Attachment to Paper Series 2.2

Annex 3.1

Coastal Fisheries Programme

2003-2005
Triennial Progress Report

Part I: Overview and highlights

This paper reports on progress against the defined outputs of the Coastal Fisheries Programme's (CFP) Strategic Plan 2003 – 2005. The outcomes and directions presented in this review will also form the basis for developing a new CFP Strategic Plan for the period 2006 to 2009, in conjunction with discussions and input from stakeholders.

The aims of the CFP fall within an area that is defined not only by the expressed priorities and needs of member governments and administrations, but also by the functionality of other CROP agencies and SPC programmes working on ocean issues e.g. the Forum Fisheries Agency; the SPC Oceanic Fisheries Programme; the SPC Regional Maritime Programme; the South Pacific Applied Geosciences Commission; the University of the South Pacific; and the Pacific Regional Environment Programme. All of these are part of the CROP Marine Sector Working Group (MSWG), with NGO observers participating as appropriate. The CFP works in its identified areas and in collaboration with other agencies where there are overlapping responsibilities.

At the start of the plan period, the overall goal of the SPC Coastal Fisheries Programme, in contributing to the achievement of the regionally-shared vision of "A healthy ocean that sustains the livelihoods and aspirations of Pacific Island communities" expressed by the Pacific Islands Regional Ocean Policy, was that "The long-term social and economic value of small-scale fisheries and aquatic living resource use in Pacific Island waters is optimised." An independent review during through the plan period, however, recommended modifying this to clearly reflect the fact that the programme works with governments and administrations, and the goal of the overall programme was amended as follows:

> *"SPC member fisheries services, working with environmental and other appropriate stakeholders, have a clear vision for the sustainable management and development of coastal living marine resources, and develop and implement strategies and mechanisms to achieve this vision"*

The CFP is made up of six sections working jointly towards this shared goal and addressing the six main objectives of the CFP Strategic Plan: Aquaculture, Fisheries Development, Coastal Fisheries Management, Training, Reef Fishery Assessment, and Information.

Significant, and extremely satisfactory, progress has been made towards the goal of the Coastal Fisheries Programme during the plan period. A regional aquaculture advisory service has been established and is operating at a strategic level with member governments and administrations to establish mechanisms and systems that promote long-term sustainability; the largest ever reef fisheries assessment (using fishery-independent methodologies) is being carried out in 17 SPC countries and territories including the first major sex-disaggregated socio-economic assessment of these fisheries; the number of Pacific Island coastally-based small-scale tuna fishing vessels is now 25% of the total Pacific longline fleet[1]; the cost/benefit ratio of coastal fixed Fish Aggregation Devices has been validated and an even lower-cost design produced; a set of coastal fisheries management strategies has been regionally agreed and is being implemented by several governments and administrations (aimed particularly at improving community and stakeholder participation in fisheries management decision-making), and a large number of practical information products have been produced and a large number of people given vocational training. A programme staff member has even won an international environmental award for the development of a bycatch-avoiding fishing gear modification.

Building upon this base, many things need to be achieved during the next plan period (2006-9), and it is intended that the different activities of the programme be framed under the overall goal of assisting Pacific Islands to achieve a commitment made by SPC member countries at the World Summit on Sustainable Development of *"Implementing the ecosystem approach to fisheries by 2010"*. Coastal fisheries in the Pacific Islands are still largely subsistence and small-scale artisanal fisheries, and certain elements of the Ecosystem Approach to Fisheries (EAF) will be need to be given more emphasis in the Pacific Community region than fisheries in other regions of the world, particularly to take account of Pacific Island marine tenure systems and the relatively significant impact of land-based processes on small-island coastal fisheries ecosystems.

Institutionally, the CFP has significantly more Pacific Island staff than at start of the triennium; in fact the majority of the professional staff of the Programme are now Pacific Islanders (12 out of a complement of 23 compared to 6 at the start of the programme triennium). The number of women in the programme has not increased significantly over the period, but it is only a matter of time before this changes because the majority of new marine studies graduates entering the system are female.

[1] And because it markets mainly fresh airfreighted fish, the share of the value is probably higher than 25%

Part II: The sector

Current situation of the sector

The sector than makes up coastal fisheries is diverse in most countries and territories in the region. It can be roughly split into three broad categories; aquaculture, nearshore pelagic fisheries and reef fisheries.

Aquaculture

For the novice a basic definition may help clarify the scope of the sector. Aquaculture is simply any kind of farming that takes place in fresh or marine water (mariculture refers specifically to farming in seawater). Traditionally aquaculture has been placed in the domain of fisheries although technically it is an extension of agriculture. Aquaculture in the Pacific is best categorised into two forms – commercial and semi-subsistence.

Commercial aquaculture

Intensive commercial aquaculture is relatively new to the Pacific region and its development phase typically takes several decades of research and development. Over recent years, an average value of export is estimated be somewhere in the range of USD $130–180 million dollars per annum. Two commodities account for about 90 per cent of the total value; cultured black pearls and marine prawns. Other aquaculture products in the region include Kappahycus seaweed, corals, clams and fish.

