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Australian Centre for International Agricultural Research
part of Australia's development assistance program

Newsletter

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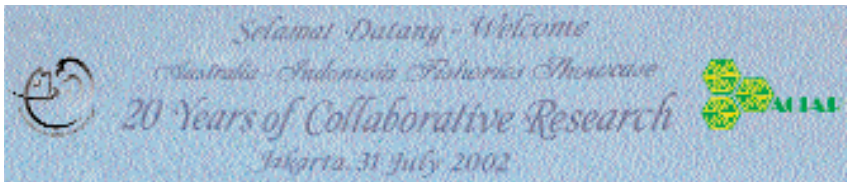

Fisheries research featured in Indonesia

Indonesia and Australia have established a record of successful ACIAR-funded fisheries research projects, and many of these featured in a Showcase held in Jakarta on 31 July. The Showcase, a joint initiative of the Indonesian Agency for Marine Affairs and Fisheries and ACIAR, was a chance to promote the benefits of such projects to the Indonesian Government, and to scientific and commercial sectors involved in the management of wild capture and aquaculture industries in Indonesia.

Capture fisheries are under threat from overfishing and aquaculture is hampered by disease and falling productivity. Working together through a series of ACIAR-funded projects, project teams involving both countries have delivered potential solutions to these issues, which threaten the long-term viability of the fishing industries in Indonesia.

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Some of the distinguished guests at the Fisheries Showcase, a joint initiative of the Indonesian Agency for Marine Affairs and Fisheries and ACIAR. From left to right, Rhonda McLellan, Country Manager-Indonesia, Sutara Martadisastra, Chairman of Gappindo (Indonesian Fisheries Federation); Barney Smith, ACIAR Research Program Manager-Fisheries; Neil Mules, Deputy Head of Mission, Australian Embassy; Rokhmin Dahuri, Minister for Marine Affairs and Fisheries; Indroyono Soesilo, Chairman of the Agency for Marine & Fisheries Research, and Michael Brown, Deputy Director (Corporate) ACIAR.

Director Bob Clements farewelled

At his farewell Director Bob Clements enjoyed some time with the three officers who provided him with vital administrative support during his seven-year term. They are (l-r) Theresa Graham (1998-2000), Melina Tensen (2000-2002) and Helen Hunt (1995-1997).

Dr Bob Clements, who commenced as Director of ACIAR in 1995, completed his term of office in July. Professor Beth Woods, Chair of the Board of Management, has acknowledged Bob's tremendous contribution to ACIAR. 'Dr Clements championed the Centre's enhanced and necessary emphasis on project impacts,' she said. 'As well he encouraged a focus on the Centre's priorities and strategies, to enable ACIAR to respond efficiently and promptly to new opportunities to bring benefit to the developing countries involved in ACIAR's programs. He built strong and enduring relationships at senior levels with developing-country and Australian researchers and ministries.'

'Dr Clements' leadership, foresight and commitment have been invaluable to ACIAR and are reflected in the high regard in which he is held by ACIAR staff. Members of the ACIAR Board and the Policy Advisory Council have also benefited from his enthusiasm, capacity and friendship,' Professor Woods concluded.

On 19 August the Board of Management hosted a farewell dinner to recognise Bob's outstanding contribution to ACIAR. Guests at this successful and enjoyable occasion included the Minister for Foreign Affairs, current Board members, the Secretary of the Department of Foreign Affairs and the Director General of AusAID.

The staff of ACIAR had the opportunity to pay tribute to him in an unusual event, a mock trial in which he stood accused of making no impact during his time in ACIAR—a reference to his preoccupation with the need for ACIAR project results to have a useful impact in our partner countries. Various staff members presented evidence for or against the accusation, and this was done in a lighthearted and highly creative fashion. Bob was no doubt relieved when the final judgment found that he had indeed made an impact in his seven years as Director!

Bob has now taken up his new role as Executive Director of the Crawford Fund, and continues to champion the benefits of international agricultural research undertaken through ACIAR and other Australian and international organisations.

'Witness' Ray Trewin prepares to testify in the mock trial of retiring Director Bob Clements. 'Constable' Betty Robertson supervises the swearing in, while 'Counsel for the Defence' Paul Ferrar contemplates the case.

ACRONYMS and Abbreviations

ANU	Australian National University
AusAID	Australian Agency for International Development
CARD	Capacity-building for Agriculture and Rural Development (AusAID, Vietnam)
CIAT	International Centre for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Centre
CLIMA	Centre for Legumes in Mediterranean Agriculture
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EEZ	Exclusive Economic Zone
FFA	Forum Fisheries Agency
ICARDA	International Centre for Agricultural Research in Dry Areas
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
INIBAP	International Network for the Improvement of Banana and Plantain
IRRI	International Rice Research Institute
MAFF	Ministry of Agriculture, Forestry and Fisheries (East Timor)
MARD	Ministry of Agricultural and Rural Development (Vietnam)
MARDI	Malaysian Agricultural Research and Development Institute
NARI	National Agricultural Research Institute (PNG)
NDDB	National Dairy Development Board (India)
NGO	Non-Government Organisation
PNG	Papua New Guinea
R&D	Research and Development
SPC	Secretariat of the Pacific Community
UNTL	National University of East Timor
UQ	University of Queensland
UWS	University of Western Sydney
WTO	World Trade Organization

New Director comes aboard

ACIAR's new Director Peter Core commenced with the Centre on 31 July. He has already become acquainted with ACIAR's program in Indonesia through visits with the Board of Management and for the ACIAR consultations. Recently he visited the Philippines for the Annual General Meeting of the Consultative Group on International Agricultural Research. He then journeyed on to Ireland for a consultation organised by the World Bank Group—the first consultative meeting on an international assessment of the role of agricultural science and technology in reducing hunger and improving livelihoods.

On the home front he has embarked on a series of staff consultations to refine program focus and establish directions for the future within the overarching thrust of the corporate plan. He has also hosted many overseas visitors.

New ACIAR Director Peter Core greets Mr Valentine Kambori from Papua New Guinea, then Director General of the National Agricultural Research Institute and now Secretary of the Department of National Planning, Monitoring and Rural Development.

Newcastle disease vaccine pioneer honoured

Professor Peter Spradbrow, who was honoured for his long dedication to improving life in developing countries with a vaccine against Newcastle disease, visits the laboratory of a Vietnamese colleague in Hanoi.

Professor Peter Spradbrow of the University of Queensland has been honoured as a laureate of the annual awards presented by the California-based Tech Museum of Innovation. He was one of 25 laureates chosen from a field of 460 candidates from 59 countries. The 25 were from Argentina, Australia, Canada, India, Malaysia, Nigeria, South Africa, Switzerland and the USA. The honour was given to those who are applying technology to profoundly improve the human condition in the fields of education, equality, environment, health and economic development.

Professor Spradbrow was honoured for his long dedication to improving life in developing countries by developing a simple vaccine for the killer poultry virus Newcastle disease. During a career spanning more than 20 years in the University's School of Veterinary Science, he spearheaded research enabling heat-resistant Newcastle disease vaccines to be produced in remote rural centres through a 'simple' process of cultivating the virus inside locally laid fertile eggs.

Working with UQ's UniQuest International Project Division, Professor Spradbrow developed and delivered projects through international aid agencies to developing countries. He also ran workshops showing workers in rural laboratories how to make the vaccine themselves. The master seed for the vaccine was produced at the John Francis Virology Laboratory at the UQ Veterinary Science Farm at Pinjarra Hills, Brisbane.

While vaccines existed for commercial flocks of chickens, these were heat sensitive and only available in large doses of perhaps 1000 shots, which was wasteful and expensive for family-owned flocks of 10 to 25 birds. His efforts have assisted in the fight against Newcastle disease in Asia and Africa.

