

**SENATE FOREIGN AFFAIRS, DEFENCE AND TRADE
REFERENCES COMMITTEE**

**INQUIRY INTO PAPUA NEW GUINEA AND THE
ISLAND STATES OF THE SOUTH-WEST PACIFIC**

SUBMISSION

Submission No: 82

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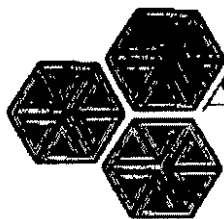
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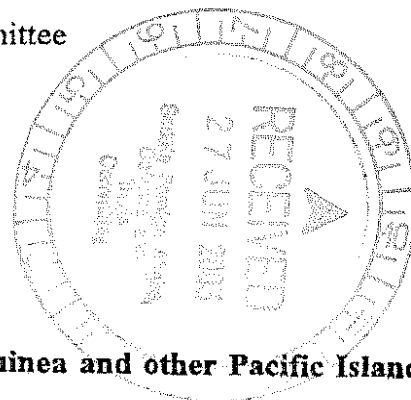
ACIAR

Australian Centre for International Agricultural Research

22

19 November 2002

The Hon Senator Peter Cook
Chair
Senate Foreign Affairs, Defence and Trade References Committee
Parliament House
CANBERRA ACT 2600



Dear Senator Cook

Submission: Australia's relationship with Papua New Guinea and other Pacific Island Countries

On behalf of ACIAR, a submission to the above inquiry is forwarded for consideration.

In addition to myself, the relevant ACIAR contact point is Dr John Skerritt, the Deputy Director in charge of our Research and Development Program. His contact details are: (02) 6217 0510 and skerritt@aciar.gov.au.

Yours sincerely

Peter Core
Director



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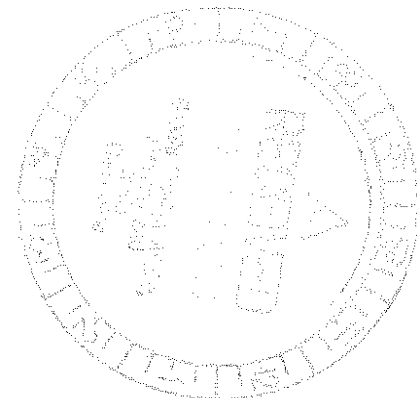
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Executive Summary

- Papua New Guinea is one of ACIAR's most important partners. In 2002-03 ACIAR's project-based investment in PNG is \$3.2 million. This level of investment is anticipated to be sustained in 2003-04.
- The primary focus of the ACIAR program is on collaborative R&D projects in crop protection, fisheries, forestry and agricultural policies and systems. In the case of crop protection, there are significant Australian quarantine benefits from ACIAR's involvement.
- PNG faces some formidable challenges to its agricultural development. It is a net food importer with high population growth rates. Village-based agriculture supports 70-80% of the population. The main cash crops in order of export value are oil palm, coffee, cocoa and coconuts.
- As one of the few donors supporting agricultural R&D in PNG, ACIAR has a continuing interest in maintaining the viability of the PNG agricultural research and extension system through delivering better technologies into the rural areas where most of the poor live and which are most vulnerable to poor service delivery and externally-triggered shocks. A long-term engagement by ACIAR will be needed.
- In the South Pacific, the challenges are equally daunting. ACIAR's program will expand in line with Australian foreign policy directions but smallness, isolation and limited institutional capacity pose special difficulties for the Pacific Island Countries. ACIAR's primary focus is fisheries, forestry, crop protection and agricultural economics/policy. Our investment is a mix of bilateral and regional approaches, particularly with the Secretariat of the Pacific Community, the Forum Fisheries Agency, and the University of the South Pacific. We have also engaged some of the international agricultural research centres to work on priority projects – ICLARM on marine resources, IPGRI on genetic resources and IWMI on land management¹.

¹ ICLARM – International Centre for Living Aquatic Resources Management, headquartered in Malaysia, now renamed the World Fish Centre.

IPGRI – International Plant Genetic Resources Institute, headquartered in Italy.