Cultured Pearls: Cultured black pearls are the product of the black-lip pearl oyster, and in the late 1990s had become the most valuable export of French Polynesia (USD $164 million) and the Cook Islands (USD $9 million). Subsequently, industry growth in both countries endured a slump. In French Polynesia this was due to an oversupply of poor-quality pearls, and in the Cook Islands it was from a pearl disease in 2000 (accumulative loss may be as high as NZD $100 million dollars (USD $70 million)). Pearl farms are been established elsewhere, including Fiji Islands where the value of the industry is estimated at FJD $4.8 million (USD $2.88 million), the Marshall Islands, Federated States of Micronesia, Solomon Islands, Kiribati, Papua New Guinea and Tonga.

Marine prawn: New Caledonia is the largest producer of marine prawns (*Penaeid* spp) in the region, worth USD $22 million dollars in 2004. The Fiji Islands is also actively developing a prawn industry. The demand from the domestic market, estimated at 600 tonnes per annum, is being met mostly by imported products. A prawn farm of national significance is near completion on Vanuatu.

Kappahycus Seaweed: Kappahycus seaweed (trade name *cottoni*) produces carrageenan, used primarily for the food industry. For the past decade Kiribati has been the main source of seaweed in the Pacific, ranging between 1000 and 1500 tonnes of dried product annually. For the past five years, Fanning atoll in the Line Group has been almost the sole producer of seaweed. In Fiji, recent production of seaweed is small compared to the 500 tonne high of the late 1980s, with farming now being concentrated in the Lau Group. Seaweed farming in the Solomon Islands has increased from 4 tonnes in 2002 to 240 tonnes in 2004, with expansion planned for Wagina village, North Malaita, Reef Islands and the low lying atoll of Ontong Java.

Fish farming: In Fiji the GIFT tilapia is becoming a popular species for farming. Several project sites have demonstrated the feasibility of farming this fish for village consumption and modest commercial gains. In Papua New Guinea the number of inland and highland fish farming ponds has been increasing, and in 2003 the number of active fish farmers was estimated at 11,000. Initially farming was based on the common carp, but interest is now being focussed on GIFT tilapia. Cool water rainbow trout are being farmed in the mountainous highlands.

Others: The Pacific is an important supplier on the world market of corals, sponges, fish and even 'live rock' for aquariums tanks, but most of the trade involves catches from the wild. About seventy five percent of the export is from Fiji where the industry is worth some USD $19 million. Coral cultivation for the ornamental market occurs in Fiji, Vanuatu and Marshall Islands, with the largest commercial farm, in Fiji, produces 25,000 pieces from 40 different species. In 2003 it was estimated the annual trade in live rock was 700 tonnes, almost entirely wild harvested with just 50,000 pieces currently under cultivation. Giant clam cultivation for the marine ornamental market is important in the region, with commercial hatcheries in Fiji, Palau, Marshall Islands, Tonga, Vanuatu, Cook Islands, Kiribati, Samoa and American Samoa. In 2002, Tonga alone sold around 18,000 clams to the aquarium market. It is estimated that the region exports up to 50,000 giant clam pieces per annum.

Several species of seawater, brackish and freshwater fishes are farmed for commercial purposes, with a barramundi farm in Papua New Guinea. In French Polynesia the few commercial barramundi farms have turned their interest towards the local fish species *moi* (*Polydactylus sexfilis*). In Kiribati a semi-commercial government farm produces milkfish as baitfish for tuna fishing operations. In Tonga about 250-350 tonnes of mozuku seaweed is harvested per year of which between 50 and 100 tonnes is cultivated. The freshwater crayfish (red claw) is farmed in New Caledonia with 6 tonnes produced in 2001 and production is increasing. Some small scale farming of mud crab occurs around the region.

One species of growing interest in the region is the Pacific shrimp (*Macrobrachium lar*). This species is indigenous throughout the Pacific region. *M. lar* can easily be collected as fry from the wild, attains a large size and is reputed to survive under high stocking densities. Pilot trials for farming *M. lar* are currently being undertaken in Vanuatu and Wallis and Futuna.

Restocking: Aquaculture may assist in replenishing over fished stocks. Currently the sea cucumber fisheries are under pandemic threat. Pioneering research is nearing completion in New Caledonia by the WorldFish Center on methods to breed and restock juveniles into the wild. Restocking of inland reservoirs and dams with freshwater species has been carried out sporadically in the past but little information is known about the results. The control of weeds in Rewa river of Fiji is attributed to the efforts of restocking the grass carp. Restocking of black bass in the Vaturu dam, Fiji and tilapia in Yonki hydroelectric dam has become an important source of fish protein for its communities.

Semi-subsistence aquaculture

In comparison to the neighbouring south east Asian countries, subsistence or artisanal aquaculture in the Pacific is not that well developed. But interest in freshwater fish and shrimp farming is growing amongst rural communities especially those inland with poor access to coastal fisheries.

