7,000)
Balance owing 30 June	**-**	32,000

The capital use charge provision is a current liability.

9B - Employee Provisions		
Salaries and wages	**144,659**	140,584
Superannuation	**19,446**	14,109
Leave	**1,529,625**	1,450,973
Separations and redundancies	**-**	-
Aggregate employee entitlement liability	**1,693,730**	1,605,666
Workers' compensation	**-**	-
Aggregate employee entitlement liability and related on-costs	**1,693,730**	1,605,666
Current	**801,963**	793,798
Non-current	**891,767**	811,868

10. Payables

10A - Supplier Payables		
Trade creditors	**97,234**	77,772
10B - Grants Payables		
Non-profit institutions		
ACIAR Projects	**260,818**	68,376
AusAID Funded Projects	**350,000**	0
	610,818	68,376
10C - Other Programme Payables		
Research Activities	**57,752**	127,291
Research Publications	**50,421**	83,852
Total other programme payables	**108,173**	211,143

All payables are current liabilities.

11. Equity

ITEM	Accumulated Results		Asset Revaluation Reserves		TOTAL EQUITY	
	2003	2002	**2003**	2002	**2003**	2002
	$	$	$	$	$	$
Opening balance as at 1 July	**873,484**	1,536,567	**-**	-	**873,484**	1,536,567
Net surplus/deficit	**(698,709)**	(631,083)	**-**	-	**(698,709)**	(631,083)
Net revaluation increment/(decrement)	**-**	-	**-**	-	**-**	-
Decrease in retained surpluses on application of transitional provisions in accounting standard AASB 1041 *Revaluation of Non-current Assets*	**-**	-	**-**	-	**-**	-
Transactions with owner:						
Distribution to owner:						
Returns of Capital						
Dividends	**-**	-	**-**	-	**-**	-
Capital Use Charge	**-**	(32,000)	**-**	-	**-**	(32,000)
Returns of Capital						
Restructuring	**-**	-	**-**	-	**-**	-
Returns of contributed equity	**-**	-	**-**	-	**-**	-
Contributions by owner:						
Appropriations (equity injections)	**-**	-	**-**	-	**-**	-
Restructuring	**-**	-	**-**	-	**-**	-
Transfers to/(from)/between reserves	**-**	-	**-**	-	-	-
Closing balance as at 30 June	**174,775**	873,484	**-**	-	**174,775**	873,484
Less: outside equity interests	**-**	-	**-**	-	**-**	-
Total equity attrributable to the Commonwealth	**174,775**	**873,484**	**-**	**-**	**174,775**	873,484

12. Cash Flow Reconciliation

	2003 $	2002 $
Reconciliation of cash per Statement of Financial Position to Statement of Cash Flows		
Cash at year end per Statement of Cash Flows	**456,460**	1,023,231
Statement of Financial Position items comprising above cash: 'Financial Asset - Cash'	**456,460**	1,023,231
Reconciliation of net surplus to net cash from operating activities:		
Net surplus/(deficit)	**(698,709)**	(631,083)
Depreciation/amortisation	**272,147**	237,060
Gain on disposal of assets	**-**	(3,602)
Loss on sale of assets	**9,820**	-
(Increase)/decrease in net receivables	**(466,979)**	(150,213)
(Increase)/decrease in prepayments	**284,261**	(283,843)
Increase/(decrease) in supplier payables	**(83,509)**	(14,313)
Increase/(decrease) in employee provisions	**88,064**	148,367
Increase/(decrease) in grants payable	**542,442**	(272,012)
Net cash from / (used by) operating activities	**(52,462)**	(969,639)

13. Remote Contingencies

There are no remote contingencies.

14. Executive Remuneration

The number of executives who received or were due to receive total remuneration of $100,000 or more:

	Number	
$150,001 - $160,000	**1**	1
$160,001 - $170,000	**-**	1
$170,001 - $180,000	**1**	-
$180,001 - $190,000	**-**	1
$220,001 - $230,000	**1**	**-**
	3	**3**

	2003	2002
The aggregate amount of total remuneration of executives shown above.	**$554,101**	$500,727

The executive remuneration includes all officers concerned with or taking part in the management of the economic entity during 2002-03 including the Director.

15. Remuneration of Auditors

	2003	2002
	$	**$**
Financial statement audit services are provided free of charge to ACIAR.		
The fair value of the services provided was:	**20,000**	20,000

No other services were provided by the Auditor-General.

16. Average Staffing Levels

The average staffing levels for the Centre in 2002-2003 were 48 (45.7 FTE) (2001-2002 : 53 (49.6 FTE)). A number of contract and locally engaged staff are engaged in Australian overseas missions. In 2002–03 the number was 20 (18.8 FTE) (2001–02 : 20 (19 FTE)).

17. Act of Grace Payments, Waivers and Defective Administration Scheme

No 'Act of Grace' payments were made during the reporting period, and there are no amounts owing as at year end.

No waivers of amounts owing to the Commonwealth were made pursuant to subsection 34(1) of the *Financial Management and Accountability Act 1997*.

No payments were made under the Defective Administration Scheme during the reporting period.

18. Financial instruments

18A - Terms, Conditions and Accounting Policies

Financial instrument	Notes	Accounting Policies and Methods (including recognition criteria and measurement basis)	Nature of Underlying Instrument (including significant terms & conditions affecting the amount, timing and certainty of cash flows)
Financial Assets		Financial assets are recognised when control over future economic benefits is established and the amount of the benefit can be reliably measured.	
Receivables for goods and services	7B	These receivables are recognised at the nominal amounts due less any provision for bad and doubtful debts. Collectability of debts is reviewed at balance date. Provisions are made when collection of the debt is judged to be less rather than more likely.	Settlement is net 30 days or less.
Other Debtors	7B	As for receivables for goods and services.	As for receivables for goods and services
Financial Liabilities		Financial liabilities are recognised when a present obligation to an external party occurs and is reliably measurable.	
Trade creditors	10A	Creditors and accruals are recognised at their nominal amounts which are the amounts at which the liabilities will be settled. They are recognised to the extent that the related goods or services have been received.	Settlement is net 30 days or less.
Grant liabilities	10B	The Centre recognises grant liabilities only to the extent that (I) the services required to be performed by the grantee have been performed or (ii) the grant eligibility criteria have been satisfied.	The Centre approves research grants for maximum periods of up to 5 years. Grant payments are made in instalments according to the grantee meeting agreed milestones and subject to funds being appropriated annually by Parliament.

18. Financial Instruments – cont.

18B - Interest Rate Risk

				Fixed Interest Rate Maturing In			
		Floating Interest Rate		1 year or less		1 to 2 years	
Financial Instrument	Notes	**2003** $	2002 $	**2003** $	2002 $	**2003** $	2002 $
Financial Assets							
Cash at bank	7A	**-**	-	**-**	-	**-**	-
Receivables	7B	**-**	-	**-**	-	**-**	-
Total		**-**	-	**-**	-	**-**	-
Financial Liabilities							
Suppliers	10A	**-**	-	**-**	-	**-**	-
Grants	10B	**-**	-	**-**	-	**-**	-
Other program expenditure	10C	**-**	-	**-**	-	**-**	-
Total		**-**	-	**-**	-	**-**	-

		Non-Interest Bearing		Total		Weighted Average Effective Interest Rate	
Financial Instrument		**2003** $	2002 $	**2003** $	2002 $	**2003** %	2002 %
Financial Assets							
Cash at bank	7A	**456,460**	1,023,231	**456,460**	1,023,231	**n/a**	n/a
Receivables	7B	**1,099,277**	595,372	**1,099,277**	595,372	**n/a**	n/a
Total		**1,555,737**	1,618,603	**1,555,737**	1,618,603	**n/a**	n/a
Total Assets				**2,684,729**	2,868,441		
Financial Liabilities							
Suppliers	10A	**97,234**	77,772	**97,234**	77,772	**n/a**	n/a
Grants	10B	**610,818**	68,376	**610,818**	68,376	**n/a**	n/a
Other program expenditure	10C	**108,173**	211,143	**108,173**	211,143	**n/a**	n/a
Total		**816,224**	357,291	**816,224**	357,291	**n/a**	n/a
Total Liabilities				**2,509,954**	1,994,957		

18. Financial Instruments – cont.

18C - Net Fair Values of Financial Assets and Liabilities

		2003		2002	
		Total Carrying Amount	**Aggregate Net Fair Value**	Total Carrying Amount	Aggregate Net Fair Value
		$	**$**	$	$
Departmental	**Notes**				
Financial Assets					
Cash at bank	7A	**456,460**	**456,460**	1,023,231	1,023,231
Receivables	7B	**1,099,277**	**1,099,277**	595,372	595,372
Total Financial Assets		**1,555,737**	**1,555,737**	1,618,603	1,618,603
Financial Liabilities					
Suppliers	10A	**97,234**	**97,234**	77,772	77,772
Grants	10B	**610,818**	**610,818**	68,376	68,376
Other programme expenditure	10C	**108,173**	**108,173**	211,143	211,143
Total Financial Liabilities		**816,224**	**816,224**	357,291	357,291

18D - Credit Risk Exposures

The economic entity's maximum exposures to credit risk at reporting date in relation to each class of recognised financial assets are the carrying amounts of those assets as indicated in the Statement of Financial Performance.

The economic entity has no significant exposures to any concentrations of credit risk.

19. Appropriation

19A - Cash Basis Acquittal of Appropriation from Acts 1 and 3

Particulars	Departmental Outputs	
	2003	2002
	$	$
Year ended 30 June 2003		
Balance carried from previous year	**1,023,231**	336,262
Appropriation for reporting period (Act 1)	**46,278,000**	45,369,000
Appropriation for reporting period (Act 3)	**-**	-
GST credits (FMA s 30A)	**2,762,612**	2,327,016
Other annotations – revenue credited to Special Account	**3,588,976**	2,157,225
Available for payments	**53,652,819**	50,189,503
Payments made	**53,196,359**	49,166,272
Appropriations credited to Special Accounts	**0**	0
Balance carried to next year	**456,460**	1,023,231
Represented by:		
Cash	**456,460**	1,023,231
Add : Receivables - Goods and Services	**-**	-
Less : Other Payables - Net GST payable to ATO	**-**	-
Less : Payable - Suppliers - GST Portion	**-**	-
Total	**456,460**	1,023,231

19. Appropriation – Cont.

19B - Special Account

Legal authority: Financial Management and Accountability Act, 1997; s21
Purpose: for the receipt of all moneys and payment of all expenditure related to the operations of ACIAR

Particulars	Departmental	
	Outputs	
	2003	2002
	$	$
Balance carried from previous year	**1,023,231**	2,240,766
Appropriations for reporting period	**46,278,000**	45,369,000
Receipts from other sources	**3,588,976**	2,157,225
GST credits (FMA s30A)	**2,762,612**	2,327,016
Available for payments	**53,652,819**	52,094,007
Payments made	**53,196,359**	51,070,776
Balance carried to next year	**456,460**	1,023,231

ACIAR has an *Other Trust Monies Special Account* and a *Services for other Governments and Non-Agency Bodies Account*. For the years ended 30 June 2003 and 30 June 2002, both special accounts had nil balances and there were no transactions debited or credited to them.

The purpose of the *Other Trust Monies Special Account* is for expenditure of moneys temporarily held on trust or otherwise for the benefit of a person other than the Commonwealth.

The purpose of the *Services for other Government And Non-Agency Bodies Special Account* is for expenditure in connection with services performed on behalf of other Governments and bodies that are not under the *Financial Management and Accountability Act 1997*.

20. Reporting of Outcomes

ACIAR costs have been attributed between the two outputs on the basis of direct programme expenditure and salary costs plus a proportion of other running costs based on staff numbers. The basis of attribution in this table is consistent with the basis used for the 2002–03 Budget.

20A - Net Cost of Outcome Delivery

	Outcome 1	
	2003	2002
	$	$
Departmental expenses	**49,900,754**	48,006,754
Total expenses	**49,900,754**	48,006,754
Cost recovered from provision of goods and services to the non-government sector		
Departmental	**25,676**	24,832
Total cost recovered	**25,676**	24,832
Departmental revenues		
Interest on cash desposits	**37,549**	295,828
Revenue from disposal of assets	**200**	15,581
Other	**137,280**	27,490
Goods and Services Revenue from Related Entities	**2,703,340**	1,622,940
Total other external revenues	**2,878,369**	1,961,839
Net cost/(contribution) of outcome	**46,996,709**	46,020,083

20. Reporting of Outcomes – cont.

20B - Major Classes of Departmental Revenues and Expenses by Output Group

Outcome 1	Output 1.1		Output 1.2		Total	
	2003	2002	**2003**	2002	**2003**	2002
	$	$	**$**	$	**$**	$
Departmental expenses						
Employees	**4,613,593**	4,569,870	**212,935**	275,755	**4,826,528**	4,845,625
Suppliers	**3,371,787**	3,241,855	**156,083**	-	**3,527,870**	3,241,855
Depreciation	**260,141**	237,060	**12,006**	-	**272,147**	237,060
Grants	**36,391,306**	34,824,948	**-**	-	**36,391,306**	34,824,948
Other Program Expenditure	**2,361,489**	2,807,599	**2,511,394**	2,037,220	**4,872,883**	4,844,819
Other	**10,020**	12,447	**-**	-	**10,020**	12,447
Total departmental expenses	**47,008,336**	45,693,779	**2,892,418**	2,312,975	**49,900,754**	48,006,754
Funded By:						
Revenues from government	**43,700,000**	42,806,000	**2,598,000**	2,583,000	**46,298,000**	45,389,000
Sale of goods and services	**25,676**	24,832	**-**	-	**25,676**	24,832
Other non-taxation revenue	**2,878,369**	1,949,860	**-**	-	**2,878,369**	1,961,839
Total departmental revenues	**46,604,045**	44,780,692	**2,598,000**	2,583,000	**49,202,045**	47,375,671

Tracking performance

Vision

ACIAR looks to a world where poverty has been reduced and the livelihoods of many improved through more productive and sustainable agriculture emerging from collaborative international research

Mission

To achieve more productive and sustainable agricultural systems, for the benefit of developing countries and Australia, through international agricultural research partnerships

Outcome

Agriculture in developing countries and Australia is more productive and sustainable as a result of better technologies, practices, policies and systems

Tracking performance against the 2001–06 Corporate Plan

Critical success factors	Key performance indicators	Performance 2002–03
1. Research outputs (including agricultural policy analyses) that clearly align with improvements to productivity and sustainability of agricultural systems	• Evidence of uptake and use of research outputs	• External impact assessments conducted during 2002–03 of benefits from ACIAR-supported research demonstrated: – benefits valued at $238 million on managing herbicide-resistant weeds and zero-tillage in rice–wheat areas of north-western India; – significant impact of ACIAR involvement in demonstrating the poverty-reduction benefits of the Mama Lus Frut card scheme on smallholder palm oil plantations in PNG; – a 70% return on investment in establishment of diagnostic capacity for Foot and Mouth Disease in Thailand, Laos and China; and – continuing benefits to subsistence growers and urban consumers in PNG from application of earlier ACIAR research on biological control of banana skipper. • Other evidence of uptake and use of ACIAR project research outputs obtained during 2002–03 includes: – Chinese Ministry of Agriculture to scale up a conservation tillage initiative targeting 12 million ha of the Loess plateau, as a direct result of an earlier ACIAR project; – widespread introduction of genetics from Australian Yorkshire and Duroc pig breed crossed with local breeds through semen distributed to artificial insemination centres in Vietnam to supply small farmers; – outcomes from integrated ACIAR economic and technical research led to a decision by the Vietnamese Deputy Prime Minister to allow farmers to diversify into shrimp culture in coastal areas; – development of village-level pest control strategies of major economic fruit fly species of threat to PNG; – ACIAR's Newcastle disease vaccine used widely in Southeast Asia and several African countries; – uptake of ACIAR project research results through a national rodent control program established by the Indonesian rice industry; – in East Timor, lines of improved maize, sweet potato and peanut distributed to farmers providing significant yield increases; – companies in Philippines manufacturing wood-cement boards developed for construction purposes; – improvements to the vessel registration system to increase returns from snapper fisheries to the Indonesian economy; – commissioning of a plant in Gujarat, India to manufacture protected nutrients for dairy cattle feed; and – establishment of backyard hatcheries for producing high-value grouper fish in Bali, Indonesia.