'Quite often, flocks of scavenging chickens are all poor people have. They are kept for food, for cultural, social and perhaps medicinal purposes, as a source of savings and especially for barter,' Professor Spradbrow said.

Professor Spradbrow praised the University and ACIAR for their financial support and humanitarian approach to his work.

'They agreed with me that there should be no attempt at commercial exploitation of the vaccine at the expense of the rural poor in developing countries,' he said.

Professor Spradbrow and the 24 other laureates were honoured at The Tech Museum Awards 2002 in San Jose, California on November 7, in the presence of leaders from Silicon Valley and United Nations delegates.

Something to crow about: Professor Spradbrows efforts have assisted in the fight against Newcastle disease in Asia and Africa.

Lombok project provides framework for student exchange

Since January 2001 ACIAR has funded a project, 'Improved soil management on rainfed vertisols in Nusa Tenggara', to improve agricultural productivity in Lombok and Sumbawa. Vertisols are soils with high clay content, and difficult to manage for agriculture. If tilled when dry they can form large clods that are difficult to break down. Alternatively, if tilled when too wet, they smear and become impenetrable to water and plant roots. They are potentially productive, but difficult to manage in a wet-dry climate.

In West Nusa Tenggara, the Indonesian gogorancah cropping system in used on the vertisol soils. This is characterised by early sowing of rice under dry conditions before the full onset of the wet season. This allows time for a secondary crop after rice harvest, sustained by the final monsoon rains and then residual soil water. However, the problem is the heavy tillage required to prepare the dry vertisol for sowing the rice before the rains. This is strenuous work requiring many days of labour. The ACIAR project is therefore seeking alternatives to the gogorancah system.

One possibility that would reduce the work required for tillage is to use permanent raised beds for cropping. The project is combining the study in Lombok with parallel studies of vertisol cropping in Australia. Pleasing progress has occurred, and already in Lombok the scientists have determined that high-value vegetable crops, that are susceptible to waterlogging, can be grown during the wet season using the raised bed system.

Students meet

The project has also provided a framework for an exchange of final year agricultural students between La Trobe and Mataram Universities. In April 2002 a group of students from La Trobe University visited Lombok, where they met with students from the University of Mataram. They worked together on a task: to develop recommendations to improve the well being of impoverished rice farmers from South Lombok.

In May the Indonesian students paid a return visit. In Australia the two student groups undertook a two-week evaluation of an organisation, Southern Farming Systems, and the permanent raised bed technology that it had developed. The Indonesians also

Fisheries research featured in Indonesia continued from page 1

Minister for Marine Affairs and Fisheries, Mr Rokhmin Dahuri officially opened the showcase, which also featured addresses by Deputy Ambassador for Australia Mr Neil Mules, ACIAR Deputy Director Mr Michael Brown and Director General of the Agency for Marine Affairs and Fisheries Dr Indroyono Soesilo.

During his address the Minister noted the importance of ACIAR involvement in the projects, and the positive benefits arising from each of the featured projects, citing the need for research to produce results rather than to conduct research for its own sake. The Minister then praised the work of project personnel from both countries.

Feature presentations

The Showcase featured presentations on aquaculture projects focused on solving disease, environmental and production barriers to successful fish farming. These included a project that is producing the first healthy prawns farmed in almost three years, after a period where disease wiped out whole hatcheries. Project work in Sulawesi to address the environmental problems created by shrimp farming in acidic soils was also presented. Researchers from the Gondol laboratory of the Central Research Centre for Aquaculture spoke about their success in rearing grouper from eggs, a process that is now spreading throughout backyard hatcheries.

Projects on sustainable management of capture fisheries were also presented to the Showcase, including two projects to improve the management of shared Indonesian and Australian red and gold-band snapper resources and shark and ray fisheries which are improving management options, and discovering new species. The final project presented was a study of illegal, unreported and unregulated fishing in the Sulawesi Sea that has led to development of a world-first management agreement between Indonesia and the Philippines.

The Indonesian project leaders spoke about their respective projects, outlining the problems they needed to overcome and how this was being achieved. This was then put in the context of the benefits to date and future benefits. All the presentations were given in Bahasa, and each was followed by questions from the audience.

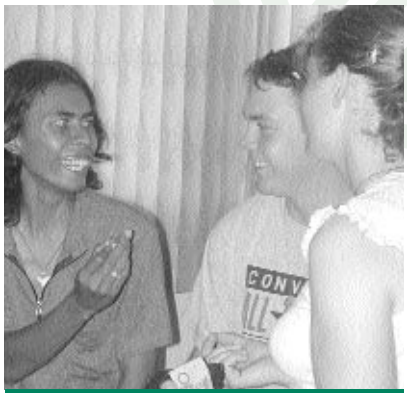
A highlight of the day was a poster session, with posters outlining the benefits to Indonesia and Australia deriving from the projects. A series of posters was presented to the official party, and then later to all Showcase participants.

Warren Page
ACIAR

The students from La Trobe and Mataram Universities took the opportunity to visit an ACIAR project site while the Australians were in Lombok.

had the opportunity to visit a range of farms in Victoria, from the high-rainfall southern zone to the broad expanses of the southern Mallee.

This initiative was a further extension of the case study teaching developed by La Trobe's Department of Agri-cultural Sciences over the last 15 years. The students from both countries formed into small 'consulting teams' and examined the biological, economic and social factors that were impacting on the 'problem' or 'situation' that was being examined. They then developed recommendations designed to improve the situation. The discourse between students delivers excellent learning outcomes.



Teamwork between Indonesian and Australian students was strong from the start

'It was just amazing to see the students from the two cultures begin their deliberations in their teams, on the first morning of the case study in Lombok, after having just been introduced to each other', commented La Trobe's Dr Peter Sale, who facilitated the exchange.

The Indonesians were able to explain to their Australian team members many of the finer cultural and social aspects that impact on Lombok agriculture. Furthermore they were able to translate the responses from the Indonesian villagers to the Australian students. Similarly the Australian students were able to explain different aspects of the Victorian farming practices to the Indonesians.

One of the real benefits for the Australian students was the positive exposure to the ACIAR-funded soil management project in Lombok. This gave them an understanding of the importance of overseas research work in agriculture, and also an awareness of the career opportunities in this area. The Indonesians also benefited from the detailed analysis of the Lombok research project.

ACIAR awards John Dillon Memorial Fellowships

ACIAR has established a new Fellowship scheme to help develop the leadership skills of outstanding young agricultural scientists or economists from developing countries. Named in honour of the late Professor John Dillon, a past Chairman of the ACIAR Board of Management and President of the Policy Advisory Council, the Fellowship enables an Australian organisation to host a chosen fellow for a 6–12 week period. Fellows will participate in formal research management training, undertake visits to various institutions in Australia and spend time with the host institution. Eligible applicants must be from an ACIAR partner country, be actively involved (or involved in the past two years) in an ACIAR bilateral project, and be under 40 years of age.

The first awardees to receive John Dillon Memorial Fellowships have been announced—four chosen from a field of 57 applicants. They are Rina Octaviani, Head of Agricultural & Resource Economics Study Program, Bogor Agricultural University, Indonesia; Suon Sothoeun, Deputy Director, Dept of Animal Health and Production, Ministry of Agriculture Forests and Fisheries, Cambodia, Lastus Kuniata, Senior Agronomist (Head of R&D), Ramu Sugar Ltd, Papua New Guinea and Nalish Sam, Deputy Director, Forest Research Institute, Papua New Guinea.