Inland fisheries

In Papua New Guinea both of the major river systems, the Sepik River and the Fly River, support inland fisheries with potential for aquaculture development. Mozambique tilapia, originally introduced to the highlands, spread into the lowland and coastal Sepik River areas and became an important artisanal fishery. In Fiji there are diverse species of molluscs, crustaceans and fishes considered to be valuable freshwater fisheries. About 300,000 tonnes of the shellfish *Batissa violacea* is harvested per annum. Other fisheries include Mozambique tilapia, eels (*Anguilla* spp), Tawe (*Puntius* spp), ghost shrimp (*Macrobrachium lar*) and palaemon shrimp. According to Ministry of Fisheries records collected at municipal markets about 170–200 tonnes of Macrobrachium shrimp and 25 tonnes of Palameon shrimp are sold per annum.

Domestic nearshore pelagic fisheries

Domestic nearshore pelagic fishing operations can be split into small-scale and medium-scale sectors, and in late 2003, the fishing activities in both components of the domestic tuna fishery[2] were benchmarked.

[2] The report 'Nearshore domestic fisheries development in Pacific Island countries and territories can be located at http://www.spc.int/coastfish/Reports/HOF4/PDF/IP8/Full%20document.pdf

Small-scale tuna fishing

There are thousands of small-scale boats and canoes trolling and mid-water handlining close to the reef or around FADs in their respective country or territory. It is impossible to put an accurate number together as many of these boats and canoes are used for subsistence and artisanal purposes, rather than commercial or semi-commercial, and many are in the outer islands within each country.

There is a large contrast between countries in regard to fishing activity, and this generally revolves around the availability of markets to sell the catch. In countries like Tokelau, there is basically no market to sell fish, so the catch is distributed amongst the community. In contrast to Tokelau is the situation in Kiribati, where there are over 200 small-scale vessels fishing from South Tarawa to sell their catch on the local market. Many small-scale operators rely on fishing around FADs, when these are available, as they increase catches, cut operating costs, and increase sea safety.

A few countries are involved in small-scale tuna longlining, and it was successful in Samoa and American Samoa, from 1997 to 2001. In more recent years though, the catch rates have dropped off, resulting in reduced numbers of small-scale vessels in these countries. Charter fishing for pelagic species is an area that is slowly starting to pick up in the region. Five PICTs have no charter fishing vessels at present, and these are the countries with very little tourism, or are remote and difficult for people to get to. In the countries with charter boats, they are generally located in the main urban centres or tourist hotels.

Medium-scale tuna fishing and processing facilities

Medium-scale tuna fishing operations are the main focus of many countries in the region for economic development. Most PICTs are looking to promote private sector development, while a couple have opted for a mix of private and public sector development. Figure 1 shows the effectiveness of domestic tuna fishery development through the numbers of fishing vessels currently tuna longlining. This includes all small-scale, medium-scale and large-scale vessels, the latter category mainly applying to the distant water fleets of Korea, Japan, Taiwan and mainland China. As can be seen in this figure, the numbers of domestic vessels has risen in the late 1990s to around 450, with the numbers levelling off from 1998 to 2000. In 2001 the number of domestic vessels increased and from then until 2004, the number has hovered around 500.

In line with the development of medium-scale tuna fishing operations, companies have established shore-based facilities to process and pack high-quality tunas and associated species for export to markets in Japan, Hawaii, the US mainland, Europe, and to a lesser extent, Australia and New Zealand. In addition to packhouses, industrial processing facilities include two tuna canneries in American Samoa, one tuna cannery in Papua New Guinea, one tuna cannery in the Solomon Islands, one tuna cannery in Fiji, a tuna loining plant in the Marshall Islands, an *arabushi* (smoked tuna loins) plant in the Solomon Islands and a *tataki* (seared and frozen tuna loins) plant in Fiji.

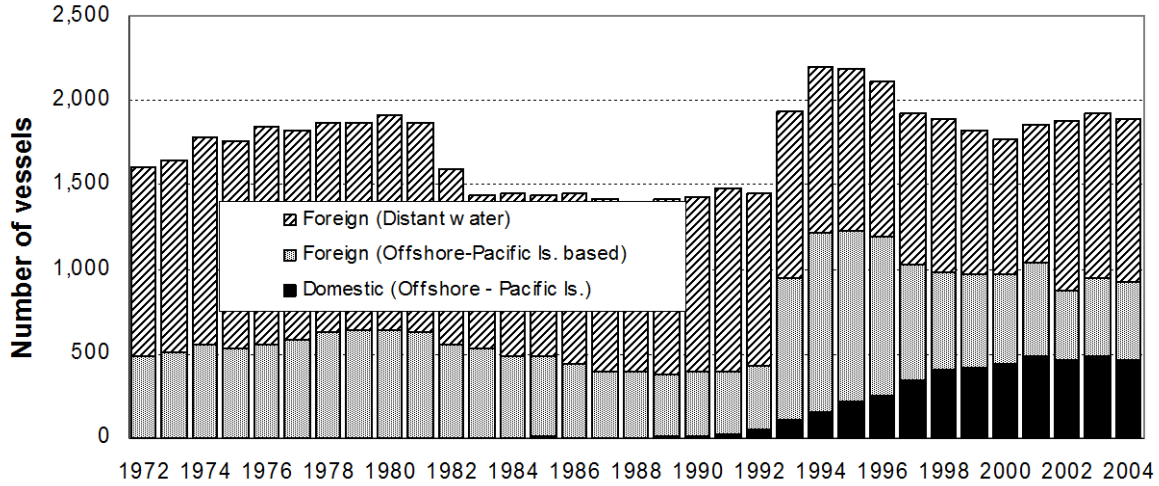

Figure 1: Longline vessels operating in the western and central Pacific Ocean

For the management of the tuna resource, most PICTs have a plan in place, or are in the process of developing or finalising a plan. All PICTs are focused on management and sustainable harvesting of the tuna resource, while reducing impacts on non-target species. Some countries are also placing equal focus on developing local capacity so that a domestic medium-scale tuna fishery can develop.