2. Government recognises and values ACIAR as an integral part of the Australian aid program

- Positive feedback from Australian Government

- In 2002–03, we responded to changing Government priorities by adjusting ACIAR's project portfolio in the following areas:
  - Collaborative agricultural R&D opportunities were assessed in Burma and Tibetan Autonomous Region of China, and the first projects designed
  - Africa project portfolio reduced, but a new training initiative developed as part of a broader portfolio initiative
  - Investments in PNG and Pacific increased, and Indonesia maintained as a major partner
- We contributed to Portfolio/Whole-of-Government initiatives. These include contributions to the Ministerial aid statement, water/aid statement, submissions to parliamentary reviews of Australia's role in PNG/Pacific and Indonesia, submissions to establishment of National Research Priorities (and subsequent agency response), submissions to various state government reviews, participation in Department of Agriculture, Fisheries and Forestry (DAFF) policy development in biosafety and plant genetic resources. ACIAR input was invited into the formulation of new AusAID country strategies in Vietnam, Cambodia, Philippines and PNG. Senior staff held meetings with Australian Heads of Mission from over 10 key partner countries.

- Bilateral research resources disbursed on a regional basis within agreed percentage ranges

- The ACIAR Board has set target ranges for our bilateral program. Actual expenditure for 2001–02 and 2002–03 (including AusAID funds) for each target is as follows

	Board target %	*2001–02 as %*	*2002–03 as %*
PNG & Pacific	10-20	13	18
Southeast Asia	50-60	53	48
North Asia	10-20	16	16
South Asia	10-20	12	14
Africa	5-10	5	5
Other		1	1

- Security concerns in Indonesia were a prime reason why outlays in Southeast Asia were below the target range in 2002–03. In January 2003, the Board reduced the target range for Africa from 5-10 per cent to less than 5 per cent, with effect from 2003–04.

- Funding to IARCs reflects their performance and needs and Australia's interests

- From 2002–03, two significant changes were made to ensure that funding to IARCs better reflected their performance and needs and Australia's interests:
  - unrestricted (core) funding was focused on 13 IARCs, in contrast to 17 in 2001–02. These 13 are of particular strategic significance to the Australian aid program. Five of them are located in the Asia-Pacific region. Six of them have special responsibilities for staple crops in the Asia-Pacific region. Most of them have a significant research capability that is either greater than or complementary to Australia's research capability. All have a track record of successful delivery of benefits within the Asia-Pacific region and enthusiastic collaboration with Australian organisations; and
  - restricted (largely project-specific) funding was increased from 37 per cent of total funding to IARCs in 2001–02 to 43 per cent in 2002–03, enabling more targeting towards high quality projects addressing high priority needs.

3. ACIAR's funding base secured, and flexible and realistic project funding arrangements in place	• ACIAR's appropriation at least maintained in real terms	• Appropriation funding to ACIAR in 2002–03 was $46.278m, compared with $45.369m in 2001–02. Research partners contributed 54 per cent of project costs in 2002–03, up from 46 per cent in 2001–02. External contributions to ACIAR in 2002–03 were $1.1m higher than 2001–02 ($2.7m versus $1.6m). These external contributions were largely from AusAID. Overall ACIAR revenue in 2002–03 was $49.202M. The similar figure for 2001–02 was $47.376m.
	• Co-investment by ACIAR and its research partners matches mutual priorities and ability of partners to contribute • Evidence of financial support from other sources for research activities that are development ACIAR	• Strong financial support has been obtained from a number of partners, including: – NGOs, eg World Vision contributed 29 per cent of direct project costs and over $1m in indirect costs in 2002–03 to collaborative projects under alliance with ACIAR; – industry involvement in ACIAR projects continues to increase - including through commissioning of a plant for production of protein baits for fruit flies in Vietnam (Fosters and Aventis), breeding and selection of new cocoa varieties in Indonesia (Mars), application of enzymes in bioremediation (Orica), better wool processing technologies (Woolmark and several Chinese and Indian companies), production of peanuts, sugar and horticultural produce in PNG (Trukai, Ramu, FPDC), in plantation crops in PNG (through oil palm, cocoa and coconut industry associations) and through livestock vaccine and diagnostics companies in Indonesia and Thailand; and – co-investment or parallel investment in ACIAR-developed projects, eg Grains R&D Corporation (Brassica breeding in China and India), Horticulture Australia Limited (control of citrus greening disorder in Indonesia). Other examples include the DAFF New Industries Development Program-supported development of infrastructure for lagoon growout and processing of giant clams in Cocos Islands arising from ACIAR projects, while a World Bank–DANIDA joint project continues research and extension building on initial ACIAR work on shrimp farming in the Mekong Delta.
4. Research priorities established in consultation with key stakeholders in partner countries and Australia, and with regional fora	• Project portfolio matches priorities	• Several new ACIAR projects, including those under development, are responses to approaches for cooperation from partner countries on specific issues of high priority. These include projects on market information systems in Vietnam, land use alternatives in Western China, red-banded mango caterpillar in PNG, Philippines extension systems, prawn stock management in PNG, Cambodian crop diversification, Pacific aquaculture technology and wastewater management in China. ACIAR has responded to partner country priorities, for example, in the following ways: – in Vietnam, by developing new initiatives which build capacity in agricultural policy and R&D planning and address farm income generation; – in China, by ensuring that 75 per cent of new projects have significant Western region components, and investigating opportunities for investment in Tibet AR; – in the Philippines, by ensuring that new and current projects address policy reform and lifting farmers' incomes; – in India, by developing new projects in animal production, livestock product processing, and farm-scale land and water resource management; and by increasing our investment in culture fisheries and agricultural development policy and expanding our overall program with Cambodia.

5. Streamlined, flexible, transparent and accessible project development and approval processes	• Time from start to finish of project development, and streamlining of implementation	• New project reporting guidelines were issued for contracted projects. These new guidelines will ensure that annual and final reports will be presented in a format for web publication. In 2002–03, ACIAR started 42 new bilateral projects and four new multilateral projects. For the seven major partner countries, the average time taken for project development (from first consideration at the in-house review to Director approval) was 13.4 months (15.1 in 2001–02). The average time taken for partner approval (overseas and domestic) was 4.6 months (5.1 in 2001–02). In terms of transparency, ACIAR has a new website (www.aciar.gov.au) with information on current projects, along with priorities and project application documentation.
6. Effective communication with key stakeholders	• Key groups within and outside ACIAR well informed and listened to by ACIAR	• New website developed that acts as a one/first stop mechanism for ACIAR partners. New externally focused Annual Operational Plan developed to provide key information on country strategies, priorities, financial allocations. AOP finalised after consultation with Policy Advisory Council and Australian Heads of Mission. Detailed country-specific consultations that focus on longer-term program directions continued as a vital part of partner communication strategies. In 2002–03, formal consultations were held with Indonesia. At the Federal Government level, continuing dialogue with AusAID, DFAT and Minister. Numerous meetings held with Australian and overseas research partners during 2002–03, and with heads and deputy heads of Australian missions.
	• Others call on ACIAR and project staff for consultation and advice	• Requests by others for involvement of: - the Director in the World Bank Science and Technology/ Poverty study steering group; - the Deputy Director (responsible for R&D) in an external review of SPC's Land Resources Division and in an electronic review of CGIAR research activities; - invited keynote presentations by RPMs and the DDR&D at international meetings on biotechnology and development and on agronomy; - invited involvement of RPMs in the review and design of AusAID projects; and - involvement of RPMs on Rural R&D Corporation Boards and Advisory Committees and on interdepartmental committees.
7. Capacity-building focused on the human resource development needs of collaborators; this includes the effective delivery of project outputs in targeted countries to achieve practical outcomes	• Capacity of partner country and Australian partners to identify and priorities needs and conduct R&D, focus on problem solving, and deliver the results to farmers	• Development of this capacity is inherent in the collaborative approach to designing ACIAR projects, through involvement of partner country scientists in project reviews, and through the conduct of country consultations (in 8/02 these were conducted with Indonesia). ACIAR has also facilitated workshops to identify research priorities – for example with Indonesian fisheries and livestock sectors, and the Chinese forestry sector. Linking developing country research institutes in selected projects to NGOs and industry was a feature of our 2002–03 program in PNG, Thailand, Laos, Indonesia, Vietnam, China and India. • Training courses on research management for developing country project scientists have been delivered in Australia, Vietnam, Indonesia and Fiji, and in research project evaluation in Vietnam and the Philippines. Advice on impact assessment and research evaluation has also been delivered to over 40 Australian project leaders.

8. An appropriately skilled, committed and enthusiastic ACIAR workforce focused on tasks that enhance outputs	• Staff skills match the Centre's needs, training reflects priorities for skills enhancement, staff feel valued and performance is recognised	• An improved process for assessing the impact of ACIAR's projects on poverty reduction was introduced and an in-house workshop held to augment the new procedures and increase the understanding of impact assessment. The priorities for skills enhancement (leadership and management, IT, performance management and teamwork) were met, with increased numbers of staff accessing opportunities through training courses, seminars and relevant conferences. Notwithstanding difficult management challenges, ACIAR staff remain fully committed to ACIAR's mission and vision and the pursuit of excellence. More progress is required on developing ACIAR as a unified team and developing a workplace environment where all staff feel valued.

Tracking performance against the 2002–03 Portfolio Budget Statement

Output	Indicator	Performance 2002–03
1.1 Collaborative research that addresses agricultural and natural resource management problems of developing countries and Australia	*Quality* • Research partners contribute 45-60 per cent of project costs • >90 per cent of projects will receive a favourable external review • The benefit:cost ratio of the investment in ACIAR projects will increase in 2002–03 • Support for multilateral research providers will be concentrated on fewer IARCs with greatest comparative advantage	• In 2002–03, research partners contributed 54 per cent of project costs (up from 46 per cent in 2001–02). • 24 reviews were conducted in 2002–03. Only one project received a negative review. Of the 24 projects reviewed, 17 were extended. • The estimated benefit–cost ratio for ACIAR-funded work to date was 3.40, compared with 2.7 in 2001–02. • 2002–03 was the first year of new funding arrangements for the IARCs. Under these arrangements, we supported 13 IARCs with core funding compared with 17 in 2001–02. These 13 IARCs have a significant involvement in the Asia-Pacific region.

1.2 Trained researchers in development countries and Australia	*Quantity:* • 180-210 research projects will be delivering outputs during 2002–03 • >15 000 publications of ACIAR-supported research will be disseminated	• During 2002–03, ACIAR had 191 active bilateral projects and 30 active multilateral projects. In 2002–03, ACIAR distributed 9052 copies of publications, issued three corporate newsletters and one Partners magazine. In addition, publications downloaded electronically from the website increased significantly. The distribution list for the Newsletter/Partners is 3700. In 2002–03, ACIAR published the Proceedings of three workshops, two Technical Reports, 15 Monographs and four Impact Assessment Series publications. With the re-development of its website, ACIAR expects requests for hard-copy publications to decline as electronic access accelerates.
- ACIAR-supported training	*Quality* • >80 per cent of trainees will indicate satisfaction with training	• Exit surveys carried out at completion of all short training courses, using a 5-point scale, indicated 100 per cent of trainees were satisfied to highly satisfied.
	Quantity: • Number of trainees in formal, ACIAR-supported training courses	• In 2002–03, ACIAR had 50 current John Allwright Fellows of which 16 were new Awards. A new scheme, the John Dillon Fellowships, was introduced in 2002–03. Four Fellowships were awarded. Eight cross-program training courses were held in 2002–03, up from 7 in 2001–02.
- Crawford Fund	*Quality:* • Favourable annual audit report for Crawford Fund	• The Crawford Fund is part of the Australian Academy of Technological Sciences and Engineering and, as such, their accounts are part of the broader Academy audit. Appropriate audit certification was issued for 2001–02, the latest year available to this Annual Report.

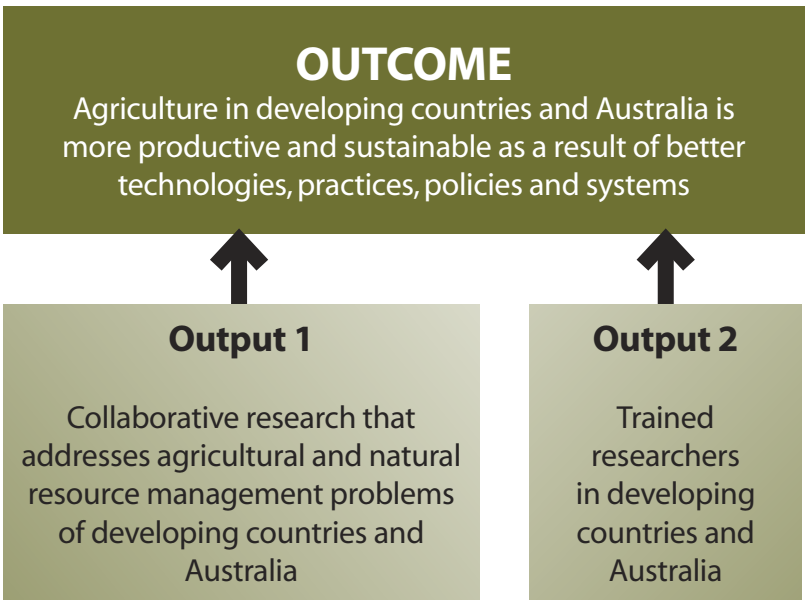
Outcome and outputs framework

ACIAR's outcome, as specified in the Portfolio Budget Statement, describes the Centre's role within the context of Australia's development assistance program.

The achievement of this outcome continues to rely on the contribution of two outputs:

- Output 1 aggregates the activities of bilateral and multilateral research and development (R&D) programs that address the agreed priorities of developing countries; and
- Output 2 focuses on capacity-building activities delivered through formal training of researchers. (In addition to formal training, much training takes place through involvement in R&D projects themselves.)

Outcome and outputs structure



Corporate and operational planning

The Corporate Plan 2001–06 outlines the challenges for ACIAR in regard to its operating environment. The implications of these challenges and the critical success factors in addressing these are spelt out, together with linkages to strategies to meet these challenges. The section 'Tracking performance: against the 2001–06 Corporate Plan' beginning on page 129 reports against these strategies.

In the lead-up to 2003–04, ACIAR has published a formal Annual Operational Plan, to guide external stakeholders through the priority areas for research in partner countries. Key research programs in each country are also identified, creating a two-way management matrix, against which funds are allocated.

Financial performance

The Centre continues to maintain a healthy financial position, having reached an optimal level of cash and equity. During this period ACIAR has further refined its budgeting processes to better manage our suite of projects and constraints to project implementation, such as those arising from uncertainties in security and the SARS outbreak earlier this year.

Price of departmental outcomes

Total resources for Outcome 1

Agriculture in developing countries and Australia is more productive and sustainable as a result of better technologies, practices, policies and systems.

	Actual ($m) 2002–03	Budget Estimate ($m) 2003–04
Departmental appropriations		
Output 1.1 Collaborative research that addresses agricultural and natural resource management problems of developing countries and Australia	43.680	44.333
Output 1.2 Trained researchers in developing countries and Australia	2.598	2.499
Total revenue from government (appropriations)	46.278	46.832
Contribution to price of departmental outputs	94.1%	95.6%
Revenue from other sources		
Total revenue from other sources	2.924	2.160
Total price of departmental outputs (Total revenue from government and from other sources)	49.202	48.992
Total estimated resourcing for outcome (Total price of outputs)	49.202	48.992
	2002–03	2003–04
Average staffing level (EFT number)	48	47

Operational isues and problems

ACIAR has placed great importance on the safety of both its own personnel and project personnel in the uncertain global context. The Centre adheres to the travel advisory updates issued by the Department of Foreign Affairs and Trade.