IWMI – International Water Management Institute, headquartered in Sri Lanka.

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ACIAR's role

- ACIAR is a statutory authority in the Foreign Affairs and Trade portfolio established by the *Australian Centre for International Agricultural Research Act 1982*. Its establishment reflected the view that Australia could make a special contribution to development through sharing its agricultural research expertise. It does this by mobilising Australia's research capacity to help solve agricultural research problems of developing countries.
- ACIAR itself does not carry out research, but brings together research institutions in Australia and partner developing countries to work together on problems of mutual interest and benefit, in fields in which Australia has comparative advantage.
- ACIAR appropriation funding in 2002-03 is \$48.5 million. The bulk of these funds are allocated to bilateral projects where an Australian research agency is the lead contracting partner, and to related training programs, etc. \$10 million is allocated to the International Agricultural Research Centres (IARCs), partly as Australia's core support for particular centres, and partly for multilateral projects commissioned through the Centres. During 2001-02, ACIAR funded 184 bilateral projects and 36 projects with the IARCs.
- Consistent with Australia's aid priorities, our focus is the Asia-Pacific. We are involved in more than 20 countries. Our most significant relationships, in order of 2002-03 project funding, are: Indonesia, China, Papua New Guinea and the Pacific, Philippines, India and Vietnam.

ACIAR's Investment in PNG and Pacific Islands

- In 2001-02, our project-based investment in PNG was \$2.5 million and in 2002-03, it is budgeted to be \$3.2 million. As at November 2002, ACIAR has 25 active bilateral projects in PNG across the agriculture, fisheries and forestry sectors. A further 3 projects with PNG involvement are supported through the multilateral program.
- Our project-based investment in the Pacific Islands was \$0.6 million in 2001-02. In 2002-03 it is budgeted to increase to \$1.7 million, with further increases planned for 2003-04. As at November 2002, ACIAR has 10 active bilateral projects in Pacific Island countries across the agriculture, fisheries and forestry sectors. A further 3 projects are supported through the multilateral program.
- Current ACIAR projects in PNG and the South Pacific are listed at Attachment A.

Current Position, Priorities and Capabilities

(a) Papua New Guinea

Strategy

- ACIAR's strategy in PNG is to support applied technical and economic research aimed at the enhancement of cash incomes for smallholders. There is an emphasis on root crops, plantation and horticultural crops, and project design encourages private sector and industry linkages. Sustainability of renewable resources is encouraged through programmatic emphases on crop and livestock and crop biosecurity and on sustainable management of forest and fisheries resources. The socio-economic context of the scientific research is given particular attention. The PNG program has a strong emphasis on capacity-building, with both short-term training within projects and postgraduate training of high priority.

Position

- Papua New Guinea is one of ACIAR's most important partners. PNG's share of our bilateral program in 2003-2004 will be around \$A3.2 million.
- ACIAR's investment and commitment in PNG reflects the deep, long-term relationship between the two countries. Overall, PNG is Australia's largest development partner, receiving annual assistance of over \$A300 million. Australia is committed to seeing PNG develop and prosper. ACIAR's program in PNG has endeavoured to reflect this and over the last two years the portfolio has increased significantly. Since 1998 ACIAR and AusAID have worked together to develop and fund a small set of projects of mutual interest. However, while PNG is the largest recipient of Australian aid, and the majority of the PNG population is rural, a relatively small percentage of overall Australian aid is targeted directly towards agriculture, forestry and fisheries. This significantly limits the ability to implement community-based programs in these areas.
- PNG faces some formidable challenges to its agricultural development. It is a net food importer with high population growth rates. Village-based agriculture supports 70-80% of the population. The main cash crops in order of export value are oil palm, coffee, cocoa and coconuts.
- PNG's lack of capacity is a constraint in R&D activities and in delivery of extension services. ACIAR's PNG program has a consequent strong emphasis on strengthening the limited skills base and strengthening institutional capacity. ACIAR is also keen to package the results of earlier research in a suitable form for uptake by farmers, and to give farmer groups training opportunities.