Reef Fisheries

Reef (including lagoon) fisheries in the region target a broad range of invertebrate and finfish species. These fisheries are immensely significant from a range of perspectives: cultural, social, nutritional and economic. These fisheries have traditionally been targeted predominantly for subsistence needs (for direct consumption or non-monetary exchange). Their contribution to the welfare of coastal communities in the region in terms of health, food security and social stability is enormous, with many communities directly dependent on them for their main source of protein. Reef fish fisheries in the region support far more livelihoods per tonne produced than industrial scale fisheries such as tuna.

These fisheries are vulnerable to a range of natural and human induced impacts. The continued increase in island populations has placed enormous pressure on the marine environment over the past years. The introduction of modern equipment and materials such as gill nets, scuba diving gears and bleaching agents and refrigerated storage has made fishing more efficient and destructive. Urban expansion and infrastructure development have damaged and destroyed many marine habitats and nursery areas. These impacts, coupled with natural events like cyclones and coral bleaching, are affecting the natural ability of the marine environment to sustainably cater for human needs We are also seeing a trend towards increasing commercialization of nearshore resources at the small to medium scale enterprise level, to supply local and urban markets and for export, e.g. live reef fish trade (food and aquarium), beche-de-mer and clam and touchus, with resulting impact on subsistence food security.

Until recently, relative to other regional fisheries such as tuna, those associated with coral reefs have been lacking the management attention that is needed. These fisheries and reef systems at the national level are generally under-managed, under-funded, under-monitored, and as a consequence, poorly understood.

Part III: Narrative report

The narrative section describing objectives and progress against indicators has been omitted from this report to conform to page limit requirements, but is summarised in the following section.