Some activities in the Democratic People's Republic of Korea have had to be deferred. Concerns related to Zimbabwe continue to constrain project implementation there. Project implementation was slowed in Indonesia following the October 2002 tragedy in Bali; however, considerable progress has been possible in the first half of 2003. The impact of SARS in China also impacted negatively on the progress of several projects. Ongoing security concerns relating to Pakistan and the southern Philippines, especially southern Mindanao, have also slowed progress on some projects.

Reporting against other statutory requirements

The Australian Public Service Framework
Source: Embedding the APS Values, August 2003

Management of human resources

Four year staffing perspective

Staff employed under the Public Service Act

	1999–2000	2000–01	2001–02	2002–03
Staff at 30 June	51	54	53	48
Staff (FTE* at 30 June)	49.6	51.8	49.6	45.7
Base salaries	$3 149 843	$3 211 204	$3 387 216	$3 319 528
Cessations	23	14	12	12
Staff turnover	45.5%	26.9%	22.5%	23.3%
Women	60%	63%	58.5%	56.3%
Part-time	10%	16.7%	17%	14.6%
Non-ongoing	18%	13%	17%	16.7%
Learning and development	$53 768	$66 808	$58 513	$103 898

**Full time equivalent*

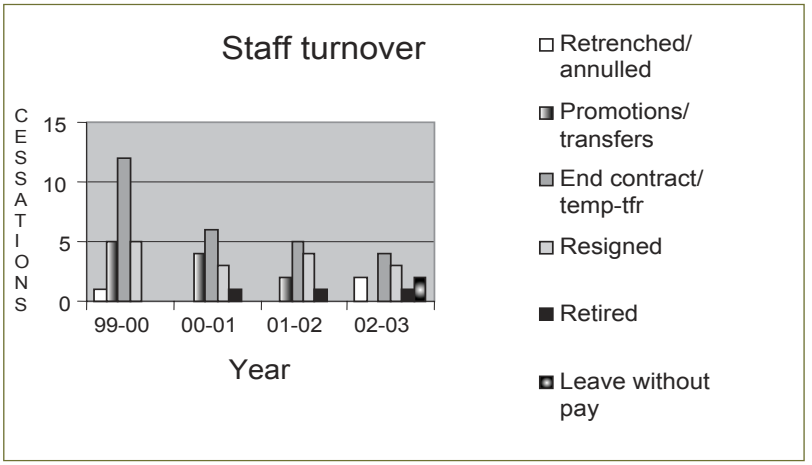
Overseas staff

	1999–2000	2000–01	2001–02	2002–03
Staff (FTE* at 30 June)	19	17	19	18.8
Base salaries	$466 947	$523 897	$551 619	$569 828
Learning and development activities	–	$241	$6900	$8561

**Full time equivalent*

Staff turnover 1999–2003

	1999–2000	2000–01	2001–02	2002–03
Retrenched/annulled	1			2
Promotions/ transfers	5	4	2	
End contract/ temporary transfer	12	6	5	4
Resigned	5	3	4	3
Retired		1	1	1
Leave without pay				2
Total	23	14	12	12



At 30 June 2003 the Centre employed 68 employees, of whom 48 are employed under the Public Service Act 1999 and are located in Canberra and 20 are at overseas missions. There are also four people who provide services under contract for the Fisheries Program, based in New South Wales. Staffing statistics and EEO data as at 30 June 2003 are provided at Appendix 4.

ACIAR's 3rd Certified Agreement

ACIAR's 3rd Certified Agreement (CA) was approved by the Australian Industrial Relations Commission on 1 August 2002, with a 12.5 per cent (compounded) salary increase to be paid over the three years of the agreement. These salary increases are paid from offsetting savings which were met in 2002–03. See Appendix 4 for futher details. The new CA introduced a new performance management scheme and a revised Recognition and Reward scheme. The CA also brought into effect a new bonus scheme based on the performance of the organisation. Details are below. Two SES employees and three non-SES employees are covered by Australian Workplace Agreements (AWAs).

Performance Development and Appraisal Scheme (PDAS)

The new simplified scheme, introduced as part of the new Certified Agreement, dispensed with individual bonuses and double increments. The scheme changed from a four-point to a five-point rating scale of performance during the financial year. Employees rated as Competent, Superior or Outstanding receive an increment (where they are not on top of a salary range). In the cycle concluded in June 2003 there were 48 completed assessments, including 2 SES employees. Five non-SES employees were rated as outstanding, 26 employees as superior and 17 as competent. Of the 48 employees rated as competent or higher, 22 were advanced one salary point. There were no employees rated as unsatisfactory or requiring development.

Bonus for performance of organisation

Eligible employees (those rated as competent or above and who had worked for ACIAR for at least six months) received a bonus of $650, or

a pro rata payment for part-time employees, in recognition of ACIAR's achievements against the 2002-2003 Operational Plan. The decision on bonuses was agreed to by the Director following consultation with the ACIAR Consultative Committee. Total payments, separate from those made under the individual and team Recognition and Reward scheme, totaled $29 735.

Recognition and Reward Scheme

The Recognition and Reward Scheme was amended during the CA negotiations. As well as peer nomination of teams and individual employees for the annual excellence awards, the scheme now includes recognition and reward for those employees who are rated as outstanding in their annual performance appraisal.

The total value of the non-cash rewards under the Recognition and Reward scheme is up to $40 000 per year. This figure was agreed to as part of the negotiations for the CA.

In December 2002 the Director presented plaques to two country office teams and six Canberra staff who were nominated by their peers under the categories of Outstanding Performance, Leadership and Innovation and/or Beyond the Call. Non-cash rewards valued at $12 000 were awarded to these staff for professional and/or personal development. Five staff were also eligible for such rewards, valued at $1500 per person, after each received an outstanding rating in their Performance Appraisals for the 2002–03 financial year.

Performance pay (for performance in 2002–03)

	Number receiving bonus	Average bonus payment	Aggregate bonus payment
Bonus payments for organisation's performance	50*	$595	$29 735
Total			$29 735

**To eligible employees – those rated competent or higher in their annual performance assessment and having worked for ACIAR for six months. In addition, six employees in Australia and two overseas office teams received non-cash awards valued at a total of $12 000 for exceptional performance (see paragraph above titled Recognition and Reward Scheme). Five employees in Australia were also eligible to receive non-cash awards valued at $1500 each for receiving outstanding individual performance ratings for the 2002–03 year.*

Training and development

ACIAR spent $103 898 on learning and development opportunities for its Canberra-based employees, an average of $2164 per employee. This figure does not include in-house training/workshops conducted by consultants or other ACIAR staff, or the attendance of research staff at conferences and seminars in Australia and overseas. ACIAR provides studies assistance for formal education. Staff are also encouraged to take up broader development opportunities, such as temporary secondment to affiliated organisations.

In addition to meeting the individual learning needs of its employees, ACIAR identified a number of organisational learning and development priorities which were addressed during the year. They included performance management, team building, leadership and IT development.

Occupational Health and Safety (OHS)

There were no accidents or dangerous occurrences giving rise to issue of any notices or directions under the OHS *(Commonwealth Employment) Act 1991*. There was one injury whilst on duty overseas for which liability was accepted, and there are two longer-term ongoing cases.

Two new members were elected to the OHS Committee to replace members who left ACIAR. The committee reported a number of matters to the ACC which were endorsed for attention. Two new First Aid Officers were also appointed, following training and certification by St Johns Ambulance.

The Certified Agreement provides for annual health assessments and flu injections for employees. Over half the staff took the opportunity to receive free flu injections prior to the onset of winter, and a large number of staff participated in the annual health assessment program. ACIAR moved to ensure that staff travel to areas affected by SARS did not occur until the areas were declared SARS free. Precautionary measures were also available for staff transiting through countries in which SARS alerts were current. Workstation assessments are provided to all new employees by a qualified ergonomist/physiotherapist.

ACIAR employees have access to a free Employee Assistance Program (EAP) that provides professional counselling services to management and staff.

Commonwealth Disability Strategy (CDS)

The following information is provided to meet reporting requirements under the CDS in ACIAR's Employer and Provider Roles.

As an employer, ACIAR remains committed to ensuring that all people seeking employment with us are treated fairly and have access to employment opportunities.

People with disabilities are encouraged to identify their disability in their application for employment to ensure that the selection process accommodates any special needs they might have. Recruitment processes require selection panels to make provision for the needs of applicants with disabilities. The recruitment page on ACIAR's internet site provides guidance and assistance to people seeking employment with ACIAR.

Workplace Diversity Plan

ACIAR's Workplace Diversity Plan 2003-2006 was launched in June 2003 and reflects ACIAR's continuing commitment to workplace diversity in its Certified Agreements, corporate plans and strategic planning and review processes.

ACIAR's Certified Agreement and HR policies emphasise and encourage a balance between work and private life, and the results of the Staff Survey indicate a high level of satisfaction with these initiatives.

External scrutiny and auditing

Judicial decisions and decisions of administrative tribunals

No decisions that impacted on ACIAR were made at either the judicial or administrative tribunal level during the 2002–03 financial year. There are no impending decisions relating directly to ACIAR that are outstanding or pending.

There were no significant developments relating to the increasing of, limiting of, or other changes to external scrutiny arrangements.

Reports by the Auditor General and the ANAO

There were no relevant reports by either the Auditor General or the ANAO that specifically focused on ACIAR individually, apart from the unqualified audit of the 2001–02 financial statement and the 2002–03 interim audit.

ACIAR was audited as one of a group of agencies selected to be part of an ANAO audit on *The Administration of Grants (Post-Approval) in Small to Medium Organisations*. The overall report was presented to Parliament on 4 November 2002. The ACIAR-specific report contained ten recommendations. All were agreed. Seven were fully implemented and the other three have been incorporated into broader information system enhancements that are underway.

Through its Audit Committee the Centre looks at the findings and recommendations of relevant ANAO reports for their applicability to ACIAR. In 2002–03, broadly applicable recommendations from the audit *Payment of Accounts and Goods and Services Tax Administration by Small Commonwealth Organisations* were implemented by ACIAR. Better Practice Guides that are issued by the ANAO are also assessed in regard to their applicability to improving systems and processes. Further details can be found under the Audit Committee report beginning on page 81.

Purchasing and tendering information

Purchasing

The Centre complies with the Commonwealth Procurement Guidelines and the objectives of Commonwealth Procurement as follows:

- value for money;
- ethics and fair dealings;
- accountability and reporting;
- national competitiveness and industry development; and
- support for other Australian Government policies.

Due to the nature of the Centre's operations, with the majority of expenditure being project grants, and the small number of transactions, it is not cost-effective to implement purchasing performance measures.

Most suppliers are now paid electronically, with electronic remittance advice of payments.

Competitive tendering

During 2002–03 ACIAR undertook the following tender processes:

- Internal Audit Services – Acumen Alliance was reappointed for a further three year period from November 2002. The total cost over the period is $90 000; and
- Travel Management Services – a Request for Tender was issued as part of a total Department of Foreign Affairs and Trade portfolio arrangement in June 2003. It is anticipated the tender will not be finalised until late in 2003.

ACIAR did not let any contracts for $100 000 or more that did not provide the Auditor General access to a contractor's premises. Nor were any contracts let in excess of $2000 that were exempted from publication in the Purchasing and Disposal Gazette due to Freedom of Information exemptions.

Discretionary grants

The Centre did not issue any Discretionary Grants in 2002–03 or have any ongoing grants from previous years.

Consultants

The Centre entered into 129 contracts with external consultants to provide services that were related mainly to the research program. The total value of these contracts, exclusive of GST, is $912 268. Details of the Centre's contracts valued at more than $100 000 can be found at the ACIAR website www.gov.au under the Senate Spring/Autumn reporting of contracts. Details of contracts valued at more than $10 000 are available on request.

Advertising and market research

The Centre did not enter into contracts with any advertising agencies, market researchers or polling organisations or media advertising organisations. ACIAR did not enter into any direct marketing of information to the public, only sending out selected material to those on its mailing list.

Freedom of information

The *Freedom of Information Act 1982* (FOI Act) provides a means for individuals to obtain access to Government-held documents, excluding where exemptions are in place. No requests were made to ACIAR in 2002–03 to supply documents or information as prescribed under the provisions of the FOI Act. No requests are outstanding.

The FOI Act outlines reporting responsibilities of Government departments and agencies in relation to FOI requests. The statement at Appendix 5 is made in accordance with Section 8 of the Act.

Ecologically sustainable development

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* outlines obligations for organisational compliance under Section 160. Reporting requirements are in Section 516A – Annual Reports and describe reporting on environmental matters.

ACIAR does not administer legislation or conduct activities that directly relate to environmental management in Australia. Its mandate relates to the commissioning and funding of agricultural research projects to benefit developing countries and Australia.

ACIAR's functions under the ACIAR Act allow the Centre to formulate programs and policies with respect to identifying and finding solutions to agricultural problems of developing countries. The Centre may then commission persons or institutions to conduct such research, in accordance with established policies and programs.

The formulation of ACIAR's policies explicitly links agricultural research with sustainability, in recognition of the need for agricultural productivity to deliver in the long term. The Corporate Plan links agricultural productivity to sustainability through systems, policies, practices and better technologies. This plan describes critical success factors for ACIAR and strategies to deliver against these, including the alignment of research outputs with improvements to productivity and sustainability for agricultural systems.

The arrangements described below, introduced during the year, detail how this is achieved in project evaluation and delivery.

Ongoing project monitoring, through both formalised Annual Project reports and informal liaison with and visits to project personnel in the field, occurs for all projects. Changes to project objectives must be approved by ACIAR, including those that may have environmental consequences. Objectives are developed and established during the project proposal phase, and include reference to the EPBC Act and mechanisms to trigger involvement from Environment Australia (EA), should this be deemed necessary (see below).

Organisations that seek to be involved in projects must ensure that their proposals meet their own EPBC/EA obligations. Thus the funding of research projects, ACIAR's main activity as an agency, is conducted under strict ESD criteria. Projects are formally reviewed, both by external experts and internally at their completion. Environmental impacts are included in these reviews, where they formed part of the project's objectives, or where they may have occurred as part of the project implementation. Such impacts are usually positive, such as reduction of chemicals or pesticides. Outcomes are added to the Centre's project information database.

ACIAR's outcome, 'Agriculture in developing countries and Australia is more productive and sustainable through the application of better technologies, practices, policies and systems', depends on the achievement of the Centre's two Outputs, which are described on page 136.

Output 1, relating to research addressing agricultural and natural resource management problems, is conducted by the funding of organisations to carry out research projects on the Centre's behalf. Proposals for research projects, as outlined below, are now formally assessed against ESD criteria.

The training of researchers (Output 2) focuses on enhancing their scientific skills and capacities within the context of research to achieve more productive and sustainable agricultural systems. Building this capacity enhances the ability of project personnel to contribute to the objectives of the project and transfers skills, such as through a workshop on Interpreting soil chemical analyses for the management of upland soils in Thailand, that can also be applied post-project.

The Centre operates its research projects under agreed research priorities established with partner countries that have included provision for environmental impact assessment.

ESD and Environment Australia liaison in project development

Following extensive consultation with Environment Australia ACIAR strengthened these arrangements to ensure compliance under s160 of the EPBC Act. The new arrangements came into effect in time for the start of the 2002–03 financial year.