ACIAR-funded research helps Australia's banana industry

Since 1983, ACIAR has supported more than a dozen projects on the production and processing of bananas. When ACIAR support for this research began there were only three people working on banana research in Australia. ACIAR's ongoing support has helped to lift Australia to a position of world excellence. For example, Australia is recognised as one of the world leaders in research on *Fusarium* wilt disease. Also the Indooroopilly laboratory of the Department of Primary Industries Queensland is one of only two virus-indexing laboratories worldwide.

Research on disease diagnosis and on the management of pests and diseases has greatly strengthened Australia's crop protection capability. It underpinned the ongoing monitoring and replacement program that protects Australia from black sigatoka disease. It led to a better understanding of the diversity in the *Fusarium* wilt pathogen, and to the identification of the cultivar Goldfinger that is resistant to all races of *Fusarium* and to black sigatoka disease. Although Goldfinger was bred in Honduras, the breeding work drew on the Australian research. The development of diagnostic tests that enable researchers to identify bunchy top disease before its symptoms are expressed in the field was an important step towards providing disease-free material to farmers.

Pest halted

The banana skipper insect appeared in Papua New Guinea in 1983 and spread at a rate of 500 km per year. It was expected to reach Australia by 1995. On average it destroys 60% of the leaves of infested banana plants. With ACIAR support a biological control agent (a small parasite) was introduced into PNG and the pest was controlled by 1990. The estimated benefits to PNG are $202 million, and benefits to Australia through reduced risk of entry of the insect are estimated at $223 million. The benefit–cost ratio of this research was 607:1.

Research on postharvest handling technologies led to the better use of ethylene to control ripening of bananas under modified-atmosphere storage, and to the better use of fungicides to control stem end rot. The benefits from this research have been estimated to exceed $50 million. Several countries shared in these benefits; the Australian share was estimated to be $6 million.

Australia has supported the International Network for Improvement of Banana and Plantain (INIBAP) for many years. INIBAP conducts global banana research relevant to Australia, Asia and the Pacific. Currently, through ACIAR, the Australian Government contributes $200,000 per year to INIBAP.

ACIAR-funded research has helped lift Australia to a position of world excellence in banana research.

ACIAR backs Australian Development Gateway

In *ACIAR Newsletter No. 38* we reported on the establishment of the Virtual Colombo Plan, a joint initiative of the Australian Government and the World Bank. The Plan's charter is to share knowledge and expertise with the developing world through the use of information and communications technology. Now, as part of Australia's commitment to the Plan, an Australian Development Gateway has been launched, funded and managed by the Australian Agency for International Development (AusAID) with ACIAR as primary partner for the Gateway's agriculture section.

Development gateways are Internet portals designed to deliver information that will assist developing countries to address issues of sustainable development and poverty reduction. The World Bank's Development Gateway is administered by the Development Gateway Foundation, and Australia, a founding member, will contribute $A10 million over the next three years to the Foundation to support this initiative.

The Australian Development Gateway is an integral part of this major international initiative. The site has been set up to give developing countries easy access to the latest online Australian research, information and services in agriculture, health and distance education. A diverse range of Australian organisations will contribute knowledge that can assist developing countries to research issues, develop policies and programs, form alliances and work towards sustainable growth and poverty reduction.

The Gateway is being established in two phases. Phase one has involved the design and development of the current interim site. During phase two the site will be expanded to include many additional features. User feedback will be incorporated, and e-learning opportunities will be highlighted.

The Australian Development Gateway can be found at www.developmentgateway.com.au

Hive health lifts honey production

The adage that 'an apple a day keeps the doctor away' is being rewritten in Indonesia, to 'some honey each day keeps the doctor away'. Honey is considered to be a preventative for colds and flu in Indonesia, and a means of maintaining good health. It is also used for treating the symptoms of colds and flu, especially in children.

The honey/beekeeping industry in Indonesia employs around 100,000 people, most of whom transport their colonies of bees across Java to coincide with the flowering of a variety of tree species. This takes place from May to November, during the dry season. Around 2000 tonnes of honey are produced, well short of the 4000 tonnes consumed each year in Indonesia.

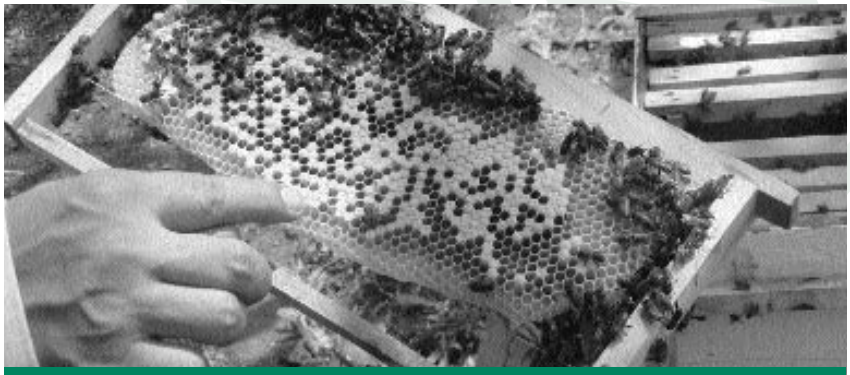
A government initiative is promoting the benefits of honey, with the aim of increasing production through promoting the health aspects of consumption. If successful, consumption will rise beyond the 10 grams average per person each year. However the need to import honey will also rise, making the expansion of the industry a necessity.

The main barriers to the industry expanding are threefold—climatic conditions, the need for more queen bees to allow further colonies to be established, and the presence of mites (the main pest of honey bees).

The parasitic *Varroa* and *Tropilaelaps* mites attack bees in the larval and pupal stages, invading the forming bodies and causing deformities in mature bees. The result is lost productivity, because the deformed bees cannot work as food gatherers or to help maintain the colony.

Mites are not generally a problem in good years, but in bad years, such as in 1993, they cause productivity losses of up to 75 per cent. In that year mites reduced total honey production to 1350 tonnes, well short of the annual production of 2000 plus tonnes.

Increasing production through ridding the beekeeping industry of varroa mites is the aim of Dr Mochamad Chandra, Head of the National Beekeeping Centre. Working with CSIRO Entomology through the ACIAR-supported project *Control of bees and bee mites in Indonesia and the Philippines* Dr Chandra and his team, based near Bogor south of Jakarta, hope to improve control techniques currently used for mites.



Research at the National Beekeeping Centre at Bogor, Indonesia, is helping to maintain healthy beehives.

Javanese beekeepers fumigate bee colonies using two separate 'recipes', one a mix of camphor and sulfur, the second using formic acid. The camphor-sulfur mix is effective in killing the mites but the smell infiltrates the honeycomb, spoiling most or all of the honey.

The best option is therefore fumigation based on formic acid, which does not harm the bees or change the smell or other characteristics of the honey. Formic acid is mixed with water to produce a fumigant known locally as Nimba. Beekeepers use their own recipe to produce Nimba, based on a range of factors and experiences. Dr Chandra's team is perfecting the recipe for Nimba, and already has identified the right proportions of water and formic acid for use in west Java.

The migratory pattern from west to east Java followed each year by the beekeepers means that varroa mites have several opportunities to infect bees. This, together with slight though specific differences in food sources, temperatures and other factors, also means that the Nimba recipe needs adjusting. Dr Chandra is now working to tailor the recipe to conditions in central and eastern Java, with testing to be carried out later this year.

During an earlier ACIAR project Dr Chandra's team developed food supplements for use in the wet season. Bee populations decline during the wet season when food becomes scarcer, and with this decline comes a drop in hive productivity. This carries through to the first few weeks of the dry season while the colony repopulates. Maintaining the numbers in a colony during the wet season helps to curtail the fall-off and subsequent lag in honey production throughout the wet season and at the start of the dry season. Supplements, developed in the previous ACIAR project, have proven effective in maintaining both population and productivity levels year-round.