Program priorities

- ACIAR has a formal program of consultations with PNG to establish priorities in research collaboration. These consultations are on a four-year rolling basis and were last held with PNG in August 2000.

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(b) South Pacific***Strategy***

- ACIAR's strategy in the Pacific addresses the significant challenges of market access for agricultural and fisheries products including implications of WTO accession, quarantine- and biosecurity-related issues, product quality, scale of production and remoteness of export markets. We maintain a mixture of research on value-adding and marketing, cash-generating crops, fishing activities and production sustainability issues, and emphasise technologies that are appropriate to smallholders. We also address institutional issues affecting technology uptake.
- Programmatic areas of emphasis include agricultural development policy and systems economics, crop protection and genetic resource utilisation, fisheries, forestry and postharvest technology. Commodity-based research on crop and livestock breeding and production is not a priority because we believe that relevant technology is difficult to conduct cost-effectively and can be adapted from research carried out elsewhere.
- ACIAR invests bilaterally in nations of particular importance to Australia – Fiji, Solomon Islands, Samoa, Tonga, Kiribati and Vanuatu. Unrest in Melanesia, particularly in Solomon Islands, has hindered expansion of activities in recent years. The limited research capability in the region, resulting from the small populations of most countries, is an ongoing constraint. ACIAR works closely with regional organisations, especially the Secretariat of the Pacific Community (SPC) in setting priorities and executing projects. We ensure that projects have a substantial training component.
- Pacific Island countries have limited capacity to participate effectively in ACIAR's normal program of collaborative research through the bilateral partnership mode. Their active participation in regional and/or multi-country programs and projects addressing common problems partly helps to overcome these constraints. Project design has to take account of the risks associated with issues of institutional instability, personal security, high staff turnover, and limited depth of national staff resources.

Position

- There has recently been a significant increase in the size of ACIAR's program with the Pacific, in line with Australian foreign policy imperatives. A stable and economically viable Pacific is in Australia's interests, and agriculture, forestry and fisheries remain important livelihoods for the majority of the Pacific's population.
- Major factors constraining socio-economic development of Pacific Island countries are small size, relative physical isolation, limited natural resource base, poor regional and international physical communications, internalisation and aid/remittance dependence of many economies, limited opportunities for commodity exports, lack of competitive ability in trade globalisation, demographic factors including population growth rates, and scarcity of sufficient and adequately trained personnel.

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- The region's small renewable natural resource economic subsectors are dominated by subsistence agriculture. The level and nature of commodity exports vary across the region and include sugar, fruit and vegetables, vanilla, pepper, kava, hardwood logs and lumber, softwood lumber, fish and other marine products; income is also gained from rental of fishing grounds within each respective country's exclusive economic zone. Despite the fundamental importance of sustainable natural resources development to national and regional development, the sector throughout the region is under-resourced in its physical and human infrastructures.
- ACIAR supports some collaboration by Pacific Island countries with international agricultural research centres – ICLARM on marine resources, IPGRI on genetic resources conservation (including INIBAP on bananas and COGENT on coconuts), and in the past IBSRAM (now incorporated within IWMI)² on land management.

Program priorities

- As part of the process of establishing program priorities, senior ACIAR staff meet regularly with staff and management of the Secretariat of the Pacific Community (SPC), South Pacific Applied Geoscience Commission (SOPAC) and the University of the South Pacific (USP), as well as with leaders in the agriculture, forestry and fisheries sectors of individual countries. ACIAR also attends whenever possible the regular meetings of: Forum Fisheries Agency, Permanent Heads of Fisheries, Heads of Forestry, Permanent Heads of Agriculture and Livestock Production Services, and Regional Technical Meetings of Plant Protection.
- In October 2001, ACIAR co-sponsored an Asia-Pacific Association of Agricultural Research Institutions (APAARI) priority-setting workshop on Pacific regional research priorities. Though not the officially sanctioned priorities of individual governments, the outcomes of the meeting provided guidance for ACIAR's informal framework of priorities for collaborative research.
- Technical and policy improvements in the forestry and fisheries sectors will enhance sustainability and increase income and livelihood opportunities for large numbers of Pacific island peoples. Industry-wide benefits are most likely to be gained from better resource management policies and practices, while activities to promote productivity gains in smaller-scale forest and fishing industry operations, such as artisanal fisheries and coastal aquaculture, offer some scope to target village communities specifically as beneficiaries.