The new arrangements are:

- assessment of environmental impacts, focusing on negative impacts, by the institution or organisation submitting a project development proposal, to allow ACIAR to fulfil its s160 obligations. Assessments are to be made within the context of the *EPBC Administrative Guidelines on Significance*, with the website address from which these can be downloaded included;
- requiring Research Program Managers (RPMs) to assess environmental impacts outlined in the proposal, having reference to, amongst other documents, the *EPBC Administrative Guidelines on Significance*. Research Program Managers are empowered to seek and document any consultation with the EPBC Referrals Unit on whether the impacts are sufficient to warrant a formal referral;
- examination by the formal In-House Review (IHR), responsible for assessing and recommending projects for approval, of potential environmental impacts under s160 of the EPBC Act. The IHR may recommend that Environment Australia be contacted to consult on potential impacts;
- formal approval by the Director being required as to whether ACIAR should proceed with a referral to the EPBC Referrals Unit; and
- formal signoff by the Board of Management for projects approved by IHR, including with reference to project documentation, such as relevant environmental assessments by the RPM and IHR. The Board may seek further information on environmental impacts by referring the project back to the RPM or IHR.

In addition Australian project proponents, as Australian research providers, are separately required to meet obligations under the EPBC Act relating to any relevant environmental impacts of their project activities in Australia.

Since being fully implemented in April 2003, one project has been recommended for initial discussions with EA regarding ESD implications. The results of these discussions are not yet available for reporting.

Many of ACIAR's projects lead to environmental benefits to Australia. However, the principal aim of ACIAR's project activities is delivering benefits to developing countries. Benefits to Australia, though frequently built into project work, are secondary to the objectives relating to developing countries.

An example is a project examining ecologically sustainable rat controls. The project is based around planting an early season rice crop and erecting barriers around the crop. Traps are erected at intervals along the barriers, allowing rats to be captured. By planting a series of crops, each at the centre of a circle, with the circles overlapping, it is possible to trap sufficient numbers of rats to break the breeding cycle.

Ecologically based rodent management has consistently demonstrated that increases in rice yield (range 0.1 to 0.9 t/ha) and reduced chemical

usage (non-specific and generally highly toxic) can be achieved. Chemical usage amongst farmers involved in the Indonesian node of the project dropped from 98% in 1999 to 46% in 2002. This also saw a reduction of the practice of mixing vehicle oil plus endosulfan and then spreading this on irrigated paddies. In non-project villages this environmentally destructive practice continued.

The Australian partners, CSIRO Sustainable Ecosystems, have, through their involvement in the project, gained increased knowledge of rat population cycles, breeding dynamics and taxonomy. This extra knowledge builds expertise and capacity that may be valuable in related research into mice plagues in Australia.

Through its projects the Centre contributes to a number of the objectives of the *EPBC Act*, both within Australia and in a number of developing countries. ACIAR's projects involve Australian researchers, with research relating to environmental science and management often being applied in both partner countries and Australia. Examples of such projects include:

- technical support for regional plant genetic resources development in the Pacific;
- the impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia;
- water resources and salinity management in agricultural areas of inland northern China and northern Australia;
- the treatment of wool scouring effluents in Australia, China and India;
- sustainable mechanised dryland grain production;
- artisanal shark and ray fisheries in eastern Indonesia: their socioeconomic and fisheries characteristics and relationship to Australian resources;
- salinity management in southeast Australia, northeast Thailand and Laos; and
- development of forest health surveillance systems for South Pacific countries and Australia.

Internally ACIAR adheres to the principles of ESD. ACIAR is the sole occupant of the building it occupies. The Centre's infrastructure management is therefore responsible for all utility usage and costs. Energy-saving appliances, including time switches on low-consumption lighting, are utilised, as are energy ratings (with an aim of a four star minimum) for appliance purchases. ACIAR also recycles paper, using both secure and non-secure recycling. Energy-saving options are also utilised on the building's air-conditioning system. Further details on energy consumption are available in the annual Energy Use in Commonwealth Operations publication.

Appendices

The ACIAR Act 1982
proclaimed as Act No. 9 of 1982, was described as 'An Act to encourage research for the purpose of identifying, or finding solutions to, agricultural problems of developing countries'.

ACIAR is governed by the *Australian Centre for International Agricultural Research Act 1982*, proclaimed on 3 June 1982. Under Sections four to six of the Act ACIAR is established as a body corporate with the powers of a body corporate. It has a seal, and it may sue and be sued.

Our Functions
ACIAR's role is described in section five – Functions – of the ACIAR Act 1982.

Our governing body
Part three of the ACIAR Act establishes the Board of Management as the governing body responsible for the management and control of the Centre and its affairs. The Act also defines the constitution of the Board, its delegations and the authority by which the Minister may give directions to the Board.

Appendix 1 – Basis of authority

Our functions

(1) The functions of the Centre are:
  (a) to formulate programs and policies with respect to agricultural research for either or both of the following purposes:
    (i) identifying agricultural problems of developing countries;
    (ii) finding solutions to agricultural problems of developing countries;
  (b) to commission agricultural research by persons or institutions (whether the research is to be conducted in Australia or overseas) in accordance with such programs and policies; and
  (c) to communicate to persons and institutions the results of such agricultural research; and
  (d) to establish and fund training schemes related to its research programs; and
  (e) to conduct and fund development activities related to its research programs; and
  (f) to fund international agricultural research centres.

(2) In performing its functions with respect to agricultural research, the Centre shall have regard to the need for persons or institutions in developing countries to share in that research.

(3) Nothing in this section authorises, or permits, the Centre to carry out research on its own behalf.

Our powers

ACIAR's powers are established through section 6 of the ACIAR Act 1982. The Centre has the powers of a body corporate:

(1) Subject to this Act, the Centre has power to do all things necessary or convenient to be done for or in connection with the performance of its functions.

(2) Without limiting the generality of subsection (1), the powers of the Centre include power to accept gifts, devises, bequests or assignments made to the Centre whether on trust or otherwise, and whether unconditionally or subject to a condition and, if a gift, devise, bequest or assignment is accepted by the Centre on trust or subject to a condition, to act as trustee or to comply with the condition, as the case may be.

(3) Notwithstanding anything contained in this Act, any money or other property held by the Centre upon trust or accepted by the Centre subject to a condition shall not be dealt with except in accordance with the obligations of the Centre as trustee of the trust or as the person who has accepted the money or other property subject to the condition, as the case may be.

Appendix 2 – ACIAR's active research projects 2002–03

Bilateral* research projects active in 2002–03

**projects may be active in more than one country*

	Bangladesh
CS1/2001/039	Integrated management of botrytis grey mould of chickpea in Bangladesh and Australia
LWR1/1998/003	Arsenic transfer in water-soil-crop environments of Bangladesh and Australia
	Bhutan
CS2/1997/101	A survey of fruit flies in Bhutan and a field control program for *Bactrocera minax* (Enderlein) (the Chinese citrus fly)
	Burma (Myanmar)
AS1/2002/042	Control of Newcastle disease and identification of major constraints in village chicken production systems in Myanmar
AS1/2002/041	Ecologically-based management of rodents in rainfed cropping systems in Myanmar
	Cambodia
ASEM/2000/007	Farmer-based adaptive rodent management, extension and research system in Cambodia
AS1/1996/160	Control of fasciolosis in cattle and buffaloes in Indonesia, Philippines and Cambodia
AS2/1998/090	CD-ROM development: efficient pig management in tropical Asia
CS1/1999/048	Increased productivity of rice-based cropping systems in Lao PDR, Cambodia and Australia
CTE/2003/007	Cambodian Agricultural Research Fund
LWR1/2001/051	Assessing land suitability for crop diversification in Cambodia and Australia
	China
ADP/2002/049	Outlying developing countries in world food consumption patterns
ADP/2002/021	Sustainable land use change in the north west provinces of China
ADP/2000/120	Institutions and policies for improving water allocation and management in the Yellow River Basin, China
ADP/1998/128	Achieving food security in China - implications of WTO accession
ADP/1997/021	Chinese grain market policy with special emphasis on the domestic grain trade
ASEM/1998/060	Chinese wool textile mills: economic analysis of fibre-input/textile-product selection and new processing technologies
AS1/1998/026	Lucerne adapted to adverse environments in China and Australia
AS1/1997/070	Development of specification and processing prediction techniques for the Chinese and Indian wool industries
AS1/1997/069	The treatment of wool scouring effluents in Australia, China and India
AS1/1994/038	Improved diagnostic and control methodologies for livestock diseases in Lao PDR and Yunnan Province, PRC
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
AS2/1998/035	Ruminant production in the red soils region of southern China and in northern Australia
CS1/2000/038	Use and improvement of sugarcane germplasm
CS1/1999/072	Oilseed *Brassica* improvement in China, India and Australia
CS1/1997/072	Evaluation of germplasm and development of varieties of apricot and plum for China and Australia.
CS1/1996/006	Wheat improvement in Sichuan Province: application of modern breeding technologies
CS1/1995/129	High yielding anthracnose-resistant *Stylosanthes* for agricultural systems in India and China

CS2/1998/089	Improvement of IPM of *Brassica* vegetable crops in China and Australia
CS2/1996/087	Quarantine decision support and training aids for China and Australia
FST/2001/086	Assessment of the potential of *Pinus radiata* for ecological restoration of the Yangtze River catchment in Aba Prefecture, Sichuan, China
FST/1999/042	Growth stresses in eucalypts: evaluation and development of measurement techniques
FST/1997/077	Eucalypts and groundwater: managing plantations to avoid resource depletion and environmental detriment in China and Australia
FST/1996/125	Development of germplasm and production systems for cold tolerant eucalypts for use in cool regions of southern China and Australia
LWR1/2002/018	Regional impacts of re-vegetation on water resources of the Loess Plateau, China, and the Middle and Upper Murrumbidgee Catchment, Australia
LWR1/2001/001	Improving main system water management in China: a demonstration project in the Zhanghe Irrigation Scheme
LWR1/1998/130	Water resources and salinity management in agricultural areas of inland northern China and northern Australia
LWR1/1998/124	Development of technologies to alleviate soil acidification in legume-based production systems in the tropics of Asia and Australia
LWR1/1996/164	Water and nitrogen management to increase agricultural production and improve environmental quality
LWR2/1999/094	Improving the productivity and sustainability of rainfed farming systems for the western Loess Plateau of Gansu Province
LWR2/1996/143	Sustainable mechanised dryland grain production
PHT/1998/140	Postharvest handling and disease control in melons in China and Australia
PHT/1998/137	Integrating effective phosphine fumigation practices into grain storage systems in China, Vietnam and Australia
PHT/1994/037	In-store drying of grain in China
PHT/1994/016	Shelf-life extension of leafy vegetables
	East Timor
CS1/2000/160	Seeds of Life - East Timor
CTE/2000/164	Rehabilitation of the Agriculture Faculty of the National University of East Timor
	Fiji
ADP/1998/095	An investigation of the determinants of food choice in Fiji and their role in demand trends for high nutritional valued foods and nutrition security
ADP/1996/136	Fiji sugar industry: assessing international sugar market reforms and their impacts and defining appropriate responses
ASEM/2001/036	Maximising the economic benefits to Pacific island nations from management of migratory tuna stocks
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific
CS2/2000/044	Taro beetle management in Papua New Guinea and Fiji
FIS/1997/031	Pearl oyster resource development in the Western Pacific
FST/2001/045	Development of forest health surveillance systems for South Pacific countries and Australia
LWR1/2001/050	Equitable groundwater management for the development of atolls and small islands
LWR2/2001/038	Management of animal waste to improve the productivity of Pacific farming systems

	Global
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
IAU/2002/054	Framework for analysis of poverty impacts of ACIAR research
	India
ADP/2002/049	Outlying developing countries in world food consumption patterns
ADP/2001/014	Improving water resource management in India's agriculture: search for effective institutional arrangements and policy frameworks
ADP/2000/004	International food safety regulation and processed food exports from developing countries: a comparative study of India and Thailand
AS1/2002/038	Improved productivity, profitability and sustainability of sheep production in Maharashtra, India through genetically enhanced prolificacy, growth and parasite resistance
AS1/2001/005	Salinity reduction in tannery effluents in India and Australia
AS1/1997/115	Increasing efficiency and productivity of ruminants in India and Australia by the use of protected nutrient technology
AS1/1997/070	Development of specification and processing prediction techniques for the Chinese and Indian wool industries
AS1/1997/069	The treatment of wool scouring effluents in Australia, China and India
AS1/1997/058	Increasing the productivity of cattle in India and Australia with rumen fungal treatments
AS1/1994/022	Prolific worm-resistant meat sheep for Maharashtra, India
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
CS1/2002/030	Improving sub tropical citrus production in Sikkim and Australia
CS1/1999/072	Oilseed *Brassica* improvement in China, India and Australia
CS1/1997/114	More efficient breeding of drought resistant peanuts in India and Australia
CS1/1996/025	Physiological and genetic approaches for the development of waterlogging tolerance in wheat on sodic/alkaline and neutral soils in India and Australia.
CS1/1996/013	Herbicide-resistant weeds of wheat in India and Australia: integrated management
CS1/1996/007	Traits for yield improvement of chickpea in drought-prone environments of India and Australia
CS1/1995/129	High yielding anthracnose-resistant *Stylosanthes* for agricultural systems in India and China
CS2/1994/050	Management of white grubs in peanut cropping systems in Asia and Australia
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
FST/1995/106	Improving and maintaining productivity of eucalypt plantations in India and Australia
IAU/2002/053	Impact assessment of ACIAR projects on wheat rust resistance
LWR1/1998/017	Integrative technologies for assessing the extent and cause of degradation in arid community rangelands
LWR2/2000/089	Permanent beds for irrigated rice–wheat and alternative cropping systems in north-west India and south-east Australia
LWR2/1998/136	Survey of potential of manure for meeting crop nutrient needs with integrated nutrient management in Madhya Pradesh, India.
LWR2/1996/215	Capturing the benefits of seasonal climate forecasts in agricultural management
	Indonesia
ADP/2000/126	Microfinance for agricultural producers in West Nusa Tenggara (WNT) Province, Indonesia: issues and opportunities for a sustainable financial intermediary system
ADP/2000/100	Contract farming, smallholders, and rural development in East Java, Bali and Lombok
ADP/1994/049	Policy analysis of linkages between Indonesia's agricultural production, trade and environment
ASEM/1999/093	The role of carbon sequestration credits in influencing the economic performance of farm forestry systems

ASEM/1999/013	Improved marketing of mandarins in East Nusa Tenggara in Indonesia and northern Queensland
AS1/2000/083	Development of a vaccine for the control of Gumboro in village and small poultry holdings in Indonesia
AS1/2000/029	Production of a vaccine for the control of Jembrana disease in Indonesia
AS1/2000/009	Development of diagnostic and control methodologies for animal trypanosomiasis (surra) in Papua New Guinea, Indonesia, the Philippines and Australia
AS1/1998/036	Management of rodent pests in rice based farming systems
AS1/1997/027	Genetic and immunological characterisation of high resistance to internal parasites in Indonesian Thin Tail Sheep
AS1/1996/160	Control of fasciolosis in cattle and buffaloes in Indonesia, Philippines and Cambodia
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
AS2/2000/157	Leucaena management in West Timor and Cape York
AS2/2000/125	Optimising crop-livestock systems in West Nusa Tenggara Province, Indonesia
AS2/2000/124	Prospects for improved integration of high quality forages in the crop-livestock systems of Sulawesi, Indonesia
AS2/2000/103	Developing an integrated production system for Bali cattle in the eastern islands of Indonesia
AS2/1999/060	Control of bees and bee mites in Indonesia and the Philippines
AS2/1998/090	CD-ROM development: efficient pig management in tropical Asia
CS1/1998/061	Coconut tissue culture for clonal propagation and safe germplasm exchange
CS1/1996/140	Biological threats to *Saccharum* germplasm and sugar production in Papua New Guinea, Indonesia and Australia
CS2/2000/094	Diagnosis and control of soilborne fungal diseases of plants in Indonesia
CS2/2000/093	Development of a diagnostic key for tropical rice disorders
CS2/2000/090	*Liriomyza huidobrensis* leaf miner: developing effective pest management strategies for Indonesia and Australia
CS2/2000/043	*Huanglongbing* management for Indonesia, Vietnam and Australia
CS2/1996/091	Biological control of *Chromolaena odorata* in Indonesia, Papua New Guinea and the Philippines
CS2/1994/126	Cassava safety: development and evaluation of simple tests of the cyanogenic potential of cassava flour and cassava tubers
FIS/2001/079	A review of Indonesia's Indian Ocean tuna fisheries and extension of catch monitoring at the key off-loading ports
FIS/2000/128	Community-based management of the Terubuk fishery in Riau, Indonesia
FIS/2000/062	Artisanal shark and ray fisheries in Eastern Indonesia: their socioeconomic and fisheries characteristics and relationship to Australian resources
FIS/2000/061	Development and delivery of practical disease control programs for small-scale shrimp farmers in Indonesia, Thailand and Australia
FIS/1999/076	Development of Leading Centres for mud crab culture in Indonesia and Vietnam
FIS/1997/165	Biology, fishery assessment and management of shared snapper fisheries in northern Australia and eastern Indonesia
FIS/1997/073	Improved hatchery and grow-out technology for grouper aquaculture in the Asia-Pacific region
FIS/1997/022	Remediation and management of degraded earthen shrimp ponds in Indonesia and Australia
FST/2000/123	Heart rots in plantation hardwoods in Indonesia and southeast Australia
FST/2000/122	Application of molecular marker technologies for genetic improvement of forest plantation species in Indonesia and Australia
FST/2000/016	Breeding to enhance productivity of plantations of melaleucas for essential oil production in Indonesia
FST/2000/001	Impacts of fire and its use for sustainable land and forest management in Indonesia and northern Australia.

FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
LWR2/1999/005	Improved soil management on rainfed vertisols in Nusa Tenggara
LWR2/1996/215	Capturing the benefits of seasonal climate forecasts in agricultural management
PHT/2000/102	Selection for improved quality and resistance to *Phytophthora* pod rot, cocoa pod borer and vascular-streak dieback in cocoa in Indonesia
PHT/1997/161	Market based analysis of constraints to banana industry development in Indonesia and Australia
PHT/1997/017	Reducing aflatoxin in peanuts using agronomic management and bio-control strategies in Indonesia and Australia
PHT/1996/193	Survey of the presence and importance of *Phytophthora* in Southeast Asia
	Kiribati
ASEM/2001/036	Maximising the economic benefits to Pacific island nations from management of migratory tuna stocks
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific
FIS/1997/031	Pearl oyster resource development in the Western Pacific
LWR1/2001/050	Equitable groundwater management for the development of atolls and small islands
LWR2/2001/038	Management of animal waste to improve the productivity of Pacific farming systems
	Korea, Democratic People's Republic of
LWR2/2001/048	Legumes and reduced tillage for rice and maize based cropping in the Democratic Peoples Republic of Korea
	Laos
AS1/1998/036	Management of rodent pests in rice based farming systems
AS1/1994/038	Improved diagnostic and control methodologies for livestock diseases in Lao PDR and Yunnan Province, PRC
CS1/2001/027	Adaptation of low-chill temperate fruits to Australia, Thailand, Lao PDR and Vietnam.
CS1/1999/048	Increased productivity of rice-based cropping systems in Lao PDR, Cambodia and Australia
CTE/2000/165	Facilitating farmer uptake of ACIAR project results: World Vision collaborative program
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
FST/1997/024	Insect resistance and silvicultural control of the shoot borer, *Hypsipyla robusta*, feeding on species of *Meliaceae* in Southeast Asia and Australia
FST/1996/005	Development of domestication strategies for commercially important species of Meliaceae
LWR1/1997/150	Salinity management in south-eastern Australia, north-eastern Thailand and Lao PDR
	Malaysia
AS1/1998/036	Management of rodent pests in rice based farming systems
FST/1997/024	Insect resistance and silvicultural control of the shoot borer, *Hypsipyla robusta*, feeding on species of *Meliaceae* in Southeast Asia and Australia
FST/1996/005	Development of domestication strategies for commercially important species of *Meliaceae*
PHT/1999/040	Genetic engineering of pineapples with blackheart resistance
PHT/1996/193	Survey of the presence and importance of *Phytophthora* in Southeast Asia
PHT/1994/045	Control of ripening in papaya and mango by genetic engineering
	Mozambique
CS2/1994/126	Cassava safety: development and evaluation of simple tests of the cyanogenic potential of cassava flour and cassava tubers
	Nepal
CS1/1999/064	Lentil and Lathyrus in the cropping systems of Nepal: improving crop establishment and yield of relay and post-rice-sown pulses in the terai and mid-hills.

	Pakistan
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
CS2/1995/003	Control of gemini virus diseases of cotton and tomato in Pakistan and Australia
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
IAU/2002/053	Impact assessment of ACIAR projects on wheat rust resistance
	Papua New Guinea
ASEM/2001/055	Improving yield and economic viability of peanut production in Papua New Guinea and Australia using integrated management and modelling approaches
ASEM/2001/037	Improving the marketing system for fresh produce of the highlands of Papua New Guinea
ASEM/2001/036	Maximising the economic benefits to Pacific island nations from management of migratory tuna stocks
ASEM/1999/084	Improving productivity of the smallholder oil palm sector in Papua New Guinea: a study of biophysical and socioeconomic interactions
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific
AS1/2000/009	Development of diagnostic and control methodologies for animal trypanosomiasis (surra) in Papua New Guinea, Indonesia, the Philippines and Australia
AS2/2001/077	Poultry feeding systems in Papua New Guinea
CS1/1998/061	Coconut tissue culture for clonal propagation and safe germplasm exchange
CS1/1996/140	Biological threats to *Saccharum* germplasm and sugar production in Papua New Guinea, Indonesia and Australia
CS2/2001/032	Impact and management of *Oribius* weevils in Papua New Guinea
CS2/2000/044	Taro beetle management in Papua New Guinea and Fiji
CS2/1996/091	Biological control of *Chromolaena odorata* in Indonesia, Papua New Guinea and the Philippines
CS2/1994/043	Virus indexing and DNA fingerprinting for the international movement and conservation of taro germplasm
CTE/2000/167	Research capacity-building within NARI and training in agricultural chemistry
CTE/2000/162	Scientific communication in Papua New Guinea
FIS/2001/059	Research for sustainable use of beche-de-mer resources in Milne Bay Province, Papua New Guinea
FIS/2001/034	Inland pond aquaculture in Papua New Guinea: assessment of the industry and evaluation of small holder research and development needs
FIS/1999/038	Sustainable artisanal beche-de-mer fisheries through the incorporation of socioeconomic considerations in the development of community based fisheries management plans
FIS/1998/024	The biology, socioeconomics and management of the barramundi fishery in the Fly River and adjacent coast of Papua New Guinea
FST/1998/118	Planning methods for sustainable management of timber stocks in Papua New Guinea's forests
FST/1998/115	Domestication of Papua New Guinea's indigenous forest species
FST/1998/113	Development of a sustainable, community-based essential oil industry in the Western Province of Papua New Guinea using the region's woody plant species
IAU/2002/055	Economic assessment of the 'Mama Lus Frut' scheme
LWR2/2000/046	Overcoming magnesium deficiency in oil palm crops on volcanic ash soils of Papua New Guinea
LWR2/1998/028	Diagnosis and correction of nutritional disorders of yams
PHT/2001/016	Microbial contaminants associated with sago processing and storage in Papua New Guinea
PHT/1995/136	Cocoa fermentation, drying and genotype product quality assessment

	Philippines
ASEM/2001/108	Improving delivery of extension services in the Philippines
ASEM/2000/107	Future prospects for smallholder poultry producers in the Philippines: ducks and native chickens
ASEM/2000/101	Improving the efficiency of the agribusiness supply chain and quality management for small agricultural producers in Mindanao
ASEM/2000/088	Redevelopment of a timber industry following extensive land clearing
ASEM/1998/052	Enhancing farmer adoption of simple conservation practices: landcare in the Philippines and Australia
ASEM/1997/041	Enhancing the contribution of livestock within smallholder mixed farming systems in the Philippines
AS1/2000/009	Development of diagnostic and control methodologies for animal trypanosomiasis (surra) in Papua New Guinea, Indonesia, the Philippines and Australia
AS1/1996/160	Control of fasciolosis in cattle and buffaloes in Indonesia, Philippines and Cambodia
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
AS2/2000/098	Bovine babesiosis and anaplasmosis in the Philippines: developing a research and diagnostic capability
AS2/1999/060	Control of bees and bee mites in Indonesia and the Philippines
AS2/1998/090	CD-ROM development: efficient pig management in tropical Asia
AS2/1998/025	Performance evaluation and genetic improvement of ruminant animals in the Philippines
CS1/2001/049	Development of PRSV-P resistant papaya genotypes by introgression of genes from wild *Carica* species
CS1/1998/061	Coconut tissue culture for clonal propagation and safe germplasm exchange
CS2/2000/093	Development of a diagnostic key for tropical rice disorders
CS2/1996/091	Biological control of *Chromolaena odorata* in Indonesia, Papua New Guinea and the Philippines
FIS/1997/073	Improved hatchery and grow-out technology for grouper aquaculture in the Asia-Pacific region
FST/2000/127	Improving and maintaining productivity of bamboo for quality timber and shoots in Australia and the Philippines
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
FST/1997/024	Insect resistance and silvicultural control of the shoot borer, *Hypsipyla robusta*, feeding on species of Meliaceae in Southeast Asia and Australia
LWR1/2001/003	Integrated watershed management for sustainable soil and water resources management of the Inabanga watershed, Bohol Island, Philippines
LWR1/2000/084	Minimising the off-site impact of pesticides from agricultural systems: a risk-based approach
LWR2/2000/114	Evaluating biofumigation for soil-borne disease management in tropical vegetable production.
LWR2/2000/060	Development of an interactive diagnostic key for sweet potato disorders
PHT/2000/081	Bioremediation technology for insecticide residues in horticulture
PHT/1999/040	Genetic engineering of pineapples with blackheart resistance
PHT/1996/193	Survey of the presence and importance of *Phytophthora* in Southeast Asia
PHT/1994/045	Control of ripening in papaya and mango by genetic engineering
	Samoa
ASEM/2001/036	Maximising the economic benefits to Pacific island nations from management of migratory tuna stocks
CS2/1994/043	Virus indexing and DNA fingerprinting for the international movement and conservation of taro germplasm
FIS/2001/085	Integration of broodstock replenishment with community-based management to restore trochus fisheries
FST/2001/045	Development of forest health surveillance systems for South Pacific countries and Australia

	Solomon Islands
ASEM/2001/036	Maximising the economic benefits to Pacific island nations from management of migratory tuna stocks
FIS/1997/031	Pearl oyster resource development in the Western Pacific
	South Africa
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
AS2/1999/036	Developing profitable beef business systems for previously disadvantaged farmers in South Africa
AS2/1996/149	Tropical forage and ley-legume technology for sustainable grazing and cropping systems in southern Africa
FST/1996/206	Assessment of eucalyptus rust as a pathogen of *Eucalyptus* spp and other *Myrtaceae*, and development of sensitive methods for its detection in germplasm
FST/1996/124	High performance eucalypts and interspecific hybrids for marginal lands in south and eastern South Africa and south-eastern Australia
	Sri Lanka
FIS/2001/030	Management strategies for enhanced fisheries production in Sri Lankan and Australian lakes and reservoirs: extension Project
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
PHT/1997/094	Management of postharvest diseases of subtropical and tropical fruit using their natural resistance mechanisms
	Thailand
ADP/2000/004	International food safety regulation and processed food exports from developing countries: a comparative study of India and Thailand
ASEM/2001/095	Institutional strengthening for integrated water resource management in Thailand
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
CS1/2001/027	Adaptation of low-chill temperate fruits to Australia, Thailand, Laos and Vietnam
CS2/1997/079	Integrated control of mango insect pests using green ants as a key element
CTE/2000/165	Facilitating farmer uptake of ACIAR project results: World Vision collaborative program
FIS/2000/061	Development and delivery of practical disease control programs for small-scale shrimp farmers in Indonesia, Thailand and Australia
FIS/1997/073	Improved hatchery and grow-out technology for grouper aquaculture in the Asia-Pacific region
FIS/1996/098	Diagnostic tests and epidemiological probes for prawn viruses in Thailand and Australia
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
FST/1997/024	Insect resistance and silvicultural control of the shoot borer, *Hypsipyla robusta*, feeding on species of *Meliaceae* in Southeast Asia and Australia
FST/1996/005	Development of domestication strategies for commercially important species of *Meliaceae*
FST/1994/019	Genetic diversity and propagation of mangroves
LWR1/1998/124	Development of technologies to alleviate soil acidification in legume-based production systems in the tropics of Asia and Australia
LWR1/1998/119	Impact of heavy metals on sustainability of fertilisation and waste recycling in peri-urban and intensive agriculture in Southeast Asia
LWR1/1997/150	Salinity management in south-eastern Australia, north-eastern Thailand and Lao PDR
PHT/1996/193	Survey of the presence and importance of *Phytophthora* in Southeast Asia
PHT/1995/134	Management of *Phytophthora* diseases of durian
PHT/1993/877	Low cost disinfestation systems for fruit

	Tonga
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific
FST/2001/045	Development of forest health surveillance systems for South Pacific countries and Australia
LWR1/2001/050	Equitable groundwater management for the development of atolls and small islands
LWR2/2001/038	Management of animal waste to improve the productivity of Pacific farming systems
LWR2/1998/028	Diagnosis and correction of nutritional disorders of yams
	Tuvalu
ASEM/2001/036	Maximising the economic benefits to Pacific island Nations from management of migratory tuna stocks
LWR2/2001/038	Management of animal waste to improve the productivity of Pacific farming systems
	Vanuatu
ASEM/2001/036	Maximising the economic benefits to Pacific island Nations from management of migratory tuna stocks
FIS/2001/085	Integration of broodstock replenishment with community-based management to restore trochus fisheries
FST/2001/045	Development of forest health surveillance systems for South Pacific countries and Australia
LWR2/1998/028	Diagnosis and correction of nutritional disorders of yams
	Vietnam
ADP/2003/022	Feasibility study of economic impacts of developments in the live reef fish food trade in the Asia-Pacific region
ADP/2001/066	Strengthening agricultural market information activities in Vietnam
ADP/2000/018	The economics of developing reservoir aquaculture in Vietnam
ADP/1997/092	Impacts of alternative policy options on the agricultural sector in Vietnam
ASEM/1995/119	An evaluation of the sustainability of farming systems in the brackish water region of the Mekong Delta
AS1/1998/036	Management of rodent pests in rice based farming systems
AS2/2002/017	Potential effects of globalisation on the structure of livestock production in Asia
AS2/2001/029	Development of a knowledge system for the selection of forages for farming systems in the tropics
AS2/1998/090	CD-ROM development: efficient pig management in tropical Asia
CS1/2001/027	Adaptation of low-chill temperate fruits to Australia, Thailand, Laos and Vietnam
CS1/1998/061	Coconut tissue culture for clonal propagation and safe germplasm exchange
CS1/1995/130	Soybean variety adaptation and improvement in Vietnam and Australia
CS2/2000/043	Huanglongbing management for Indonesia, Vietnam and Australia
CS2/1998/018	Bioherbicide development for cereals in integrated weed management
CS2/1998/005	Managing pest fruit flies to increase production of fruit and vegetable crops in Vietnam
CS2/1997/079	Integrated control of mango insect pests using green ants as a key element
CTE/2000/165	Facilitating farmer uptake of ACIAR project results: World Vision collaborative program
FIS/2001/013	Culture-based and capture fisheries development and management in reservoirs in Vietnam
FIS/1999/076	Development of Leading Centres for mud crab culture in Indonesia and Vietnam
FST/2000/003	Mixed species plantations of high-value trees for timber production and enhanced community services in Vietnam and Australia
FST/1998/096	Domestication of Australian trees for reforestation and agroforestry systems in developing countries
FST/1997/024	Insect resistance and silvicultural control of the shoot borer, *Hypsipyla robusta*, feeding on species of *Meliaceae* in Southeast Asia and Australia
FST/1996/005	Development of domestication strategies for commercially important species of *Meliaceae*
FST/1994/019	Genetic diversity and propagation of mangroves