Dr Chandra's team is also ensuring the number of colonies grows by breeding queen bees. A colony needs a queen bee and drones to breed. Finding drones is easier than queens; breeding queens and drones ensures that bee-keepers can establish new colonies, and further increase production.

These and other benefits emerging from the project will help Dr Chandra achieve his dream of every Indonesian consuming some honey each day.

Warren Page
ACIAR

Project will fight chickpea disease

A new ACIAR-funded project will join with a multi-million dollar international effort to lift chickpea productivity in Bangladesh and Australia. The project aims to make more of this protein-rich food available in Bangladesh where many millions of people suffer from protein deficiency.

Botrytis grey mould (BGM), considered the most important foliar disease of chickpeas in Bangladesh, has caused a substantial decline in chickpea production over the past decade. In Australia, BGM is the second most important foliar disease after ascochyta blight. Outbreaks are sporadic but damaging. Seed dressings and multiple fungicide applications can control BGM but this practice is unsustainable in Australia and economically non-viable in Bangladesh.

An integrated disease management (IDM) approach is considered the best long-term control strategy. This project will evaluate integrated BGM management packages on an operational scale on-farm in both countries. Also a wide range of chickpea germplasm (including closely related wild *Cicer* species) will be evaluated for resistance to BGM under field conditions in Bangladesh and Nepal to provide a sound basis for genetic enhancement of host-plant resistance to BGM.

The project will assemble and screen a wide range of chickpea germplasm from Australia, Bangladesh, ICRISAT and Nepal against BGM, under field conditions at sites in Bangladesh and Nepal where there is reliable natural disease pressure.

The Director of the Centre for Legumes in Mediterranean Agriculture (CLIMA) at the University of Western Australia, Professor Kadambot Siddique, is the Australian leader of the project. 'More than 45 million Bangladeshis live below the poverty line, which means animal protein is not an option and so alternative protein sources must be found,' he explained.

'Pulse crops such as chickpea are high in protein (21 per cent) and carbohydrates (60 per cent) and a valuable dietary staple for less affluent people. However, Bangladesh is becoming dependent on imported pulses for low-cost protein because BGM has wiped out chickpea, which once grew readily on local farms.

'In the past 10 years, BGM has slashed the area sown to chickpea in Bangladesh from 100,000 hectares to 16,000 ha, forcing the import of more than 55,000 tonnes of chickpeas (costing $US31 million).

'The more impoverished citizens can't afford to buy the imports, so they lose out with improper nutrition,' Professor Siddique concluded.

The project involves CLIMA, the WA Department of Agriculture, the Indian-based International Crops Research Institute for the Semi Arid Tropics (ICRISAT), University of Melbourne, NSW Agriculture, Agriculture Victoria, Bangladesh Agricultural Research Institute and others.

Drought-resistant lentil hope for Allwright Fellow

CLIMA is involved in another ACIAR project that seeks to improve the establishment of lentils and another legume called grasspea (*Lathyrus sativus*), both widely grown in the lower areas of Nepal. Lentils are of considerable economic and nutritional importance to the country but yields could be improved by finding germplasm better adapted to withstand both water-logging and drought at different stages, as well as resisting fungal wilt.

In association with the project ACIAR has awarded a John Allwright Fellowship to Renuka Shrestha from Nepal. Renuka is studying for her PhD at the University of Western Australia, undertaking research of drought resistance in lentils. Working with lines of lentil derived from an earlier ACIAR project and from trials undertaken by the International Centre for Agricultural Research in the Dry Areas (ICARDA), she aims to identify the genotypes with superior adaptation and seed yield for water deficit environments and determine the specific traits that will be best suited to drought conditions in Nepal.

In her first year she has undertaken a preliminary evaluation of a range of lentils at two sites in Nepal, undaunted by above-average rainfall during the post-flowering period. Her trials at one site showed significant variation in traits between varieties, with those originating from the Indian subcontinent markedly outperforming those from the Mediterranean. At the second site crops were too affected by fungal disease to obtain detailed measurements.

John Allwright Fellow Renuka Shrestha from Nepal is making the search for drought-resistant lentils the subject of her PhD research.

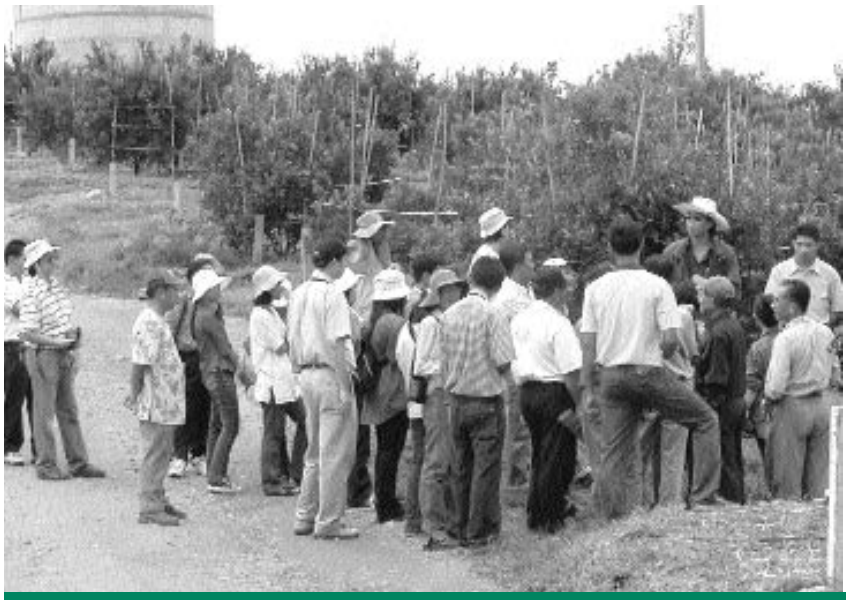
Renuka is also undertaking glasshouse experiments at CSIRO in Perth. These have enabled her to evaluate under controlled conditions six superior genotypes identified from the field experiments. During the growing season (June–October 2002) she measured plant growth, phenology (comparative response to seasonal and environmental variables), soil-plant water relations, photosynthesis, stomatal conductance and seed yield. In her next experiment she will study root characteristics of a few selected genotypes.

Progress with citrus pest control

ACIAR has funded research to control citrus pests since 1993. The University of Western Sydney (UWS) has taken a leading role in the research, and has made significant progress. Project leader Dr Andrew Beattie reports that until July 2000 the University worked with Caltex International to register a horticultural mineral oil (known as *D-C-Tron Plus*) for control of pests of citrus and other crops in China, Thailand, Vietnam and Kenya. Since 2001 the University has worked with the SK Corporation of Korea to register an agricultural mineral oil (known as *SK EnSpray 99*) for management of pests on citrus, apples and other crops in China, Vietnam and Thailand.

For the work with the SK Corporation the University engaged Dr Liu Zhongmin, a former student and UWS staff member. He now travels regularly to China, Thailand, Vietnam and Korea. Dr Beattie has also met on a number of occasions with operatives in China, Korea and Vietnam and Malaysia. Project funds have also supported studies in Indonesia (but not registration trials) to test whether the oils control or prevent citrus pests (including *Diaphorina citri*) and two citrus diseases— black mould (*Meliola citricola*) and citrus canker (*Xanthomonas axonopodis pv. citri*).

Dr Liu and Dr Beattie have taken opportunities during their travels to give seminars on the use of spray oils. They found great interest in China at the Shandong Pomology Institute and at the Malaysian Agricultural Research and Development Institute (MARDI). In Thailand about 70 people—including staff from the Departments of Agriculture and Agricultural Extension, universities and companies, and farmers —attended a seminar in Bangkok. The seminar was followed by visits to large (up to 1000 ha) orchards in central and northern Thailand, where farmers are becoming increasing interested in the technology as SK Corporation and its Thai partner Sotus International become more active in marketing.