Part IV: Matrix summary

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	**Progress against performance indicators**
Aquaculture **CFP Objective 1 – A regional support framework for economically, socially and environmentally sustainable aquaculture planning, research and development by Pacific Island governments and private enterprises.** *Output 1.1: Establishment and maintenance of a regional network of contacts as a means of exchanging ideas, knowledge and experience on Pacific aquaculture issues*	• The Section has been firmly established as the Pacific regional focal point for the aquaculture sector, and is active in networking among public and private sector stakeholders, international and regional expert agencies.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
Output performance indicator: *SPC regional aquaculture network significantly improves communication and information flow to those involved in practical aquaculture planning, development, & management, according to independent review and Heads of Fisheries Meeting consensus.*	• The section maintains an active network amongst key government contacts whom are developing aquaculture in the region. • Links built to the Asia powerhouse producers and technical agencies, with associate membership for the Network of Aquaculture Centres Asia-Pacific (NACA) and Institutional membership with the international genetics network (INGA). • SPC Aquaculture Web Portal is online (www.spc.int/aquaculture). Average 70,000 hits/ month. • 19 publications for the Aquaculture Technical Series (ISSN 1683-7568) online or in-press. • 16 sub-regional or national workshops organised and funded through the section.
Output 1.2: Establish & maintain regional support to Pacific Government departments and private sector operators, as appropriate, in the establishment of environmentally and economically sustainable aquaculture. Output performance indicator: *SPC aquaculture programme provides valid, useful, and rapid advice and assistance in response to appropriate requests, according to independent review and Heads of Fisheries Meeting consensus.*	• Section has provided advice and assistance in 16 member countries, with professional staff averaging 3-4 months of travel and field time per year. • Substantial support has been provided to Naduruloulou aquaculture station, Fiji to become a national and regional centre of excellence and to Aiyura aquaculture centre in Eastern Highlands, PNG as a national centre. • Guiding principles for responsible practices for introducing and translocation of aquatic organism were endorsed by Heads of Fisheries (HoF) meeting. • Aquaculture policy and legislation review carried out and presented to HoF meeting. • Economic planning support provided through modelling software package and sub-regional training workshop. • High priority need for a regional bio-security programme identified and a pre-proposal formulated for donor funding. • 14 consultancies engaged to provide advice to the region or specifically address a country need. • Co-leader for ACIAR funded mini-project scheme which has funded 9 small projects. • 7 small grants provided for national projects.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
Output 1.3: Development of the Pacific Island human resource base for aquaculture. Output performance indicator: *Sponsorship and coordination of training and professional attachments in aquaculture, in collaboration with the SPC CFP Fisheries Training Section and USP as appropriate.*	• The Aquaculture Section is an information clearing house, specifically for the aquaculture sector leading to a database of expert contacts. • 11 professionals from the region sponsored to attend international conferences. • 17 persons have participated in one-on-one training attachments to institutions or industry. • SPC and USP have partnered on significant aquaculture training activities including a sub-regional freshwater aquaculture workshop, and production of a 4 volume training manual for tilapia fish and freshwater shrimp.
Fisheries Development **CFP Objective 2: Economically-viable and environmentally sound Pacific Island fishing enterprises**	
Output 2.1: Development of economically and ecologically sustainable Pacific Island fishing enterprises. Output performance indicator: *Enterprises assisted by the section remain sustainable, according to reasonable criteria of business success, and the Pacific Islands share of the value of regional tuna fishery landings and trade increases, according to overview information generated by FFA, SPC OFP and governments.*	• 10 fishing companies (both private and public sector) and over 150 self-employed small-scale fishermen received assisted. • 10 Pacific Island countries and territories received 112 weeks of training over the triennium period, with over 380 Pacific Islanders receiving training. • The Section has changed focus in line with PICTs priority needs, with increased focus on bycatch issues and ways to reduce interactions with protected species. • Study undertaken in September/October 2003 to benchmarking domestic fishing operations and fishing activities outside the 100 m depth contour, with a focus on tuna fishing activities and associated shore facilities.
Output 2.2: Testing, development and publication of resource materials and case-specific advice on appropriate fisheries and fishing techniques.	• Horizontal longline fishing, methods and techniques manual published in 2003. • Marine species identification manual for horizontal longline fishermen published in 2005.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
Output performance indicator: *Significant augmentation of the body of available and useful practical information accessible to Pacific Island fisheries authorities and fishing enterprises on sustainable fishing methods, new initiatives and the results of fishing trials and experiments.*	• Manual on fish aggregating devices (FADs): lower-cost moorings and programme management published in 2005. • Set your longline deep: catch more target fish and avoid bycatch by using a new gear design published in 2005. • Field reports produced for all long-term assignments.
Output 2.3: National commercial fishery development plans. Output performance indicator: *A significant number of Pacific Island governments and fisheries administrations have in place specific plans and policies, that have been developed with private sector stakeholder participation and input, for the support and promotion of fully sustainable fishing enterprise.*	• Tuna fishery management and development plans developed for 5 countries, plus 3 that commenced before the triennium period also completed or reviewed. • New DEVFISH project commenced in July 2005. This project will assist with the formation or enhancement of tuna fishing associations and other stakeholder groups, with these groups working with government to develop national tuna fishery action plans.
Coastal Fisheries management **CFP Objective 3: Environmentally sound and socio-economically achievable governance of reef and lagoon fisheries**	
Output 3.1: To enhance the capacity of national fisheries agencies to manage sustainable fisheries and develop, or rehabilitate, and promote, socially inclusive and appropriate coastal fisheries development and governance polices and plans. Output performance indicator: *Capacity and expertise of island fisheries agencies significantly improves in the management of fisheries resources.*	• 3 countries received assistance in Institutional Strengthening and 2 country nationals received attachment training. • Strategic plan for fisheries management and sustainable coastal fisheries in Pacific islands was developed using results from the SPC Policy meeting and field studies. • 82 Pacific island national received training in 2 regional workshops, with women making up 26% of the participants.
Output 3.2: Assistance to national fisheries agencies in their efforts to collect, store, retrieve and analyse basic data and to establish and maintain databases of information on Pacific Island coastal fisheries and fisheries management practices, network for sharing of experience in coastal fisheries management and publication of case studies and compendia.	• Production of fish size limits booklet in collaboration with the Fisheries Information Section, and assistance provided to PROCFISH in developing a Socio-economic manual for use by PICTs. • Reputable relation with FAO, WPRFMC and Commonwealth Secretariat in joint projects such as regional fisheries training.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
Output performance indicator: *PICTs having improved systems of data collection and exchange of information.* *Output 3.3: Assistance to countries to involve fishers and other stakeholders in fisheries management and the development of property-use rights and to review, update and/or develop practical and enforceable fisheries regulations to promote the public awareness on managing inshore fish stocks.* Output performance indicator: *Well managed inshore fisheries system established in at least one country.*	• 106 island nationals from 5 countries received training on Community-Based Fisheries Management of which 20% were women, and 15 Community Fisheries Management Plans developed. • One country received training for women on fisheries resource management. • 3 countries received training and assistances on Institutional Strengthening. • 9 countries received assistance in a range of activities including the development of public awareness materials, the conducting of Community-Based Fisheries Management programme reviews, the conducting of socio-economic surveys, the conducting of gender studies, and the review of coastal fisheries legislations.
Fisheries Training **CFP Objective 4 – Adequate human resource and technical skills capacity to manage and derive sustainable economic benefit from the fisheries sector** ***Output 4.1:*** *Training courses and workshops in fisheries topics where there is high priority, with an emphasis on in-country vocational training for enterprise development* Output performance indicator: *Training provided is according to priority needs of PICT enterprise development policies and significantly improves the skills base in these areas, according to independent review and Heads of Fisheries Meeting consensus.*	• 18 Pacific Island countries and territories received training including 5 regional and sub-regional training courses implemented or facilitated, 40 short-term in-country vocational training courses and 24 attachments, with over 707 Pacific Islanders receiving training. • New course for fisheries officers implemented. • Collaboration with other CFP Sections on 14 projects. • 1 new training video and 5 DVDs compiling the 14 fisheries training videos produced and distributed. • 2 manuals published and bycatch awareness materials produced (“Releasing hooked turtles” posters, stickers, cards, turtle identification cards). • SPC sea safety posters produced in 5 local languages.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
Output 4.2: *Assessment of needs, and development of training strategies and programmes in the fisheries sector* Output performance indicator: *PICT capacity for providing in-country fisheries training is significantly increased, in priority areas identified that have been assisted by the Section, according to independent review and Heads of Fisheries Meeting consensus.*	• 9 sectoral training needs assessments conducted including assessment of needs for Fisheries Officers. • 10 sectoral training strategies elaborated including a regional strategy for Fisheries Officers training. • Coordination of an SPC/FAO expert consultation on sea safety in small fishing vessel. • New curriculum for the annual SPC Fisheries Officers course developed. • Training packages on bycatch issues in pelagic longlining developed.
Output 4.3: Co-ordination of fisheries training opportunities and exchange of information on training Output performance indicator: *Pacific Island training needs coordinators are aware of all relevant training opportunities, and fisheries training providers are aware of the needs in the region.*	• 21 in countries visits conducted in 12 member countries and territories. • Database maintained on an ongoing basis; Australian aquaculture training opportunities included; publication of Fisheries Training Directory in 2004. • Section's Trainees Database maintained on an ongoing basis. • Website updated; inclusion of a contact list for national fisheries training institutions. • 5 issues of information bulletin published in English and French.
Reef Fisheries observatory **CFP Objective 5 – Scientifically rigorous information on the status, exploitation levels and prospects of fisheries is available to be used by Pacific Islanders to sustainably manage living coastal resources**	
Output 5.1: Establishment, and progressive improvement of quantitative assessments of the status of reef fisheries at the local, national and regional levels *Output performance indicator:* Comprehensive assessments for 5 PICTs are published to a high scientific standard.	• Scientific field studies undertaken at 40+ sites across 8 countries to assess the status of reef fish and invertebrate resources, and socio-economic resource-user-relationship • Regional database established, housing data collected by PROCFish/C team during site surveys; external data used for analysis and calculations; and document repository with reports and unstructured data.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
	• Software modules allow data entry, query and analysis. • Technical report series being produced, which will include site reports for each site surveyed and a national synthesis.
Output 5.2: Assistance to Pacific Island fisheries administrations with policy and scientific advisory or analytical input into reef fisheries management problems Output performance indicator: *Responses to relevant requests are considered adequate and timely according to independent review and Heads of Fisheries Meeting consensus.*	• USD $300,000 secured from MacArthur Foundation to continue live reef fish work over 3 years. • Beche-de-mer surveys in Tonga to be used to underpin a review of the stock, to see if the current moratorium can be lifted, and if so, what effort can be used in the fishery. • Assistance provided to Tonga to re-assess marine aquarium trade resources and management, with 5 local staff trained and further studies undertaken. • Assistance provided to Tuvalu, Vanuatu and Marshall Islands to assess marine aquarium fish resources. • Assessment being conducted in Kone, New Caledonia to look at impacts of demographic change due to construction of new towns to service new nickel mines. • Section overseeing a study in New Caledonia on the development potential for commercial reef fisheries operations based on domestic market absorption capacity
Output 5.3: Capacity development of Pacific Island scientists and researchers in reef fisheries assessment Output performance indicator: *Three person-years of direct attachment to the project achieved, at least 30 national researchers collaborate in fieldwork and at least 30 people attend workshops.*	• National fisheries staff from 6 countries have received paid training for 6 months and participated in field work. • 5 live reef fish trade attachments undertaken for 2–3 months each, with training provided in underwater visual census in country and data analysis at SPC • Support provided to Fisheries Management Section in delivery of regional workshop on fisheries statistics. • Training provided to Nelson Course participants on standardised methodologies. • Input provided to national workshop in Kiribati on the strengthening of national coastal fisheries legislation. • Sub-regional workshop on economics and market analysis of live reef fish trade in the Pacific undertaken in conjunction with ACIAR.