LWR1/1998/119	Impact of heavy metals on sustainability of fertilisation and waste recycling in peri-urban and intensive agriculture in Southeast Asia
LWR1/1998/034	System-wide water management in publicly managed irrigation schemes in Vietnam
PHT/1998/137	Integrating effective phosphine fumigation practices into grain storage systems in China, Vietnam and Australia
PHT/1996/193	Survey of the presence and importance of *Phytophthora* in Southeast Asia
PHT/1996/004	Monitoring mycotoxins and pesticides in grain and food production systems for risk management in Vietnam and Australia
PHT/1995/134	Management of *Phytophthora* diseases of durian
PHT/1993/877	Low cost disinfestation systems for fruit
	Zimbabwe
AS2/1999/063	Tick-borne diseases: delivery of user-friendly and effective vaccine and diagnostics
AS2/1996/149	Tropical forage and ley-legume technology for sustainable grazing and cropping systems in southern Africa
LWR2/1996/215	Capturing the benefits of seasonal climate forecasts in agricultural management
LWR2/1996/163	Enhanced resource-use planning for tropical woodland agroecosystems

Multilateral* research projects active in 2002–03

**multilateral projects are those where an International Agricultural Research Centre is commissioned as project leader and can operate in one or a number of countries*

ADP/2001/092	Fish in food: the critical role of fish in world food issues
ADP/2001/105	Can decentralization work for forests and the poor? Policy research to promote sustainable forest management, equitable economic development, and secure local livelihoods in Indonesia
ADP/2002/114	Rural poor and smallholders in western China under WTO: a regional and community level analysis
ASEM/1998/081	Global Mountain Program on: investigating issues and options for managing sustainable livelihoods on marginal mountain farms
ASEM/2002/022	CGIAR Agricultural Science and Technology Indicators Initiative (ASTI)
AS1/1997/133	Sustainable endoparasite control for small ruminants in Southeast Asia
AS1/1998/054	Poverty alleviation and food security through improving the sweet potato-pig systems in Indonesia and Vietnam
CS1/1995/125	Molecular tools for achieving apomixis in rice
CS1/1996/179	Breeding micronutrient-dense staple food crops: Australian participation in CGIAR multi-centre project
CS1/1998/014	Increasing yield potential in wheat: complementing conventional breeding by application of novel physiological and germplasm strategies
CS1/1999/044	Strengthening linkages between the International Crop Information System (ICIS) and the Systemwide Information Network for Genetic Resources (SINGER)
CS1/2000/002	Development of advanced technologies for germplasm conservation of tropical fruit species
CS1/2000/066	Host resistance, epidemiology and integrated management of faba bean, chickpea and lentil diseases
CS1/2000/078	Conservation, evaluation and utilisation of plant genetic resources from Central Asia and the Caucasus
CS1/2002/106	Fertilisation-independent formation of embryo, endosperm and pericarp for apomictic hybrid rice
CS2/1998/078	Sustainable integrated management of whiteflies as pests and vectors of plant viruses in Asia

CS2/1999/007	Developing disease management capacity in Vietnam
CS2/2001/068	Technical support for regional plant genetic resources development in the Pacific
FIS/1998/013	Development of new artisanal fisheries based on the capture and culture of postlarval coral reef fish
FIS/1999/025	Optimal release strategies for restocking and stock enhancement of the tropical sea cucumber, sandfish (*Holothuria scabra*)
FIS/2002/036	Development of the Aquaculture Compendium
FST/1999/035	The impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia
FST/2001/020	Alternatives to slash and burn in Southeast Asia, phase 3: facilitating development of agroforestry systems
LWR1/1997/016	Conjunctive water management for sustainable irrigated agriculture in South Asia
LWR1/2000/030	Growing more rice with less water: increasing water productivity in rice-based cropping systems
LWR2/1999/003	Integrated nutrient management in tropical cropping systems: improved capabilities in modelling and recommendations
LWR2/1999/004	Improving phosphorus availability in cropping systems in sub-Saharan Africa
LWR2/2001/028	Development and scaling out of targeted recommendations for smallholder maize systems in southern Africa through integrating farmer participatory research and simulation modelling (Risk Management Project 2)
LWR2/2002/028	Stress tolerant wheat and maize for Afghanistan: Seeds of strength
PHT/2000/080	Selection for peanut varieties with low aflatoxin risk

Appendix 3 – ACIAR publications 2002–03

Monographs

No. 84 *Regional water and soil assessment for managing sustainable agriculture in China and Australia*. Eds. T R McVicar, Li Rui, J Walker, R W Fitzpatrick & Liu Changming. 2002. 384 pp.

No. 85 *Fruits of Oceania*. Eds. A Walter and C Sam. Tr. P Ferrar. 2002. 329 pp.

No. 87 *Controlling Newcastle disease in village chickens: A laboratory manual*. Eds. M Young, R Alders, S Grimes, P Spradbrow, P Dias, A da Silva & Q Lobo. 2002. 142 pp.

Nos 88-93 *Developing forage technologies with smallholder farmers: how to grow, manage and use forages.* Eds. W W Stür & P M Horne. English, Lao, Bahasa-Indonesian, Thai, Chinese and Vietnamese versions. Jointly published by ACIAR and CIAT. 2002. 96 pp each.

No 94 *Survey toolbox for aquatic animal diseases: A practical manual and software package.* Ed. A Cameron. 2002. 375 pp.

No. 95 *Improving Indonesia's beef industry*. Eds. P U Hadi, N Ilham, A Thahar, B Winarso, D Vincent & D Quirke. 2003. 128 pp.

No. 96 *Rats, mice and people: rodent biology and management*. Eds. G R Singleton, L A Hinds, C J Krebs & D M. Soratt. 2003. 564 pp.

No. 97e *Effects of globalisation and economic development in the Asian livestock sector*. Eds. D Quirke, M Harding, D Vincent & D Garrett. 2003. 149 pp.

No. 98 *Domestication of Chukrasia*. K Pinyopusarerk & A Kalinganire. 2003. 48 pp.

No. 99 *Developing agricultural solutions with smallholders: how to get started with participatory approaches.* Eds. P Horne & W W Stür. 2003. 120 pp.

No. 101 *The Coconut Odyssey*. Ed. M Foale. 2003. 132 pp.

Proceedings

No. 107 *Wood–cement composites in the Asia–Pacific region* (Proceedings of a workshop held at Rydges Hotel, Canberra, 10 December 2000). Ed P D Evans. 2002. 165 pp.

No. 108 *Development strategies for genetic evaluation for beef production in developing countries.* (Proceedings of an international workshop held in Khon Kaen Province, Thailand, 23–28 July 2001). Eds. J Allen & A Na-Chiangmai. 2002. 180 pp.

No. 110 *Strategies to improve Bali cattle in eastern Indonesia* (Proceedings of a workshop held in Bali, Indonesia, 4–7 February 2002). Eds. K Entwistle & D R Lindsay. 2003. 100 pp.

Technical reports

No. 51e *Heartrots in plantation hardwoods in Indonesia and Australia.* Ed K Barry. 2002. 40 pp.

No. 52e *Rice-Shrimp farming in the Mekong Delta: biophysical and socioeconomic issues.* Eds. N Preston & H. Clayton. 2003. 170 pp.

Impact Assessment Series reports

No. 18 *Controlling Phalaris minor in the Indian rice–wheat belt*. D Vincent & D Quirke. 2002. 35 pp.

No. 19 *Measuring the poverty impact of ACIAR projects – a broad framework*. D Pearce. 2002. 33 pp.

No. 20 *Mama Lus Frut scheme: an assessment of poverty reduction*. R Warner & M Bauer. 2003. 18 pp.

No. 21 *Improved methods in diagnosis, epidemiology, and information management of foot and mouth disease in SE Asia*. R McLeod. 2003. 37 pp.

No. 22 Saving a staple crop: impact of biological control of the banana skipper on poverty reduction in Papua New Guinea. M Bauer, D Pearce & D Vincent. 2003. 25 pp.

Impact Assessment Unit working papers

No. 44 *Defining practical guidelines for evaluating long-term, smallholder decision-making in developing countries*. P Winters, B Hardaker & I Patrick. 2002.

No. 45 *Collection, access and use of agricultural statistics in the Pacific islands: report of a study*. P Walton. 2003.

No. 46 *Understanding the socioeconomic significance of livestock disease with particular reference to surra (trypanosomiasis) in selected communities in eastern Indonesia*. Asia Research Centre, Murdoch University. 2003.

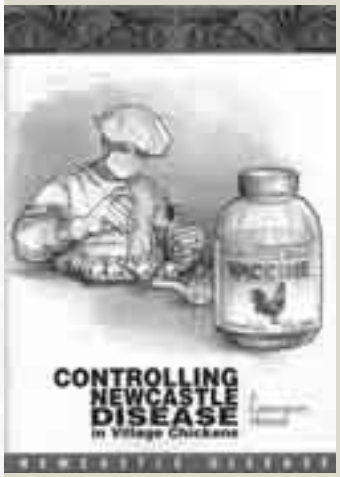
Research awareness publications

ACIAR Newsletter Nos 41 (October 2002) & *42* (March 2003).

Partners in Research for Development No. 16. 2003.

ACIAR Postharvest Newsletter Nos. 62, 63, 64, 65. 2002–03.

Australian Mycotoxin Newsletter Vol 13, Nos. 3, 4 & Vol 14, Nos. 1, 2. 2002–03.



Appendix 4 – ACIAR staffing statistics

Snapshot of ACIAR staff as at 30 June 2003

Employees employed under the PS Act	48 (FTE 45.7)
Median length of APS service	10.5 years
Median age	51
Women as % of total staff	56.3%
NESB staff as % of total staff	18.8%
Part-time staff as % of total staff	14.6%
Non-ongoing staff as % of total staff	14.6%
Staff turnover for 02-03	23%

Location of staff
All staff employed under the Public Service Act are located in Canberra.

Public Service Act Senior Executive Service staff
The Centre has two Senior Executive Service or equivalent staff: one Chief of Division Grade 1, one SES Band 1, both male.

Non-Public Service Act staff in Australia
Four people, based in New South Wales, provide services under contracts for the Fisheries Program.

Staff employed under the *Public Service Act 1999* (as at 30 June 2003)

	Ongoing staff	Non -ongoing staff	Total
Full-time			
Male	15	6	**21**
Female	20	0	**20**
Part-time			
Male	0	0	
Female	6	1	**7** (FTE* 4.7)
Total	41	7	**48** (FTE* 45.7)

**FTE: Full-time equivalent*

Separations from ACIAR during 2002–03

	Non-SES	SES	Total
Resignation	3	0	**3**
Promotion/transfer	0	0	**0**
Retirement	1	0	**1**
End of contract	4	0	**4**
Probation terminated	1	0	**1**
Redundancy	1	0	**1**
LWOP (inoperative)	2	0	**2**
Total	12	0	**12**

Staff not employed under the Public Service Act – overseas (as at 30 June 2003)

ACIAR employs a number of contract and locally engaged staff in Australian overseas missions to provide program support locally, as follows:

Post	Male	Female	Total
Bangkok	1	2	**3**
Beijing	2	1	**3**
Hanoi	1	2 (FTE* 1.3)	**3** (FTE* 2.3)
Jakarta	1	2	**3**
Manila	1	2	**3**
New Delhi	1	2	**3**
Port Moresby	1	1 (FTE* 0.5)	**2** (FTE* 1.5)
Total	8	12 (FTE* 10.8)	**20** (FTE* 18.8)

**FTE – Full-time equivalent*

ACIAR EEO data by classification as at 30 June 2003

(includes temporary staff but excludes inoperative staff who are on leave without pay/unattached)

Classification	M	F	NESB 1	NESB 2	ATSI	PWD	Total
Director	1	0	0	0	0	0	**1**
Chief of DivisionGrade 1	1	0	0	0	0	0	**1**
Senior Executive Service Band 1	1	0	0	0	0	0	**1**
Executive Level 2 (Senior Principal Research Scientist)	10	0	0	0	0	0	**10**
Executive Level 2 (other)	2	3	0	0	0	0	**5**
Executive Level 1	2	2	0	0	0	0	**4**
APS L6	0	2	2*	0	0	0	**2**
APS L5	1	6	4*	1*	0	0	**7**
APS L4	2	11	1*	1*	0	0	**13**
APS L3	1	1	0	1*	0	0	**2**
APS L2	0	2	0	0	0	0	**2**
Total	**21**	**27**	**7***	**3***	0	0	**48**

**not included in total adding across to final column*

EEO abbreviations

NESB 1	Non-English speaking background, first generation
NESB 2	Non-English speaking background, second generation
ATSI	Aboriginal and Torres Strait Islander peoples
PWD	People with disabilities

ACIAR's Certified Agreement 2002–05, salary increases and offsetting savings

	Impact in $'000 pa by 2004-05	Change in $'000 pa in 2002-03	Further change in $'000 pa in 2003-04	Further change in $'000 pa in 2004-05
Funds available from appropriation for inflation in salaries	282	80	94	108
+ Cost reductions and productivity increases (primary salary savings from staff reductions)	222	69	69	84
- Cost increases (primarily salary increases of 3.7%, 4%, 4.3%)	504	149	163	192
= Balance	0	0	0	0

Appendix 5 – ACIAR freedom of information

Organisation, functions and powers
ACIAR's functions and powers are described at Appendix 1, with the organisation described structurally on page 88.

No formal requests were made to ACIAR under the *Freedom of Information Act 1982* (FOI Act). ACIAR received 768 requests, made without reference to the FOI Act, for publications produced. This number has fallen since last year (1200) as more people access publications through the Centre's website. ACIAR abides by the requirements of the *Privacy Act 1988* in the collection of requests for available publications and in relation to its website.

Administration of the FOI Act

The Centre is responsible for determinations relating to granting, deferring or withholding access to particular documents. The Deputy Director (Corporate Programs) oversees FOI activities within ACIAR, with administration through the Policy Secretariat. The Central Office of the Department of Foreign Affairs and Trade assists ACIAR in administering FOI. Quarterly and annual returns to the Attorney General's Department are coordinated and prepared through the Centre.

Documents are held in Canberra and at some overseas posts. Many pre-1990 documents are held in archival custody, and may be obtained under the *Archives Act*.

Public access

The Centre does not hold documents that are open to the public as part of a public register or otherwise. Publications, including scientific publications of ACIAR-supported research, can be inspected and copies obtained from the Centre's office, with many also available electronically through the Centre's website. ACIAR has also made a number of other documents freely available online in accordance with the Government Online initiative.

Documents that are free on request include a variety of research-related publications, scientific project working papers, information sheets on projects, research network newsletters, the annual report, *Partners in Research for Development* magazine, the ACIAR newsletter and brochures and fact sheets relating to the Centre's activities.

Outside participation

ACIAR consults stakeholders both within and outside Australia, on setting research priorities, on both a formal and an informal basis. The project development process offers opportunities for discussion and inputs from a range of scientists and related organisations, such as universities, departments of agriculture and natural resource management, and other research providers.

Inquiries concerning access to documents or other FOI matters should be directed to:

Policy Secretariat
Australian Centre for International Agricultural Research
GPO Box 1571
Canberra ACT 2601

Telephone: (02) 6217 0500
Facsimile: (02) 6217 0501
E-mail: crompton@aciar.gov.au

ACIAR also utilises the input of its Policy Advisory Council, with membership drawn from a range of Australian and developing country groups. The Council acts as an advisory body to the Minister for Foreign Affairs and meets once a year. The Directors of ACIAR and AusAID sit on the Council as ex officio members.