During a recent SK Corporation project trip to Thailand ACIAR project leader Dr Andrew Beattie addressed some 60–70 scientists, technicians, extension staff and farmers at a meeting in Bangkok and then visited this 1000-ha orchard at Khlong Lan. Pictured are colleagues from the Thailand Department of Agriculture, university staff, Thai Department of Agricultural Extension staff and farmers. The water tank is central to successful orchard irrigation and also to the application of the mineral oil spray.

Results of the ACIAR project in Vietnam have been taken up and extended through linkages with the AusAID CARD project *Extension of Citrus IPM in Vietnam*. The major components are: publication of three books in Vietnamese—one for farmers on the use of horticultural and agricultural mineral oils, a technical book on horticultural and agricultural mineral oils, and a citrus IPM book for farmers, scientists and extension personnel—and training of 21 trainers then subsequent training of farmers through farmer field schools and other avenues

Dr Beattie also hopes to have the books translated (from the original English) into Thai, Chinese and other languages for regional use, and into Spanish. 'We plan to work closely with government departments and commercial companies, undertaking modifications to tailor the technology to suit local variations such as different pests and diseases, and climate,' he said.

There is also great interest in the research and extension work in Australia. Dr Beattie addressed the Australian Citrus Growers Conference in Darwin about huanglongbing (citrus greening—the serious citrus disease transmitted by *Diaphorina citri*) and a separate meeting of citrus growers about horticultural and agricultural mineral oils. In Mildura he addressed the first national citrus nursery workshop about management of pests in citrus nurseries.

Further information:
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Assistance for Indonesia's melaleuca oil industry

In Indonesia cajuputi oil is used for antiseptic and medicinal purposes, and kept as a 'cure-all' remedy in many homes. The oil is distilled from the leaves of the cajuput tree, a type of melaleuca.

However Indonesia cannot currently produce enough cajuputi oil to meet domestic demand, having a supply shortfall of around 1000 tonnes per year. There are approximately 9000 hectares planted to cajuputi trees in Java, all originally sourced from the Maluku Islands. However, there exist a number of other varieties with both higher yield potential and greater suitability for local conditions, suggesting that production can be improved through improved seed stocks.

Achieving this is the aim of an ACIAR forestry project, *Breeding to enhance productivity of plantations of melaleucas for essential oil production in Indonesia*. The project, involving Indonesia's Centre for Forest Biotechnology and Tree Improvement, CSIRO Forestry and Forest Products, and NSW Agriculture, continues work first started in 1995 to assemble suitable seed collections for testing.

The Government forestry agency manages the cajuputi oil industry, but small factories that distil the oil rely on the local community for their success. This is due to the labour-intensive processes used—in planting, harvesting the leaves and in the distilling process. A 3500-hectare plantation such as found in Gundih in central Java employs more than 300 local people.

Work to refine the breeding program is under way, and the team has already discovered a high level of divergence in both growth characteristics and oil quality. To date selectors have grown varieties from 86 progenies, chosen from a number of provenances, with the best of each variety now identified.

Three seed orchards have been established, and culling of provenances and progenies is under way to choose the best varieties. The first seed of improved varieties from the small orchard, expected in 2003, will be used in distillery trials.

Any cajuput oil distillery or factory involved in the project cannot operate successfully without the help of the local community. The collection of the leaves and the distilling process are both labour intensive, with the workers drawn from the surrounding communities.

Workers involved in the process benefit in several ways. Cajuputi trees take four years to reach maturity, during which time intercropping (mostly cassava, corn and peanuts) occurs in the plantation. This provides a valuable source of income for the local community prior to the harvesting. During harvesting income continues to reach the local community through its involvement.

Composts of leaves from which the oil has been removed have been used to good effect in establishing new plantations and in growing other crops. Use of the compost promotes faster growth and, in the case of crop plants, larger fruit harvests. Farmers surrounding the trial sites have noticed this and have asked for supplies of compost for use on their crops, which are now starting to show the benefits.

One of the real barriers for the project team was carrying out gas chromatography analysis of the leaf samples collected. Without a chromatograph the team had to send samples to Australia, including waiting on quarantine, before getting the results. This has now been solved with the provision of a unit to the laboratory and, through Crawford Fund sponsorship, sending one project member to Australia for training in its use.

Warren Page
ACIAR

More milk from world's largest dairy herd

The milk production capacity of the world's largest dairy herd could rise by millions of litres a day following the success of a joint research project involving scientists from CSIRO and India's National Dairy Development Board (NDDB). CSIRO's contribution to the three-year project, which was supported by ACIAR, culminated on 18 September with the opening of a feed supplement plant at Itola near Vadodara in India.

Constructed under the guidance of CSIRO and NDDB scientists, the bypass protein plant processes protein meals, which are byproducts left after oil is extracted from common oilseed crops like sunflower and rapeseed. The resulting supplement provides cattle with a protein source that adds value to the nutritional quality of the diet.

Normally, oilseed byproducts are not efficiently utilised by dairy cattle because most of the protein in the feed is degraded in their rumen, or first stomach. Using the new techniques, larger quantities of proteins bypass the rumen so nutrients like essential amino acids can be absorbed from the small intestine. This, in turn, boosts milk production.

The team found that milk yields rose substantially when cows were fed a kilogram of rumen bypass supplements a day. If a cow/buffalo yields one litre extra per day, producers receive additional income of around 9.00 rupees, or A$0.33 a day, per animal, a significant gain for an Indian villager.

Over the next six months the NDDB will conduct feeding trials using the bypass supplements produced at the Itola plant, to determine whether installing similar plants in some of its national network of 45 feed mills would be commercially viable. Resulting increases in milk production and disposable income could have important economic and social implications for India's 11 million village dairy farmers.

Suresh Gulati
CSIRO Livestock Industries

Agriculture: new directions for a new nation

Research Program Manager Colin Piggin visited East Timor in late September–early October to attend an international conference, *Agriculture: New Directions for a New Nation*, organised between the University Nacional Timor Lorosa'e (UNTL), ACIAR, the Australian National University (ANU) and the Ministry of Agriculture, Forestry and Fisheries (MAFF). The conference opened with addresses from the Minister for Agriculture, Forestry and Fisheries Estanislau da Silva, UNTL Vice Rector Francisco Martins and Australian Ambassador Paul Foley. The Minister for Security and Defence Rocky Rodrigues, who has a great interest in fisheries, also attended the conference.

This was the first international agricultural conference in East Timor in anyone's memory. Minister da Silva was especially pleased about the strong involvement of East Timorese scientists from UNTIL and MAFF in the organisation and presentations, appreciative of the support and organisation from ACIAR/AusAID/ANU, and particularly impressed that the 16 overseas speakers gave their time freely to prepare for and attend the conference.

About 140 participants from 10 countries attended. At the Minister's request, there was a strong focus on technical information and experiences relevant to East Timor development, a strong representation of East Timorese speakers, and a broad agenda spanning cropping, fisheries, forestry and livestock. The conference agenda comprised 25 presentations, a field trip to see coffee and land rehabilitation projects in Ermera, and four working group sessions on priorities for R&D in crops, livestock, forestry and fisheries. Presentations were in local Tetun, Indonesian or English and translated into the other languages.

The conference started with East Timorese presentations from MAFF Departmental Heads on the status and future directions for cropping (Francisco Benevides), livestock (Cesar da Cruz), forestry (Mario Nunes), coffee (Fernando e. Amaral), and fisheries (Acacio Guterres). Then followed some technical presentations from Australian and East Timorese specialists on fisheries, livestock and forestry, containing sound and realistic suggestions for future development.