Objectives, outputs and performance indicators from the Coastal Fisheries Programme Strategic Plan (2003–2005)	Progress against performance indicators
	• Manuals on Socio-economic assessment and Monitoring underwater visual census have been developed, with accompanying software. • Guidelines for the management of live reef food fish trade in the Pacific and Ciguatera fish poison have been developed in collaboration with TNC and IRD. • Scientific roundtable meeting held for assessment and management of reef fisheries.
Fisheries information **CFP Objective 6: Easily-available, relevant and understandable aquatic living resource-based knowledge for member countries and territories.**	
Output 6.1: Availability of useful information relevant to Pacific Islands fisheries development and management Output performance indicator: *Availability of useful information is significantly increased according to independent review and Heads of Fisheries Meeting consensus.*	• 13 fish and invertebrate posters completed for 9 countries and territories. • Awareness materials produced and distributed for 8 countries and the region in general. • Coastal Fisheries website is updated regularly with new materials placed on it as soon as they are published. • Production of fully searchable CDs with all SPC marine Resources Division publications on request • Production of 2 fisheries bibliographies • Production of technical reports for the other section of the Marine Resources Division
Output 6.2: Provision of a medium for dialogue between specialists on topics of priority interest to Pacific Island fisheries administrations Output performance indicator: *PICT Fisheries services and experts in topics of priority interest are mutually aware and in communication.*	• 50 Special Interest Groups Information bulletins published (26 English and 24 French). • 24 Fisheries Newsletter published (12 French and 12 English). • 3 Fisheries Address Book.
Output 6.3: Assistance to Pacific Islands in determining and prioritising their fisheries information needs and their strategies for fulfilling these needs Output performance indicator: *Fisheries information needs assessed or reassessed, and mechanisms for addressing them developed in collaboration with at least 4 PICTs yearly*	• 14 in country visits conducted with technical assistance provided. • 4 training attachments for Pacific Islands fisheries officers conducted.