Categories	Document types
General	• Cables, minutes, memoranda, file notes and other documents concerning international agricultural research activities and projects • Working files with submissions, reports and correspondence on program and project administration, appointment of members to the Policy Advisory Council and Board of Management, and Centre management • Submissions to portfolio Ministers, the Director and senior officers • Ministerial and agency correspondence • Speeches and press statements on international agricultural research in the aid program • Computer disk storage of statistical and other information material
Major policy and procedural documents	• Agenda papers for, and minutes of, meetings of the Board of Management and Policy Advisory Council • Proposals for ACIAR research projects and records of decisions made in-house and by the Board of Management in respect to such proposals • Documents for the development, evaluation, administration and outcomes of ACIAR's research projects • Documents for the administration of ACIAR fellowship schemes • Policy documents and submissions relating to the aid program and scientific research issues • Memoranda of understanding, exchanges of letters and other agreements with foreign governments, and agreements with Australian institutions, relating to international agricultural research activities • Briefs for Australian delegations and Ministers proceeding overseas
Parliamentary matters	• Briefings for Ministers on possible parliamentary questions • Records of appearances by ACIAR officers before the JSCFADT and other parliamentary committees
Management policies and procedures	• Documents on human resource management and personnel policy and practices, including recruitment, staff development, counselling, performance management, EEO, OH&S, industrial relations and workplace bargaining • Documents relating to financial administration and services, including estimates, financial and accounting operations, procurement, contractors, information technology, debtors and payment of claims in Australia and overseas • Documents relating to strategic and corporate planning

Appendix 6 – Board of Management policy statement

'*Staying ahead – future strategies for ACIAR*' **– current status**

In January 1999, the ACIAR Board issued a major policy statement for the operations of the Centre. This statement centred around five key strategies, based on which Management then identified detailed action for each. These were:

Staying ahead: Key strategies

1. Delivering benefits from research
- 1.1 Ensure delivery pathways are built into all research projects
- 1.2 Better understand the benefits from research
- 1.3 Better communicate the benefits within partner countries
- 1.4 Work with other agencies to deliver benefits

2. Interacting with stakeholders
- 2.1 Develop new partnership models for PNG and Pacific island countries
- 2.2 Work more closely with AusAID
- 2.3 Improve the partner country consultation model
- 2.4 Improve PAC input to ACIAR policy dialogue

3 Improving the processes
- 3.1 Justify the distribution of resources between the bilateral programs and the IARCs
- 3.2 Better determine and communicate research priorities
- 3.3 Improve project development processes
- 3.4 Improve ACIAR's training program
- 3.5 Better evaluate ACIAR's projects

4. Managing information better
- 4.1 Implement the information management and external communication strategic plan

5. Improving structures and management
- 5.1 Implement a better corporate structure

This Policy Statement has been central to our overall directions. The current status of our progress on each of the five key strategies and associated actions is set out in the following pages.

ACIAR Management position on Board of Management policy statement 'Staying Ahead'

Status September 2003

Key strategy 1: delivering benefits from research	
Action	**Current position**
1.1 Ensure delivery pathways are built into all research projects	For many years, ACIAR's framework for considering project proposals has included statements about how the outputs of projects will be delivered to end-users. In order to give greater emphasis to this issue since 1999, we have: • rewritten project development guidelines, placing greater emphasis on how the research outputs will be adopted, and sharpened our assessment of application pathways during in-house review; • encouraged the inclusion of more delivery agencies, such as extension services, NGOs and the private sector as formal partners in projects. For example, World Vision extends the results of a dozen completed ACIAR projects into communities in three countries, while industry is currently involved in projects in Papua New Guinea (PNG) (fresh produce, oil palm, peanuts, cocoa, poultry feed, essential oils), Indonesia (cocoa, livestock vaccines), India (wool processing, livestock feed), China (wool processing, crop protection), Thailand (shrimp disease tests), Philippines (bioremediation, bamboo) and the Pacific (pearl oyster production); • advocated the development of Advisory Committees, or similar structures, within projects to include key individuals from agencies that will be responsible for application of project outputs; • developed a number of new projects that utilise participatory research approaches to identify priorities and work with farmers to develop appropriate solutions; • placed greater emphasis on progress toward adoption in project reviews to ensure that this issue is addressed in the life of the project and in any subsequent follow-up activities; • made a long-term commitment to major agricultural research issues in partner regions. Examples include collaborations in grain drying, rainfed lowland rice breeding, rodent management, utilisation of Australian tree species and Newcastle disease vaccine research that have been active in Asia for 15 years; • at the same time used a project modality and regular reviews to be responsive to changing partner country needs, extending projects where necessary to strengthen technology transfer and uptake; • in some countries, such as China, attracted national or provincial funds for the training of extension workers and provision of infrastructure to facilitate their interaction with farmers; • developed an intellectual property management strategy to minimise the risk of IP-related constraints to technology adoption; and • provided several training courses for researchers and managers in the research-extension interface in order to promote this culture change, and revised our publication policy to include more material that is relevant to extension workers. Examples include three handbooks to assist extension of Newcastle disease control strategies, and a series of handbooks on selecting forages for smallholders, published in six languages.

Key strategy 1: delivering benefits from research	
Action	Current position
1.2 Better understand the benefits from research	There have been numerous initiatives to refocus the ACIAR program toward achieving impacts and better measuring returns from ACIAR's investments in Australia and our partner countries: • during 1999, a framework for assessing impacts of research and classifying them into three categories (scientific, capacity-building, and community impacts including economic, social and environmental impacts) was developed. An impacts database that classifies and documents impacts of research into these categories has been operational since that time; • in 2001 and 2002 respectively, project proposals and annual/final report and review guidelines were enhanced in line with the new impacts framework to more fully address expected and actual impacts; • these changes have also helped imbue an 'impact culture' in ACIAR staff and project leaders; and • ACIAR has continued to support a strong impact assessment program (see Section 3.5).
1.3 Better communicate the benefits within partner countries	To support better communication of project benefits we have: • developed a project impacts database (see 1.2 above) to record impacts of projects; • developed a series of 'benefits' brochures for Australia and all major partner countries; • revised the role of ACIAR's overseas offices to incorporate significantly higher representational and communication roles. Since 1999, activities involving local media have been carried out in Indonesia, Thailand, China, Vietnam, the Philippines and PNG; • provided regular briefings on ACIAR and its activities and benefits to senior government officials, as well as to Heads of Mission and embassy personnel; • included information on project impacts in country newsletters as well as the main ACIAR newsletter and Partners magazine, sent to over 2000 overseas subscribers and posted on the website; • published an Annual Operational Plan which gives details of ACIAR's strategies and priorities by country; • highlighted achievements by country on the new ACIAR website and since 2001–02 in ACIAR's annual reports; and • highlighted stories of benefits of the John Allwright Fellowship scheme in a 2002 booklet. Some recent activities include: • in PNG, a major newspaper has introduced a weekly agricultural news section which often highlights benefits of ACIAR projects; • in 2002, the Fisheries Program showcased benefits of almost 20 years of Indonesian-Australian cooperation to almost 400 participants; • the Indonesian office is now targeting offices of the extension agency BPTP with an electronic newsletter in Bahasa of relevant ACIAR project information; and • in 2003 ACIAR is cooperating with the Thai post to highlight Australia's contributions to improving Thai agriculture during 20 years of partnership.

Key strategy 1: delivering benefits from research	
Action	**Current position**
1.4 Work with other agencies to deliver benefits	We have addressed this issue firstly through the development of co-funding arrangements with Australian and other international donor agencies, and secondly through a strategy of working with agencies specifically focused on the achievement of social and economic benefits by expanding our relationships with the private sector, NGOs and development programs. Specifically, ACIAR has: • developed a policy framework in 2000–01 for working with the private sector with 26 private sector companies involved in ACIAR projects in 2003 (see Section 1.1); • developed a range of initiatives with AusAID (see Section 2.2) that link ACIAR technical support to development outcomes; • intensified our interaction with the Australian Rural Research and Development Corporations, and obtained co-funding of several projects, including on Brassica improvement (GRDC) and citrus greening (HAL); • strengthened our involvement with NGOs, including a new MoU with World Vision Australia. NGOs are currently involved in 25 projects, and World Vision extends the results of a dozen completed ACIAR projects in three countries; • formed alliances with other donors to support bilateral initiatives, including Centre for International Cooperation in Agricultural Research/French Embassy in Vietnam and the Pacific, the German Agency for Technical Cooperation and the European Union in Laos, World Bank in China, USAID in Indonesia, and the Asian Development Bank (biotechnology); and • encouraged and supported the use of an ACIAR project as a leader to attract other funds from national or international agencies for the purposes of training and technology transfer. For instance, in China funding was provided to train 13 000 extension staff in the application of forage technologies developed by an ACIAR project.

Key strategy 2: interacting with stakeholders	
Action	**Current position**
2.1 Develop new partnership models for PNG and Pacific island countries	The application of ACIAR's partnership model varies depending on the development status of our partners. For example, when the National Agricultural Research Systems (NARS) is weak, a component of our effort is directed to institution building as well as capacity-building of individuals. Examples of our flexible approach are: • in PNG ACIAR and AusAID have worked together to develop capacity at the National Agricultural Research Institute. The partnership balance in PNG emphasises a greater investment in infrastructure than is the ACIAR norm. In addition, ACIAR works closely with industry in PNG in delivering project outcomes. The PNG program has grown significantly since 2000; • the John Allwright Fellowship scheme and cross-program training are used to strengthen long-term capabilities of partner countries, particularly those with weak NARS. There have been over 20 JAFs from PNG and Pacific countries, the majority selected in the last 5 years; • the ACIAR program has also grown significantly since 2001–02 in the Pacific, where about two-thirds of the projects involve regional organisations, particularly the Secretariat of the South Pacific (SPC). In part recognising the new partnership model, the Deputy Director (R&D programs) was invited to serve on an external review of the agriculture and forestry programs of SPC in 2002; and • the NARS of individual countries in the Pacific have emphasised the importance of working directly with the country governments of the Pacific in particular project areas, so we will maintain a balance of country specific and regional partnerships in the Pacific. A policy paper on the future strategy in the Pacific (including donor interactions) was endorsed by the Board of Management in December 2001. We will hold consultations with the Pacific region in the fourth quarter of 2003. In addition, there is now both PNG and Pacific participation on the Policy Advisory Council meetings.

Key strategy 2: interacting with stakeholders	
Action	**Current position**
2.2 Work more closely with AusAID	AusAID is one of ACIAR's major partners in agricultural development assistance. The agencies are working more closely than at any other time in ACIAR's 20 year history to better exploit opportunities for application of research and to promote a whole-of-portfolio approach. For example, in conjunction with AusAID, we have: • implemented a formal interactive framework, including a forum for meetings between senior staff of each organisation two to three times each year, and meetings between the full Executives of each Organisation twice annually; • the ACIAR Board Chair as a member of the Government's Aid Advisory Council; • enhanced our relationship through attendance by the AusAID Director General at two ACIAR Board meetings per year, an AusAID representative also attends the annual Policy Advisory Council meeting; • established small groups of RPMs responsible for ACIAR's program in individual countries which further facilitates interactions with AusAID; • jointly developed the 2002 Ministerial Statement on the Australian aid program, and made significant contributions to AusAID's Rural Development Strategy, High Level Consultations, the Water and Australian Aid statement, agricultural and natural resources strategy missions, the development of AusAID country strategies and the assessment of agricultural projects proposed by NGOs; • expanded our program of agricultural research in PNG, supported by $1 million annually from AusAID over five years; • jointly supported research, development and training projects in Africa, India, Cambodia and Afghanistan, with ACIAR developing and managing projects with financial support from AusAID; • worked closely with AusAID in establishing and implementing the scheme for Capacity-building for Agriculture and Rural Development (CARD) in Vietnam; • participated in joint planning missions with AusAID in Africa and East Timor, and contributed senior scientific staff to AusAID program design missions and technical assessment panels; • provided advice to AusAID on agricultural biotechnology, including briefing on activities of the CGIAR Centres; • benefited from AusAID facilitating ACIAR program implementation in countries where ACIAR has no country office, helping with local arrangements for our existing country offices, and assisting with our John Allwright Fellowships scheme. AusAID provide some payroll management services on a fee-for-service basis; and • in posts where ACIAR maintains a country office, worked with AusAID to synergise activities and administrative support functions. ACIAR project-based activities also complement AusAID program investments in a number of countries: • in PNG ACIAR and AusAID have worked together to develop capacity and support specific projects at the National Agricultural Research Institute; • in Cambodia, ACIAR research projects build upon the AusAID investment in the development of CARDI and through implementation of the Cambodian Agricultural Research Fund; and • In the Pacific, ACIAR projects with the Secretariat of the Pacific Community build on AusAID's investment in core funding of this and other regional organisations.

Key strategy 2: interacting with stakeholders	
Action	**Current position**
2.3 Improve the partner country consultation model	ACIAR continues to make special efforts to identify and respond to partner priorities; this is of increasing importance as more partners co-invest financial resources in ACIAR projects: • we have formalised the timetable for a rolling program of country consultations at four to five year intervals, supplemented by regular meetings between Executive members and other senior staff and NARS managers in both Australia and partner countries. The outcome is reflected in the Annual Operational Plan which identifies priorities for near term funding; • the *modus operandi* for the country consultations is reflective of the specific circumstances of the country or region and nowadays includes a broader group than the R&D agencies, such as NGOs and the private sector; • partner country contributions are becoming more sophisticated and increasingly we are approaching these consultations with a joint policy paper in order to avoid the development of a 'wish list' covering an unrealistically wide range of subjects; and • priority discipline areas are being identified as an input to program shape, building upon an explicit strategy developed in consultation with the partner country.
2.4 Improve PAC input to ACIAR policy dialogue	The Policy Advisory Council provides guidance to the Board (and Minister) on ACIAR operations through: • direct advice on priorities; • more frequent contact with ACIAR Executive and Country offices; • involvement in formal country consultations; and • specific comment before finalisation of each Annual Operational Plan.

Key strategy 3: improving the processes	
Action	**Current position**
3.1 Justify the distribution of resources between the bilateral programs and the IARCs	A new funding framework was developed in 2001–02 and approved by the Board, based on analysis of relative Australian research provider and IARC advantage in different priority areas, and balancing and systematic monitoring of investment in different socioeconomic objectives. This resulted in an explicit strategy to arrive at specific investment levels in particular centres and activities. The approach involves: • allocating about 20 per cent of ACIAR's total appropriation to the IARCs; • allocating between one-third and a half of our annual IARC investment as project-specific funding (increased from previous arrangements); and • providing unrestricted (core) funds to a reduced number of Centres. Project applications from IARCs are now assessed with the same rigour as bilateral projects. Projects aim to build tripartite research linkages involving IARCs, research institutions in Australia and national agricultural research institutes in developing countries, with a geographical emphasis on ACIAR bilateral partners.
3.2 Better determine and communicate research priorities	As part of Australia's overseas aid program, ACIAR's directions are guided particularly by the Government's 2002 Policy Statement *Australian Aid – Investing in Growth, Stability and Prosperity*. Specific steps taken include: • development and communication of a set of Focus Statements for research in 2001–02; identifing emerging priority areas; • increasingly focusing the research program on a regional and discipline basis. In 2002 a comprehensive review of partner countries and intra-country priorities was conducted, taking into account previous consultations with partner countries; outcomes were endorsed by the Board and Policy Advisory Council and reflected in the Annual Operating Plan (2003–4). Our geographic focus is narrowing to the Asia-Pacific. We retain a small program in southern Africa. These priorities have been developed in consultation with partner countries, DFAT and AusAID; • the approach to formal country consultations has been improved (Section 2.3). Greater emphasis on formal priority setting in the countries in which we do not carry out high-level consultations has occurred. This includes a more structured planning of visits by senior staff on a rolling basis to consult with senior research managers, policymakers and other donors; • the priorities and decision framework have been made more transparent by the publication of the Annual Operational Plan (2003–04) which provides clear pathways for the involvement of Australian and partner country research providers and a set of program priorities for each country. Details of individual projects are now provided at www.aciar.gov.au along with other elements of our programs; and • our partnership balance depends on a number of factors and we address the principle of 'graduating' countries, such as Malaysia and Thailand. In China, we expect greater co-funding of projects.