At the East Timor workshop (l to r) Drs Edwin Javier (IRRI), Shyam Nigam (ICRISAT) and Asep Setiawan (CIP) present results of the 'Seeds of Life' project.

The conference was an excellent opportunity to report on progress with the ACIAR-funded Seeds of Life project presentations based on actual data being collected in newly independent East Timor. *Seeds of Life* seems to be the only functioning research project presently under way in ET, which is unfortunate in view of the current lack and future need for sound local data to support development efforts. *Seeds of Life* has a good story to tell because many of the introduced lines of all crops, obviously well selected, are yielding generally 2–3 times and sometimes 6 times higher than local varieties. Colin Piggin gave an overview of the project, Australian project leader Brian Palmer (presently residing in ET) discussed activities and trials in the first two wet seasons, and detailed data on the crops and their performance were presented by Reinhardt Howeler (CIAT—cassava and beans), Asep Setiawan and Upali Jayasinghe (CIP—sweet potato), Shyam Nigam (ICRISAT—peanut), Fernando Gonzalez (CIMMYT—maize) and Edwin Javier (IRRI—rice).

Dr Rachel McFadyen, ACIAR project leader from Queensland Department of Natural Resources, was especially invited at the request of the Minister because of her reputation in biological control of the weed chromolaena. She gave a timely and relevant presentation about controlling this weed, which is now a serious problem in ET.

Other presentations concerned agricultural policies in East Timor by Helder da Costa, land resources and capability by John Aldrick, and food security and climate by Jim Fox, mechanisation by Edmundo Viegas, coffee by Sisto Moniz, forestry by Ken Old and Tim Vercoe, livestock by Richard Copland, Armando Afonso, Lorenco Fontes and Eduardo Serrao, fisheries by Richard Sellers and Narciso, and AusAID rural development by David Boyce. Colin Piggin also gave a paper on the use and value of leucaena in crop and livestock production, to illustrate how a commonly available resource could be better utilised.

Many of the participants from Australia took the chance to interact further with East Timorese contacts on common areas of technical interest, which was a strong spin-off benefit from the conference.

Workshop announcement

First international workshop on production technologies for low-chill temperate fruits 25–28 November 2002, at the Pang Suan Kaew Hotel, Chiang Mai, followed by the Royal Angkhang Agricultural Station, Chiang Mai.

Organised by the Thailand Research Fund and the Thai Royal Project Foundation in collaboration with ACIAR and 10 other institutions from Thailand, Australia, Japan, New Zealand and Taiwan.

Convenor: Dr. Suranant Subhadrabandhu, Department of Horticulture, Kasetsart University

Enquiries to Ms Jarupan Wainipithpong, Correspondence Secretariat, Kasetsart University, email: nanty2@lemononline.com

New projects

Program key

- ADP Agricultural Development Policy
- ASEM Agricultural Systems Economics & Management
- AS Animal Sciences (1 & 2)
- CS Crop Sciences (1 & 2)
- CTE Communication, Training & Extension
- FIS Fisheries
- FST Forestry
- IAP Impact Assessment Program
- LWR Land and Water Resources (1 & 2)
- PHT Postharvest Technology

Major projects

ADP/2000/004: International food safety regulation and processed food exports from developing countries: A comparative study of India and Thailand

This study will examine the impact of sanitary and phytosanitary measures on the ability of (agricultural exporting) developing countries to achieve the full benefits of trade liberalisation. Particular emphasis is placed on the role of the Sanitary and Phytosanitary (SPS) Agreement and the related WTO dispute settlement procedure in cushioning exporters of agricultural and food products against trade-retarding effects of SPS measures, with emphasis on the related compliance issues and institutional constraints. The objectives are to examine the trade impact of SPS standards, and to distinguish between the degree to which that impact relates to the nature of SPS measures themselves versus the limited capacity of the governments and exporters in developing countries to comply with such measures. The study will yield important policy recommendations for further improvement of the current WTO procedure for SPS dispute settlement, and for enhancing technical, scientific and institutional capacity in India and Thailand. The issues also have particular relevance to Australia, a key member of the Cairns Group, in bridging the gap between agricultural exporting developing countries and developed countries in international trade talks.

Commissioned Organisation: Australian National University

Collaborators: *Australia* University of Melbourne; *India* Research Information Systems for the Non-aligned and Other Developing Countries, *Thailand* Thammasat University, *International Centre* International Food Policy Research Institute, USA.

ASEM/2001/036: Maximising the economic benefits to Pacific Island Nations from management of migratory tuna stocks

Shoals of tuna migrate through the exclusive economic zones (EEZs) of island nations in the Western and Central Pacific Ocean. This migratory characteristic means that no nation has control over the tuna stocks. Stocks in each EEZ depend on harvesting levels, not only in that EEZ but also in other EEZs and on the high seas as well, thus each nation has special problems in managing harvesting effort within its EEZ. The member nations of the Forum Fisheries Agency (FFA) stand to gain the greatest total benefit if they unite to regulate fishing effort or catches by their domestic fleets or by distant water fishing nations. As well, the United Nations Fish Stocks Agreement seeks to set up Regional Fisheries Management Organisations for the conservation and efficient management of migratory stocks. Against this new policy background, this project will identify and promote strategies for Pacific Island Nations to maximise the economic benefits from their migratory tuna stocks. Researchers will gather fishery data, and undertake economic analysis, bioeconomic modeling and policy development. They will update biological and economic parameters of a model so that it can be used to determine optimal year-by-year changes in access charges and fleet capacities.

Commissioned Organisation: La Trobe University, School of Economics

Collaborators: *Australia* University of Queensland, *Regional Centre* Secretariat of the Pacific Community, New Caledonia; *Solomon Islands* Forum Fisheries Agency; *Government agencies* in Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tuvalu, Vanuatu

AS2/2001/029: Development of a knowledge system for the selection of forages for farming systems in the tropics

In the developing world sown tropical forages can provide part of the feed base to support the expanding market for livestock products. Forages can improve feed quality and quantity in a range of farming systems. However, adoption has been limited for a number of reasons, including poor access to appropriate information. Much of the important information is fragmented, unpublished or published in media of limited circulation. This project intends to synthesise and interpret what represents much of the accumulated information on species adaptation, use and management over the last 50 years from across the tropical world. It will be combined into one knowledge system (SoFT - Selection of Forages for the Tropics). The completed product will be a computer-based system that can be used to select 'elite' forage accessions tailored to specific farming systems and environments.

Commissioned Organisation: CSIRO Sustainable Ecosystems

Collaborators: *Australia* Queensland Department of Primary Industries, University of Queensland; *International Centres* International Livestock Research Institute, Ethiopia; International Centre for Tropical Agriculture, Colombia

CS2/2000/044: Taro beetle management in PNG and Fiji

This project builds on work supported over a number of years by the European Union (through the Secretariat of the Pacific Community). It will complete several research aspects

from the earlier project, and will commence implementation of practical control of taro beetle in two South Pacific countries (PNG and Fiji). The scientists will develop ways to increase the effectiveness of controlling taro beetle grubs, employing the fungal pathogen *Metarhizium anisopliae* and the viral pathogen *Baculovirus oryctes*. They will also develop sustainable methods for taro beetle control with minimal use of chemical pesticides. Further studies will develop protocols for synergistic combination of chemical pesticides and use of biological control agents to achieve optimum control. Finally they will communicate these methods of control to taro growers in the partner countries through participatory implementation approaches in association with SPC extension services.