Part VI: Finances

The Coastal Fisheries Programme has been financed from a number of sources: SPC's core budget, programme funding and project funding, and the amounts are summarised in Table 6.

Table 6: Summary of income by source for the Coastal Fisheries Programme over the triennium

Resources (Income budget) in CFP units	**2003**	**2004**	**2005**	**Total**
Core and Programme funding				
SPC Core	152,800	139,940	148,900	441,640
Australia	800,000	765,000	720,000	2,285,000
New Zealand	250,000	340,000	315,400	905,400
France	461,400	500,000	495,000	1,456,400
Sub-total	**1,664,200**	**1,744,940**	**1,679,300**	**5,088,440**
Project funding				
ACIAR		8,280		8,280
Commonwealth Foundation	57,500	52,040		109,540
EC	974,800	1,827,010	1,615,920	4,417,730
FAO		14,010		14,010
MacArthur Foundation	183,300	199,870	85,000	468,170
New Caledonia		50,000		50,000
NZAID	110,200			110,200
Taiwan/ROC	68,400		61,660	130,060
Other	51,100	149,090	75,000	275,190
Sub-total	**1,445,300**	**2,300,300**	**1,837,580**	**5,583,180**
Total	**3,109,500**	**4,045,240**	**3,516,880**	**10,671,620**

Source: Revised budgets 2003 and 2004, Budget 2005.

The income received from Core and Programme funding each year over the triennium period has been relatively consistent. Project funding on the other hand has fluctuated considerably, not so much in total amount, but more by funding source. The main increase in project funding has come from the EU, with two new projects starting up in 2004 and 2005. The programme, particularly in the last year of the triennium, has been disadvantaged by increasing travel cost. The programme has coped through the acquisition of special project funds (the availability of which is not often predictable) and by making use of the divisional small projects fund.

Part V – General Comments and Observations

Historical perspective and lessons learned

SPC has been working in fisheries since 1951, and its activities have naturally evolved in line with changing sectoral needs. Today, the Coastal Fisheries Programme faces a basic set of priority issues that may not actually seem much different from those that faced the first SPC Fisheries Officer – Hubertus Van Pel, the "flying Dutchman" – in the 1950s: Fisheries Development, Protection/management and National Institution-building. However, things have moved on considerably, and the region is now looking at "building the superstructure" and not just wondering how to "lay the keel".

We can probably envisage a time when all SPC members have fully-developed national fisheries services and no longer require regional support to manage coastal fisheries and aquaculture at environmentally optimum levels of sustainable production, but that time is some years off yet. The next hurdle to be jumped – the implementation of the Ecosystem Approach to Fisheries – alone will require a significant increase not only in governance linkages, but also in knowledge. As well as information about fisheries themselves, the EAF will require knowledge about all impacts on the coastal fisheries ecosystem, including land-based impacts.

Unlike the Oceanic Fisheries Programme, the Coastal Fisheries Programme does not have a continuing imperative to provide a regional service based on a need, enshrined in international law, to support cooperative inter-country management of regionally-migratory stocks of fish. Coastal fisheries are not a trans-boundary issue[3]. The justification for a regional approach to Coastal Fisheries lies mainly in economies of scale and as a vehicle for facilitating dialogue between countries about shared coastal fisheries issues (including, increasingly sharing expertise between islands). It also has a role in coordinating regional points of view and supporting regional reporting in international non-tuna fisheries processes.

[3] Except where they are subject to transboundary impacts, such as multinational fishing.

Inevitably, the Coastal Fisheries Programme will continue to evolve, moving out of fields where members gain increased national capacity, and perhaps increasingly concentrating its advisory support on the smallest island members, whilst also facilitating increasing levels of interchange of expertise and dialogue between members. However, for the next programme period 2006-9, the requirements of the region in applying the Ecosystem Approach to coastal fisheries will require a full-strength Coastal Fisheries Programme.

Programme funding issues

For much of the life of the Coastal Fisheries Programme, at least over the past three decades, the bulk of the programme has been project funded. Nowadays, a larger proportion of the programme budget is made up of secure long-term programme-funding. At the start of the new funding arrangements there was a worry that the number of donors in the funding base would narrow (some argued that there was less need for programme managers to go out and raise funds when the basic funding is secured), and perhaps the work-programme might become less adaptive (some change is usually guaranteed when projects finish).