Key strategy 3: improving the processes	
Action	**Current position**
3.3 Improve project development processes	ACIAR has adopted a number of strategies to streamline the project development process: • revision of the project development guidelines and development of a project proforma to more precisely define ACIAR requirements; • streamlining of the In-House Review processes, such that only projects above $400K in ACIAR contribution need to come to In-House-Review more than once, and in this case are reviewed by a smaller group of people; • introduction of the new category of 'medium projects' (ACIAR expenditure < $400K) which have fewer approval steps; • maintenance of dialogue with partner countries in an effort to reform and refine the signing processes in-country. ACIAR will commission an external audit of our in-country project approval processes in 2004 to ensure that we have taken whatever steps we can '...to shorten the timeframe and simplify the processes in project development'; and • recognition of the importance of maintaining and enhancing skills of ACIAR Research Program Managers in program and project management. Consistent with ACIAR's approach to work in partnership with Australian and overseas partners, project initiation is balanced between proactivity and reactivity. Our website sets out country strategies and priorities and invites expressions of interest in program areas. RPMs also have a responsibility for proactively stimulating projects within that framework. It would be wrong to see our contractual framework as a payment mechanism for consultancy-like services. Our contractual framework is a means for a partnership with a joint commitment of interest and resources. What is important is that the contractual opportunity is accessible such as through invitation of expressions of interest on the website.

Key strategy 3: improving the processes	
Action	**Current position**
3.4 Improve ACIAR's training program	ACIAR places special emphasis on institutional strengthening and focused training. • our direct training program is now budgeted at about $2.5 million annually, although most of our projects also have a significant capacity enhancement component; and • this is especially so in projects commissioned over the last five years in our least developed partners – East Timor, Burma, Laos, Cambodia and the Democratic People's Republic of Korea. We have significantly increased the size of the John Allwright postgraduate fellowships (JAF) program since the 1998 review, from 17 to 45-50 scholars. • the high quality of the fields of applicants is evidence of the demand for the scheme, while a tracer study has shown that more than 95% of scholars successfully complete their studies - a significantly higher proportion that for Australian-born students; • since 2000, students have been able to work in sandwich mode, better maintaining their linkages and project relevance to their home country. • all former JAFs are kept in contact with ACIAR through annual mailouts of ACIAR newsletters and other information. • a scheme of follow-up awards to assist them in establishing a research career upon return has been highly successful - several other former JAFs have major roles in current ACIAR projects; • JAFs now come to ACIAR headquarters in Canberra once during a Masters and twice during a PhD program for a training and interaction week; and • a study will be conducted in 2003–04 to assess the impact of training conducted under the John Allwright Fellowship scheme. Scientists with management potential are eligible to apply for John Dillon Memorial training awards, established in 2002. The annual program of cross-program training courses is now designed through formal consultation with developing country partners, and priorities for training communicated in the Annual Operational Plan. • all trainees complete an evaluation form on completion of training; • also important is our financial contribution to the ATSE Crawford Fund that provides training courses; and • we have discontinued formal funding support of the International Foundation of Science, as a review indicated that it was more effective to invest the funding in an increased number of short-term cross-program training courses, specifically targeting ACIAR project scientists in poorer partner countries. We have made special efforts to involve AusAID-funded Australian Youth Ambassadors for Development in our projects, and over 20 young Australians have trained in developing countries on these awards on ACIAR projects.

Key strategy 3: improving the processes	
Action	**Current position**
3.5 Better evaluate ACIAR's projects	The main aim of ACIAR's Impact Assessment Unit (IAU) is to provide systematic information and impact assessments to support the activities of ACIAR and to enhance the Centre's public accountability. This complements the documentation and reporting of 'qualitative' project impacts coordinated by the Communications and Information Services program. ACIAR has carried out impact assessments for over 15 years, but there have been three significant shifts in emphasis in the last 5 years: • much greater emphasis is now given to an assessment of actual impacts after projects are completed rather than *ex ante* prediction of likely project impacts; • external consultants are now routinely used to assess project impacts, proving a greater degree of independence and presumption of objectivity in the analysis; and • assessing the distribution of welfare gains is of greater importance, with assessments analysing impacts of projects on poverty reduction. Where possible, the Unit is seeking to advance methods associated with assessing the impact of research as well as build the capacity of ACIAR staff and project leaders to identify how agricultural research contributes to improved economic, social and environmental conditions in Australia and in our partner countries. Evaluation of projects has also been improved in other ways: • the Terms of Reference for reviewers of ACIAR projects have been updated to emphasise the assessment of project impacts; • annual and final report documentation has been updated to also emphasise achievement of milestones; in a separate field RPMs are now required to make an evaluation assessment in each project annual and final report; • on a rolling basis, project leaders are being commissioned to carry out an evaluation of their projects three years after completion; • a project impacts database, used to record the benefits of projects in different countries, has been developed and implemented; • Australian and developing country project leaders are being formally trained in project evaluation at workshops conducted specifically for that purpose; • within this program, there has been a conscious shift from undertaking *ex ante* assessment to commissioning *ex poste* analysis; • formal *ex post* impact assessments are conducted by independent external analysts, with the results published in ACIAR's Impact Assessment Series (IAS); and • In 2003 ACIAR also initiated a rolling program of evaluation of economic returns to Australia from investment in key IARCs.

Key strategy 3: improving the processes	
Action	**Current position**
3.5 Better evaluate ACIAR's projects (cont.)	ACIAR has also contributed to the methodology of evaluating research project outcomes by commissioning impact assessments which develop and/or implement 'cutting-edge' methods used for impact assessment. Examples of this work include: • analysing the impact of agricultural research within a poverty framework (Impact Assessment Series 19), assessing the economic impact of a policy change and quantifying the value of capacity-building; • ACIAR supporting the recent CGIAR study on the impact of its research on poverty reduction, and providing support to ISNAR to assess the impact of activities designed to improve the capacity of NARS; and • in 1999, a partnership being formed between ACIAR and IFPRI to enhance an economic modelling software system called Dynamic Research EvaluAtion for Managers (DREAM) which enables analysts to readily assess economic benefits of research projects. ACIAR-specific DREAM databases were completed and implemented in 2003. Key Australian and developing partner country scientists and economists are being trained in the use of DREAM.

Key strategy 4: managing information better	
Action	**Current position**
4.1 Implement the information management and external communication strategic plan	The activities of the Communications Program were reviewed in 2000, skills gaps identified and work plans adjusted where necessary. ACIAR's Information Management and Communication Plan established a framework to integrate information management and communication activities. In implementing the plan we have: • recruited staff with skills in information systems, information management, and appropriate uses of information and communication technologies (ICTs) in disseminating new knowledge and technology; • redeveloped the ACIAR website to be the primary platform for disseminating information to stakeholders; • introduced an electronic document management and record-keeping system and undertaken awareness-raising and training of staff; • built automated links from PISA to the ACIAR website to dynamically publish summaries of active projects; • distributed publications produced since 1999 in electronic as well as hard copy form; • raised awareness of the issue of retention of corporate knowledge and implemented actions aimed at minimising its loss as staff leave the organisation; • funded projects that synthesise and disseminate information using CD-ROM and DVD technologies; • contributed to CABI's compendia projects and AusAID's Virtual Colombo Plan and Australian Development Gateway activities; and • maintained good working relationships with the Crawford Fund for communication and training purposes.

Key strategy 5: improving structures and management	
Action	**Current position**
5.1 Implement a better corporate structure	The organisational structure proposed by the Review has been adopted. In early 1999, we: • appointed a Deputy Director (Research and Development Programs) and placed the research and training activities of ACIAR under his care. Since 1999 there have been structural and focus changes in 5 of ACIAR's 11 research programs. All new Research Program Managers are being appointed on fixed terms. The most common term is five years. It is recognised that one extension of up to three years may be considered; • appointed a Deputy Director (Corporate Programs) and re-organised the reporting lines within the Corporate Programs area. This included the Deputy Director (Corporate Programs) having line management responsibility for the Communications Program. Since 1999 the makeup of the teams within Corporate Programs has been changed; the scope of the Communications Program has been broadened to form a Communication and Information Services Program; and the number of positions within Corporate Programs has been reduced; • placed the ACIAR Policy Secretariat directly under the Director; and • strengthened the role of the Manager, International Support, to underpin the activities of ACIAR's seven overseas offices. This structure has been critical in actioning many recommendations of the review, assisting in greater impact emphasis from ACIAR's projects and fostering closer AusAID and inter-departmental interaction. However, it is likely that further changes to the structure of ACIAR would enhance teamwork, internal communication and further empower staff. Country Managers now represent ACIAR in seven key posts; a review of these overseas offices was due to report to the Executive early in 2003–04.

Appendix 7 – Compliance checklist

Description	Requirement	Page
Letter of transmittal	Mandatory	(i)
Table of contents	Mandatory	(iii)
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Glossary	Mandatory	184
Contact officer(s)	Mandatory	inside front cover
Internet home page address and Internet address for report	Mandatory	inside front cover
Review by Director	Mandatory	5
Summary of significant issues and developments	Suggested	1/10
Overview of department's performance and financial results	Suggested	1/10/ 96/97
Outlook for following year	Suggested	9
Significant issues and developments – portfolio	Portfolio departments – suggested	1/10
Overview description	Mandatory	11/74
Role and functions	Mandatory	(ii)/ 150
Organisational structure	Mandatory	88
Outcome and output structure	Mandatory	136
Where outcome and output structures differ from PBS format, details of variation and reasons for change	Mandatory	n/a
Portfolio structure	Portfolio departments – mandatory	n/a
Review of performance during the year in relation to outputs and contribution to outcomes	Mandatory	134
Actual performance in relation to performance targets set out in PBS/ PAES	Mandatory	135
Performance of purchaser/ provider arrangements	If applicable, mandatory	n/a
Where performance targets differ from the PBS/ PAES, + details of both former and new targets, and reasons for the change	Mandatory	134
Narrative discussion and analysis of performance	Mandatory	11/74
Trend information	Suggested	(v)/ 139
Factors, events or trends influencing performance	Suggested	1/10
Significant changes in nature of principal functions/ services	Suggested	n/a

Performance against service charter customer service standards, complaints data, and ACIAR's response to complaints	If applicable, mandatory	n/a
Social justice and equity impacts	Suggested	n/a
Discussion and analysis of ACIAR's financial performance	Mandatory	96
Discussion of any significant changes from the prior year or from budget	Suggested	n/a
Summary resource tables by outcomes	Mandatory	137
Developments since the end of the financial year that have affected or may significantly affect ACIAR's operations or financial results in future	If applicable, Mandatory	n/a
Statement of the main corporate governance practices in place	Mandatory	77
Names of the senior executive and their responsibilities	Suggested	inside back cover
Senior management committees and their roles	Suggested	81
Corporate and operational planning and associated performance reporting and review	Suggested	130/ 135
Approach adopted to identifying areas of significant financial or operational risk and arrangements in place to manage risks	Suggested	82
Certification of fraud measures in place	Mandatory	82
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How nature and amount of remuneration for senior executive service employees officers is determined	Suggested	80
Significant developments in external scrutiny	Mandatory	143
Judicial decisions and decisions of administrative tribunals	Mandatory	143
Reports by the Auditor-General, a Parliamentary Committee or the Commonwealth Ombudsman	Mandatory	143
Assessment of effectiveness in managing and developing human resources to achieve departmental objectives	Mandatory	139-142
Workforce planning, staff turnover and retention	Suggested	139
Impact and features of certified agreements and AWAs	Suggested	140
Training and development undertaken and its impact	Suggested	141

Occupational health and safety performance	Suggested	142
Productivity gains	Suggested	140
Statistics on staffing	Mandatory	164
Certified agreements and AWAs	Mandatory	140
Performance pay	Mandatory	140
Assessment of purchasing against core policies and principles	Mandatory	144
Assessment of effectiveness of assets management	If applicable, mandatory	n/a
Number of consultancy services contracts let and total expenditure on consultancy services. (Additional information as in Attachment C to be available on request or published.)	Mandatory	144
Competitive tendering and contracting contracts let and outcomes	Mandatory	144
Absence of contractual provisions allowing access by the Auditor-General	Mandatory	144
Contracts exempt from Purchasing and Disposal Gazette	Mandatory	144
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Financial Statements	Mandatory	98/ 128
Occupational health and safety (section 74 of the ***Occupational Health and Safety (Commonwealth Employment) Act 1991***)	Mandatory	142
Freedom of Information (subsection 8(1) of the ***Freedom of Information Act 1982***)	Mandatory	166
Advertising and Market Research (Section 311A of the ***Commonwealth Electoral Act 1918***)	Mandatory	145
Ecologically sustainable development and environmental performance (Section 516A of the ***Environment Protection and Biodiversity Conservation Act 1999***)	Mandatory	145
Discretionary Grants	Mandatory	144
Correction of material errors in previous annual report	If applicable, mandatory	n/a

Glossary

ACIAR	Australian Centre for International Agricultural Research
ANAO	Australian National Audit Office
AOP	Annual Operational Plan (ACIAR)
APS	Australian Public Service
AusAID	Australian Agency for International Development
AYAD	Australian Youth Ambassadors for Development
CA	Certified Agreement
CABI	CAB International (UK)
CARD	Capacity-building for Agriculture and Rural Development (Vietnam)
CARDI	Cambodian Agricultural Research and Development Institute
CEO	Chief Executive Officer
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture (Colombia)
CIFOR	Center for International Forestry Research (Indonesia)
CIMMYT	International Maize and Wheat Improvement Center (Mexico)
CIP	International Potato Center (Peru)
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
DAFF	Department of Agriculture, Fisheries and Forestry
DANIDA	Danish International Development Agency
DPRK	Democratic People's Republic of Korea
DREAM	Dynamic Research EvaluAtion for Managers
EEO	Equal Employment Opportunity
ELISA	Enzyme Linked Immunosorbent Assay
EPBC	Environment Protection and Biodiversity Conservation (Act)
FAO	Food and Agriculture Organisation
FMD	Foot-and-Mouth Disease
FOI	Freedom of Information
FTE	Full time equivalent (employee)
GIS	Geographic Information System
GRDC	Grains Research and Development Corporation
IARCs	International Agricultural Research Centres
IAU	Impact Assessment Unit
ICARDA	International Centre for Agricultural Research in the Dry Areas (Syria)
ICRISAT	International Crop Research Institute for the Semi-arid Tropics (India)
IFPRI	International Food Policy Research Institute (USA)
IHR	In House Review
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute (Kenya)
IPGRI	International Plant Genetic Resources Institute (Italy)
IRRI	International Rice Research Institute (Philippines)
IWMI	International Water Management Institute
JAF	John Allwright Fellowship
JSCFADT	Joint Standing Committee on Foreign Affairs, Defence and Trade
NARS	National Agricultural Research System
NESB	non English speaking background
NGO	Non-Government Organisation
OECD	Organisation of Economic Cooperation and Development
OHS	Occupational Health and Safety
PNG	Papua New Guinea
R&D	Research and Development
RPM	Research Program Manager
SARS	Severe Acute Respiratory Syndrome
SES	Senior Executive Service
SPC	Secretariat of the Pacific Community
USAID	United States Agency for International Development
VCP	Virtual Colombo Plan
WTO	World Trade Organisation

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