Commissioned Organisation: Secretariat of the Pacific Community, Fiji

Collaborators: *Australia* CSIRO Entomology; *Fiji* Ministry of Agriculture, Sugar and Land Resettlement; *Papua New Guinea* National Agricultural Research Institute.

LWR1/2001/003: Integrated watershed management for sustainable soil and water resources management of the Inabanga watershed, Bohol Island, Philippines

On Bohol Island, a province that is a priority focus for the Australian aid program in the Philippines, there is a move to protect water resources affected by soil erosion and runoff from agricultural lands. In this project scientists will evaluate the extent of soil erosion from agricultural croplands, and measure the sedimentation and water quality of surface waters in the Inabanga River watershed. Researchers will also examine socio-economic and policy issues, and identify constraints that impact on the agricultural sustainability and surface water quality of the Inabanga watershed. The project will evaluate different options and impacts for water resource uses in this watershed, using research methodologies that involve farmers, community groups, local and national government and non-government organisations to assist adoption of research outcomes.

Commissioned Organisation: University of Western Sydney

Collaborators: *Philippines* Bureau of Soil and Water Management; Department of Environment and Natural Resources.

PHT/1997/094: Management of postharvest diseases of subtropical and tropical fruit using their natural resistance mechanisms

This project will develop and optimise sustainable strategies for managing postharvest diseases of subtropical and tropical fruit crops. The research exploits the fact that while fungal infection occurs during fruit development, constitutive or induced antifungal compounds inhibit extensive invasion. The scientists will characterise natural disease resistance mechanisms in commercially important fruit crops - mango and banana from Sri Lanka, mango and avocado from Australia - and devise strategies to enhance resistance and thus suppress disease development during the postharvest phase (storage, transport and marketing). The overall objective of the project is to reduce reliance on synthetic fungicides, which are increasingly considered undesirable both by authorities and by the general public because of health and environment concerns.

Commissioned Organisation: Queensland Department of Primary Industries, Queensland Horticulture Institute.

Collaborators: *Sri Lanka* Department of Agriculture, University of Peradeniya, Sri Lanka

PHT/1998/140: Postharvest handling and disease control in melons in China and Australia

ACIAR funded an earlier small project, 'Postharvest handling and disease control in melons', which affirmed the priority for melon industry development in Western China and the scope for improvements in disease control and supply-chain technologies. This project follows on from that research. It aims to improve postharvest disease control and market quality of melons and other cucurbits, and improve returns to growers in China and Australia. Project activities include the strategic application of preharvest treatments to boost natural defence mechanisms in melons, and postharvest treatments to control disease and maintain quality. Researchers will also develop and test interventions that improve supply-chain management, analyse the economic benefits associated with using modern postharvest technologies and transport systems, and identify the most practical options to improve profitability for farmers.

Commissioned Organisation: University of Sydney

Collaborators: *Australia* Food Science Australia; University of Queensland; *China* China Agricultural University; Gansu Agricultural University; Xinjiang Department of Agriculture; Xinjiang Agricultural University.

Medium projects

ASEM/2001/095: Institutional strengthening for integrated water resource management in Thailand

In Thailand there is pressure on the agricultural sector to increase productivity and export earnings and to embrace intensification in poorer (principally highland) areas. This in turn has had an impact on natural vegetation cover, particularly forests. Preservation of forest cover, effective management of watersheds and poverty reduction require policies and management practices that integrate understanding of the causes and effects of each driver. In a previous ACIAR project in Thailand researchers developed an integrated water resources assessment and management framework (or Decision Support System, DSS). The framework was successfully trialled in a case study involving the 4000 km^2 Mae Chaem catchment in northern Thailand. This new project will focus on making use of the DSS toolkit routine. It will also bring about institutional strengthening

New projects continued

and expanded adoption through further training. A Thai-based network established for those trained in the methodologies will provide updates, links to other users and applications, and notification of redevelopment of new modules.

Commissioned Organisation: Australian National University, Centre for Resource and Environmental Studies

Collaborators: *Thailand* Royal Project Foundation, IWRAM Project.

ASEM/2001/055: Improving yield and economic viability of peanut production in Papua New Guinea and Australia using integrated management and modelling approaches

Peanut production in PNG was an important industry, but annual production has declined from 2500 tonnes in the 1960s to less than 1000 tonnes in 1990s, for a number of reasons including lack of improved high-yielding varieties, seed supply and cost-effective agronomic practices suited to the local farming systems. Also discussions among Queensland peanut growers have revealed the need for a decision-support package to assist them in making critical decisions regarding farm management and financial planning. The aim of this project is to improve yield, quality and/or economic viability of peanut production in PNG and Australia. Project researchers will assess the status of the peanut industry in PNG and also conduct a limited survey of aflatoxin contamination in peanut at three major markets. This information should help the PNG government and private agencies to develop appropriate policies aimed at sustainable peanut production including management of an aflatoxin problem. Work in the Australian component will attempt to incorporate economic considerations into biophysical models dealing with the country's peanut production issues.

Commissioned Organisation: Queensland Department of Primary Industries.

Collaborators: *Papua New Guinea* Trukai Industries; National Agricultural Research Institute, *International Centre*: International Crops Research Institute for the Semi Arid Tropics, India

AS2/2001/077: Poultry feeding systems in PNG

During 2001, surveys and studies conducted by the National Agricultural Research Institute (NARI) in PNG to identify livestock R&D issues determined that reducing the cost of livestock feeding was of the highest priority. In particular, the smallholder broiler chicken industry that produces about 6 million birds per year (value $A54 million) was identified as a sector where feed costs could be reduced and profitability increased with greater use of local feed resources. This project aims to establish a facility at NARI to evaluate local feedstuffs as substitutes for imported grains and to formulate poultry rations that can be produced by local feedmills for village use. Provincial Governments and an NGO will support the in-village demonstration trials of the new rations.

Commissioned Organisation: South Australian Research and Development Institute, Pig and Poultry Production Institute

Collaborators: *Papua New Guinea* National Agricultural Research Institute; Morobe Provincial Division of Agriculture and Livestock; Madang Provincial Department of Primary Industries; Salvation Army PNG Development Program; Lae Feed Mills.

Small Projects

AS2/2002/017: Potential effects of globalisation on the structure of livestock production in Asia

IAP/2002/053: Impact assessment of ACIAR projects on wheat rust resistance

IAP/2002/054: Framework for analysis of poverty impacts of ACIAR research

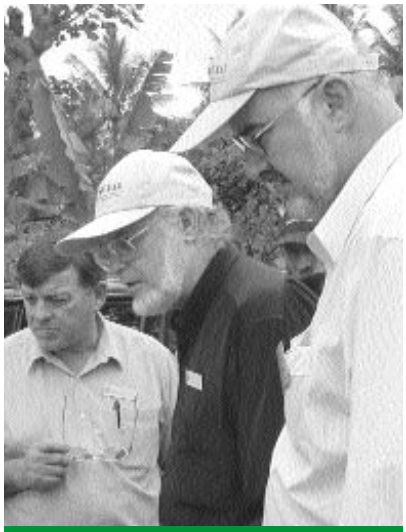
IAP/2002/055: Economic assessment of the 'Mama Lus Frut' scheme

Continued from back page

Changes to ACIAR Board and Council

Board and Council member Dr Paul Wellings resigned from the Board and Council from 30 June 2002. Dr Wellings, the Deputy Chief Executive of CSIRO, accepted the appointment as Vice-Chancellor of the University of Lancaster, UK. He left Australia in August to take up the position.

CSIRO's representation on the Board and Council will continue through the appointment of Dr John Williams, Chief of CSIRO Land and Water. Dr Williams has a strong technical background in soil science, a field of considerable significance and investment for ACIAR. He is well known for his analysis of the issues that confront Australian agriculture and his concern that it be both productive and sustainable in terms of resource use and impact on the environment.