² ICLARM – International Centre for Living Aquatic Resources Management, headquartered in Malaysia, now renamed the World Fish Centre.

IPGRI – International Plant Genetic Resources Institute, headquartered in Italy.

INIBAP – International Network for the Improvement of Banana and Plantain.

COGENT - International Coconut Genetic Resources Network, facilitated by IPGRI.

IBSRAM – International Board for Soils Research and Management.

IWMI – International Water Management Institute, headquartered in Sri Lanka.

- We will continue to seek the involvement of regional organisations in the South Pacific, especially the Secretariat of the Pacific Community. In our view, regionally based structures provide an effective means of promoting shared solutions to common problems. At the bilateral level, our focus in the South Pacific will be on Fiji, Samoa, Tonga, Kiribati, Vanuatu and the Solomon Islands (although security issues may constrain activities in the Solomon Islands for some time). These countries have the constraints of isolation, small scale and limited capacity but do provide a platform for collaboration in agricultural research to assist development.

Capabilities

- As in Papua New Guinea, training, including postgraduate fellowships, is a vital element in enhancing the skills base and capacity of agricultural research institutions in the South Pacific. There have been 11 John Allwright Fellows from the South Pacific countries, including Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu. Of these 8 have been awarded postgraduate degrees (Masters and PhD), while 2 are still studying in Australia. One Fellow will commence in early 2003.

Recent Development Achievements

- ACIAR is only a small component of Australia's efforts to promote a more stable and economically viable Pacific, but commensurate with our investment, ACIAR has made a tangible impact on training and institutional strengthening and on the incomes of farmers and fishers. Some examples follow.

(a) Papua New Guinea

- ACIAR's most successful project in PNG is the control of the **banana skipper** insect. The insect appeared in PNG 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 is 607:1.
- Other successful projects include identification of the pheromone of cane borer (enabling its numbers to be monitored in the field), how to halt the spread of bee mites in PNG and keep them out of Australia, conservation of indigenous plants, and management of the tuna industry. Much effort has gone into land-use planning and to developing policy for PNG's food security. An AusAID-supported ACIAR project is establishing scientific communication training in the country's universities, in response to a request from the Department of Agriculture and Livestock.

- **Crop protection** is an important area of cooperation, as the results of research can both minimise losses of smallholder crops and assist in quarantine protection, which is important for PNG and also Australia. Surveys of biological threats to sugarcane have revealed some useful information on sugarcane pest and disease distribution in PNG, which is in the region of origin of sugarcane. Quarantine officials in PNG have been alerted to the presence of serious diseases that have travelled on commercial sugarcane from Java to eastern Indonesia. The project is ensuring that strategies are in place to minimise the risk of these diseases entering either PNG or Australia.
- In PNG sorting and identification of the **fruit fly** fauna (about 200 different species already known) have determined those of economic importance and the host-fruit ranges of important species. Scientists have developed a monitoring strategy to enable PNG to watch its borders for new incursions and to detect movement of flies. Advice on how to contain further spread, and how to control the flies already present in PNG's eastern islands, followed a monitoring program that revealed the entry of banana fruit fly (*Bactrocera musae*) into the islands. The incursion of this fly is a threat to food security where banana is the main food staple.
- **Cooperation in fisheries research** covers technical, social and policy issues. A study of community-based approaches to the management of bêche-de-mer (sea cucumber), a valuable source of income for remote-island and coastal communities, is under way, together with a stock assessment of bêche-de-mer in Milne Bay Province. The projects aim to develop a management framework acceptable to the dependent communities and commercial entities.
- ACIAR-supported research contributed to the comprehensive upgrade and revision of the National Management Plan for the Barramundi Fishery in PNG's Gulf and Western Provinces which was finalised recently by the National Fisheries Authority. The project led to improved understanding of the state of the resource and the complex social environment in which the fishery operates. A study now in progress is establishing the key R&D issues that constrain the smooth development of inland aquaculture in PNG.
- **Research cooperation in forestry** emphasises forest management and research on the potential utilisation of PNG species. Ti-tree oil produced from native forests in remote areas of Western Province is now being marketed in PNG under its indigenous name, 'Waria Oil'. This is providing small cash incomes to rural communities in a region with few other options for entering the cash economy.
- **Food Security for Papua New Guinea**, the ACIAR-edited proceedings of the PNG Food and Nutrition 2000 conference was launched in PNG in August 2001. The Department of National Planning and Rural Development is using the book as a key resource for review of the overall medium-term development strategy, and as a resource for consultations with other donors — one of which has resulted in a grant of US\$25 million. The two main agricultural universities now use the work as a major reference for student training.