At the sectoral programme level, programme funding is not actually sufficient to carry out the full work-programme. A significant proportion of the budget for actual operations of the Coastal Fisheries Programme, as well as its entire fisheries scientific assessment and monitoring capability, comes from special project funding, primarily by the European Union, but also involving the Commonwealth Secretariat, Taiwan, the MacArthur Foundation and various other miscellaneous projects. Thus programme and section heads are still obliged to compete for some component of their budgets in the marketplace. More significantly, the processes that have been built into the programme management systems are unlikely to permit complacency. Programme funding has provided a solid foundation upon which to build the complete programme structure, rather than an incentive to complacency by providing for all needs from one reliable source.

On the issue of the programme's capacity to adapt, the SPC Heads of Fisheries meeting is of particular value in fisheries programme management, by providing SPC member oversight of *intra*-programme review and priority-setting processes.

The programme funding process has worked well and benefited the Coastal Fisheries work programme substantially.

Programme versus sections

The Coastal Fisheries Programme has evolved from a single person, in the early 1950s, through a miscellaneous collection of donor-funded fisheries projects, to an integrated programme operating under a harmonised set of objectives and a joint goal. The last three years have been the first period under which the programme has operated under a formal member-country endorsed strategic plan. As several observers have pointed out, however, the Coastal Fisheries Programme still does not appear to be an obvious unit – member country advisory services are normally provided at the sectional level – and is not perceived as a programme in the same way as, say, the SPC Oceanic Fisheries Programme or Pacific Women's Bureau might be.

Assisting countries to apply the Ecosystem Approach to coastal fisheries will inevitably require more of a "task force" approach to the work, and require both intra-programme and inter-CROP agency collaboration. As well as the multidisciplinary requirements, there will also be a need to help countries develop integrated national coastal fisheries ecosystem governance systems running through several functions, and this will also promote the team approach.

Strategic planning

The programme has traditionally operated on the basis of "official requests" from member countries for services, which has also promoted a more ad-hoc approach. Whilst this has been channelled within the limits of the strategic plan, referring countries to other potential sources of services for requests that fall outside the plan, and by developing requests in the form of "mini-projects" in consultation with member countries so that inappropriate requests are largely avoided, during the next strategic plan period the CFP will need to move even further away from this mode of operation, and into a more pre-planned country-by-country task force approach.

The Programme does, however, need to retain its ability to respond relatively rapidly to emergent and local coastal fisheries crises. A strategic approach theoretically does away with the need for such "firefighting" responses, but a true strategic approach will always recognise that there are events that cannot be predicted. One of the lessons learned during the current plan period is that complete concentration on a country-by-country approach, as required by the EU-funded coastal fisheries assessment project, makes it difficult to provide services or advice to countries on ad-hoc, but high-priority problems arising, where local capacity is insufficient to cope.

The mechanism of providing a "Minor Projects Fund" to each SPC Division from SPC funds is one mechanism that strengthens the programme's rapid-response capacity, and in particular supports the travel of staff to address urgent fisheries management advisory needs[4] where project funds would be inappropriate to use.

[4] For example, when a foreign boat shows up in port asking for a licence to explore a new coastal fishery where there are no local guidelines in place, or where a community reports a sudden inexplicable downturn in the abundance of a species that the national government has no experience in assessing.

Known Gaps

The following is a brief list of areas of specific expertise that would complement the existing programme structure and further strengthen its effectiveness.

Economics: the CFP review, at the beginning of the plan period, recommended that the programme acquire a specialist economist, particularly to assess the feasibility of fishery and aquaculture development activities from an economic perspective.

Legislative: there has long been a gap in providing regional support for coastal fisheries legal processes, particularly, at this stage, legislative drafting. This need can only become more acute as the CFP moves into the implementation of the Ecosystem Approach, which is likely to require considerable restructuring or fine-tuning of national legislative codes, regulations or policies. While the Forum Fisheries Agency is seen as the lead agency for fisheries legislative issues in the region, it has several times acknowledged that it is concentrating specifically on tuna fisheries, and on legislative issues to do with the tuna fishery, which are usually entirely different to the codes governing coastal fisheries management.

Mariculture: the need for SPC support to the rational sustainable development of Pacific Island aquaculture will grow, if the changing balance of fisheries and aquaculture in the rest of the world is anything to go by. The CFP's current expertise is concentrated in developing aquaculture governance frameworks in general, and in freshwater aquaculture farming systems, and this needs to be complemented by specialist expertise in marine aquaculture (mariculture).

Land-based impacts: One area brought up by the last SPC Heads of Fisheries Meeting is something that will be required in developing an Ecosystem Approach to Coastal Fisheries, and that is specialist capacity in the assessment of non-fishery impacts on fisheries, particularly assisting Pacific Island administrations with the establishment at the technical level of marine impact monitoring systems but also at the policy level in establishing governance linkages with land-based decision-making processes. It is possible that SPC may be able to work with SOPAC, particularly in view of their expertise in water-quality monitoring, but SOPAC's capacity is also strained to the limit, according to the latest SOPAC Governing Council Meeting, and this fisheries ecosystem function would require new regional resources to be found.

In passing, it might be mentioned that at least one long-outstanding gap has already been filled (in addition to the new regional aquaculture support service) during the current plan period, and that is the acquisition of regional fisheries social scientific survey and analysis capability. Economic expertise would equip the programme with the "third pillar" of sustainable development.