Down to business—new member of ACIAR's Board and Council Dr John Williams (second from right), pictured with ACIAR Deputy Director John Skerritt (right) and fellow member Mr Don McGauchie, learns about some ACIAR-associated work while on tour in Indonesia.

New publications

ACIAR's distribution policy is to provide complimentary copies of its publications to developing country libraries, institutions, researchers and administrators with an involvement in agriculture and to any scientist involved in an ACIAR project.

Please write to
Manager, Communications and Information Services,
ACIAR, GPO Box 1571,
Canberra ACT 2601, Australia
(email comms@aciar.gov.au) if you believe you are eligible to receive a complimentary copy.

Others may purchase them, and sales enquiries should be directed to:

CSIRO Publishing
publishing.sales@csiro.au
Fax: 61 3-9662 7555
Phone (switch) 61 3 9662 7500

Increasingly ACIAR publications can be downloaded from the website (www.aciar.gov.au). A publication listed with 'e' in its title (e.g. Technical Report 51e) denotes that it is primarily an electronic publication, although limited hard copies are available.

Proceedings

Development Strategies for Genetic Evaluation for Beef Production in Developing Countries

In 1993 ACIAR funded a project for the Thai Department of Livestock Development (DLD) in conjunction with Australia's Agricultural Business Research Institute (ABRI) to establish a database system for genetic evaluation and improvement of beef cattle and buffalo in Thailand. The computerised data were then analysed using GROUP BREEDPLAN, a pedigree/performance evaluation system developed in Australia. The initial focus of the project was the genetic improvement of herds through the government breeding programs by using BREEDPLAN estimated breeding values to select superior breeding animals. The DLD then placed these superior animals in village production systems. These workshop proceedings are a record of the Thai experience, documented so that the knowledge could be shared with other Southeast Asian countries with similar production environments.

Allen, Jack and Na-Chiangmai, Ancharlie, ed., 2002. ACIAR Proceedings No. 108, 180p. Price $A28.00 (plus postage and handling).

Monographs

Survey Toolbox for Aquatic Animal Diseases: a Practical Manual and Software Package

Prevention, control and eradication of an aquatic animal disease depend on a good understanding of the disease and its distribution. An epidemiologically structured survey is an important tool to gain comprehensive information about the disease. One of the constraints to conducting such a survey is access to survey techniques, and this is particularly difficult in developing countries. This book aims to provide this information. It deals specifically with the collection of reliable, high quality information using fast, inexpensive techniques applicable in developing countries. A CD that contains both text and software programs, enabling the user to plan, implement and analyse a survey, is included with the book.

Cameron, Angus 2002. ACIAR Monograph No. 94, 375p. Price $A50.00 (plus postage and handling).

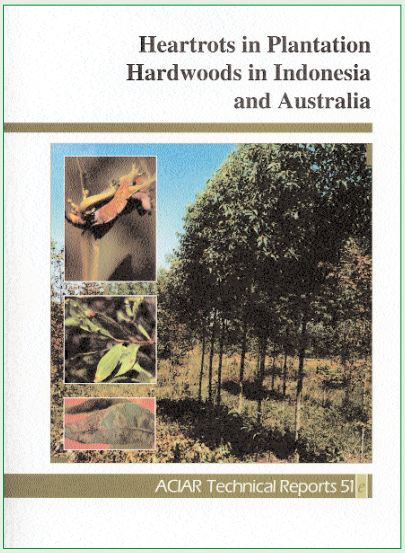
Developing forage technologies with smallholder farmers - how to grow, manage and use forages

The International Center for Tropical Agriculture (CIAT) and ACIAR have published this practical guide book about forages aimed specifically at researchers and extension workers in Southeast Asia. It has been published in English and five regional languages (Chinese, Indonesian, Lao, Thai and Vietnamese). This book is the second in a series being published by CIAT and ACIAR. The first book was about how to select the best forage varieties to offer farmers in Southeast Asia and the next book will provide practical ideas on how to work in partnership with farmers to develop solutions to their agricultural problems.

Stur, Werner and Horne, Peter M. 2002. ACIAR Monograph No. 88. To obtain a copy contact Ms Douang at the CIAT regional office in Asia (ciat-asia@cgiar.org) or Peter Horne (p.horne@cgiar.org), stating which language version you need.

Technical reports

Heartrots in Plantation Hardwoods in Indonesia and Australia



The fungal disease heartrot has been reported as a major problem in *Acacia mangium* in parts of Asia. While it affects volume it does not appear to affect pulp quality for paper production as yet. However, it becomes significant if growing trees for the solid-wood industry. Indonesia's pulp production capacity grew from 600,000 to 6.1 million tonnes between 1988 and 2001, and to remain economically viable in the medium- to long-term the industry will have to develop its plantations far more than in the past. The potential for fungal disease will be one of the major issues to contend with in the expansion into new areas. This technical report is an assessment of the status of the heartrot problem and prospects for research in both Indonesia and Australia.

Barry, K., ed., 2002. ACIAR Technical Reports No. 51e, 40p. Price $A12.00 (plus postage and handling).

Around ACIAR

Honour to Council member from Vietnam

Professor Vo-Tong Xuan, who has been a member of the ACIAR Policy Advisory Council since 1997, has received the Nikkei Asia Prize for his part in transforming rice production in Vietnam and increasing rice production in the Mekong Delta. ACIAR congratulates him for this well deserved recognition.

Congratulations to Debbie Templeton, PhD

Debbie Templeton, Senior Economist in ACIAR's Impact Assessment Program, graduated with her PhD from the University of New England, Armidale NSW on October 12. Debbie joined ACIAR while she was still writing her PhD thesis, and showed incredible diligence to fulfil the demands of her new job while completing this major task after hours. Debbie celebrated the awarding of her degree over a weekend in Armidale, followed by a lunch in her honour in Canberra, hosted by her friends at ACIAR.

Dr Debbie Templeton on her graduation day at University of New England, pictured with her principal supervisor Professor Roley Piggott.

Equipment boost for collaborator

From time to time ACIAR donates surplus office equipment to local counterparts following refurbishment of country offices. The country manager identifies a suitable recipient, usually a library, a university or a collaborating institution. Recently the Vietnam office donated four fully equipped computers and a laser printer to the Department of Science, Technology and Product Quality (DSTPQ), Ministry of Agriculture and Rural Development (MARD). The Department is ACIAR's main collaborator in MARD.

Pictured at the handover of computers and a printer are (l-r) Dr Nguyen Viet Hai (DSTPQ, Ministry of Agriculture and Rural Development), Mr Nguyen Binh Thin, Deputy Director of DSTPQ, Dr Ralph King, Deputy Head of Mission at the Australian Embassy, Ms Duong Huong Ly, Assistant Country Manager, Ms Nguyen Lan Phuong, ACIAR Administrative Assistant and far right, Vietnam Country Manager Greg Banova.

John Allwright Fellows visit Canberra

In October ACIAR hosted its second Fellows Week for 2002, bringing together 16 more of its John Allwright Fellows currently studying in Australia. These weeks have now become an institution, with Fellows rating them highly for the contacts they make with ACIAR and the opportunity to meet others studying under the scheme. They also value greatly the help they receive in seminar preparation and presentation, and in thesis writing. The group is pictured outside ACIAR's Canberra headquarters.

ACIAR Annual Report 2001-2002 released

ACIAR's annual report has been tabled in the Australian Parliament.
The report is distributed to libraries and others in Australian and overseas institutions. Additional copies are available on request, or you may access the electronic version on ACIAR's website (www.aciar.gov.au).