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- There is a need to improve **scientific communication** at tertiary level in PNG at undergraduate, graduate and post-study levels. Inadequate communication is currently a significant impediment to the successful adoption of agricultural research. An AusAID-supported ACIAR project attempts to redress the gaps in scientific communication training at the undergraduate level, and to further develop the skills of those (including research scientists) who communicate scientific issues to non-scientists.

(b) South Pacific

- The impact of **international sugar market reforms** on the Fiji sugar industry is being examined, focusing on farm-level issues, such as land tenancy arrangements. Factors affecting household food choice have been determined in Fiji, with informative research on food consumption and nutrition generating considerable interest from government and the health sector.
- A sustainable management plan for the **live reef fish trade fishery** in Solomon Islands was developed. The plan has been presented to policy makers, local communities, fishery managers and researchers, and addresses potentially controversial aspects, such as seasonal closures. Extending the research to other countries, and into marketing and consumption aspects, is being investigated.
- **Enhancement of economic returns from tuna**, a key resource for countries in the South Pacific, is closer through updating and modifications of the bio-economic model used by the Secretariat of the Pacific Community and the Forum Fisheries Agency to assist in ongoing management decisions. Improvements and adaptations are being incorporated following changes in the operating environment.
- The development of **suitable grow-out and pearl culture technologies** to underpin the establishment of stable, profitable pearl culture industries in island settings is progressing well in Kiribati and Tonga, with industry development in Fiji also progressing well, benefiting from earlier work on wild spat collection by ACIAR and ICLARM (the World Fish Centre).
- A project on **yam nutrition** operating in PNG, Tonga and Vanuatu is making steady progress with this crop plant, highly valued in the Pacific. Utilisation and conservation of other important Pacific crop genetic resources, such as taro, is underway. ACIAR is supporting development of a regional strategy for conserving plant genetic resources in the Pacific.
- Poor soils can limit the productivity of **timber plantation trees**, and the fertiliser application techniques used in the past have largely failed to alleviate the problem. For timber production to be sustainable in the long term it is important to ensure that the nutrient capital of a plantation area is maintained through best practice techniques. Over the past decade ACIAR has funded research to optimise nutrition of plantations in the western Pacific. In small island communities, the results of the research have led to considerable community employment through seedling establishment in nurseries and planting out. Kolombangara Forest Products Ltd, the largest private employer in Solomon Islands, has put the results into practice, and has gained the prized 'green labelling' status from the global Forest Stewardship Council. This opens up worldwide markets, especially in Europe where such accreditation is mandatory.

Attachment A

Active ACIAR Projects in Papua New Guinea at November 2002	
ACIAR Project No.	Project Title
Bilateral projects	
ASEM/1999/084	Improving productivity of the smallholder oil palm sector in Papua New Guinea: a study of biophysical and socioeconomic interactions
ASEM/2001/036	Maximising the economic benefits to Pacific Island Nations from management of migratory tuna stocks
ASEM/2001/055	Improving yield and economic viability of peanut production in Papua New Guinea and Australia using integrated management and modelling approaches
AS1/2000/009	Development of diagnostic and control methodologies for animal trypanosomiasis (Surra) in Papua New Guinea, Indonesia, the Philippines and Australia
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific
AS2/2001/077	Poultry feeding systems in PNG
CTE/2000/162	Scientific communication in Papua New Guinea
CTE/2000/167	Research capacity building within NARI and training in agricultural chemistry
CS1/1996/140	Biological threats to Saccharum germplasm and sugar production in Papua New Guinea, Indonesia and Australia
CS1/1998/061	Coconut tissue culture for clonal propagation and safe germplasm exchange
CS2/1994/043	Virus indexing and DNA fingerprinting for the international movement and conservation of taro germplasm
CS2/1996/091	Biological control of Chromolaena odorata in Indonesia, Papua New Guinea and the Philippines
CS2/2000/044	Taro beetle management in PNG and Fiji
CS2/2001/032	Impact and management of Oribius weevils in Papua New Guinea
FIS/1998/024	The biology, socioeconomics and management of the barramundi fishery in the Fly River and adjacent coast of Papua New Guinea
FIS/1999/038	Sustainable artisanal bêche-de-mer fisheries through the incorporation of socioeconomic considerations in the development of community based fisheries management plans
FIS/2001/034	Inland pond aquaculture in PNG - assessment of the industry and evaluation of small holder research and development needs
FIS/2001/059	Research for sustainable use of bêche-de-mer resources in Milne Bay Province, Papua New Guinea
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
FST/1998/115	Domestication of Papua New Guinea's indigenous forest species
FST/1998/118	Planning methods for sustainable management of timber stocks in Papua New Guinea's forests
LWR2/1998/028	Diagnosis and correction of nutritional disorders of yams
LWR2/2000/046	Overcoming magnesium deficiency in oil palm crops on volcanic ash soils of Papua New Guinea
PHT/1995/136	Cocoa fermentation, drying and genotype product quality assessment
PHT/2001/016	Microbial contaminants associated with sago processing and storage in Papua New Guinea
Multilateral projects	
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)

Attachment A

Active ACIAR Projects in the South Pacific at November 2002		
ACIAR Project No.	Title	Collaborating countries
Bilateral projects		
ADP/1996/136	Fiji sugar industry: assessing international sugar market reforms and their impacts and defining appropriate responses	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	Fiji
ASEM/2001/036	Maximising the economic benefits to Pacific Island Nations from management of migratory tuna stocks	Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands, Tuvalu, Vanuatu
AS1/2001/054	The identification of constraints and possible remedies to livestock production by zoonotic diseases in the South Pacific	Fiji, Kiribati, PNG, Tonga
CS2/1994/043	Virus indexing and DNA fingerprinting for the international movement and conservation of taro germplasm	PNG, Samoa
CS2/2000/044	Taro beetle management in PNG and Fiji	Fiji, PNG
FIS/1997/031	Pearl oyster resource development in the Western Pacific	Cook Islands, Fiji, Kiribati, Solomon Islands
FST/1996/085	Nutrition of tropical hardwood species in plantations in the south-western Pacific	Fiji, Samoa, Solomon Islands
LWR2/1998/028	Diagnosis and correction of nutritional disorders of yams	PNG, Tonga, Vanuatu
LWR2/2001/038	Management of animal waste to improve the productivity of Pacific farming systems	Fiji, Kiribati, Tonga, Tuvalu
Multilateral projects		
CS2/2001/068	Technical support for regional plant genetic resources development in the Pacific	Cook Islands, Fiji, Kiribati, Malaysia, Nauru, PNG, Samoa, Solomon Islands, Tokelau, Tuvalu, Vanuatu
FIS/1998/013	Development of new artisanal fisheries based on the capture and culture of postlarval coral reef fish	PNG, Solomon Islands
FIS/1999/025	Optimal release strategies for restocking and stock enhancement of the tropical sea cucumber, sandfish (<i>Holothuria scabra</i>)	PNG, Solomon Islands