

SOUTH PACIFIC COMMISSION

NINETEENTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 3 - 7 August 1987)

SUMMARY REPORT OF THE SOUTH PACIFIC COMMISSION 1986/87 ACTIVITIES
UNDER THE FISHERIES WORK PROGRAMME - COASTAL RESOURCES

(Paper prepared by the Secretariat)

1. The activities of the South Pacific Commission in the development of coastal fisheries throughout the region, covering the period August 1986 to July 1987, will be reported in detail under Agenda items 5 and 6. A summary is presented here to facilitate discussion under these items.

2. Coastal Fisheries Programme staff at 31 July 1987 consisted of the following nine posts/personnel: Fisheries Adviser (B.R. Smith); Assistant Fisheries Officer (G.L. Preston); Fisheries Training Officer (A.C. Robertson); Master Fisherman (P.D. Mead); Master Fisherman (L.B. Chapman); Master Fisherman (A. Moana); Fish Processing Officer (S.F. Roberts); Inshore Fisheries Research Scientist (Dr R.R.C. Edwards); Fisheries Training Project Assistant (K.E. Legras); Secretary/Administrative Assistant (temporary, part-time) (T. Fox). Extra-budgetary funding is presently being sought for an additional 4 posts (Senior Inshore Fisheries Scientist; Fisheries Information Officer; Master Fisherman; Project Assistant), and for the conversion of the temporary, part-time Administrative Assistant post to a full time position. Further information on CFP staffing can be found in Information Paper 3.

I - DEEP SEA FISHERIES DEVELOPMENT (DSFD) PROJECT

Staff

3. The staff resources of the DSFD Project remained the same as in previous years. The Project's three full-time Master Fishermen, who are permanently stationed in the field, were Messrs Paul Mead, Lindsay Chapman and Archie Moana. Mr Moana joined the Project in May 1987, replacing Mr Pale Taumaia, who resigned from the Commission in February 1987 after seven years service. Assistant Fisheries Officer, Mr Garry Preston remains responsible for the co-ordination of the Project's field activities and for report editing and finalisation. A part-time administrative assistant position was assigned to the Project in March 1987, and this is currently occupied on a temporary basis by Ms Trudy Fox.

Operations

4. During the last 12 months, the DSFD Project has operated in 6 countries: Cook Islands, Federated States of Micronesia, French Polynesia, New Caledonia, Tokelau and Tonga. Since its initiation in 1978, the Project has completed 44 country assignments, with one, plus the Fishing Gear Development Sub-project, still continuing. Demand for the services of the Project's three Master Fishermen remains strong, and the complexity of tasks requested of them continues to increase. Details of the country visits commenced or completed since August 1986 are given in Table 1.

5. As well as undertaking country assignments, the Master Fishermen routinely assist with other Coastal Fisheries Programme activities, and in particular training courses. In October 1986, Master Fisherman L. Chapman spent 5 weeks assisting with the Fisheries Training Project course in Catching Methods and Extension Skills, held in Suva, Fiji. In June/July 1987, Master Fisherman P. Mead assisted with the Practical Fishing Module of the SPC/Nelson Polytechnic Pacific Island Fisheries Officers Course, held in Vava'u, Tonga.

6. As in previous years, the FAO Regional Fisheries Support Programme provided substantial quantities of fishing gear for use by the Project. The Secretariat once again acknowledges this contribution with its sincere thanks.

Outstanding requests

7. Several country requests for assistance under the DSFD Project are still outstanding, including visits to American Samoa, Niue, Palau and Solomon Islands. In addition, a Savingram was issued in July 1987 requesting member countries to forward any further requests for DSFD Project assistance required in 1988. Early submissions of requests enables long-term planning of the Master Fishermen's activities. Requests are normally dealt with on a first-come-first-served basis within the constraints imposed by seasonal and logistic factors.

8. On the recommendation of previous SPC Fisheries meetings, one Master Fisherman is now permanently assigned to the Fisheries Gear Development Sub-project (see para 7), a regional activity which calls for longer (about 2 year) assignments. This leaves only two Master Fishermen available for country assignments, which in general are becoming more complex in nature and longer in duration. To avoid this situation leading to a reduction in the Commission's capacity to respond to country requests for DSFD assistance, the 18th RTMF recommended that the Secretariat seek funds to recruit an additional Master Fisherman. The US Government, through the US Agency for International Development, has kindly agreed to fund this position, which will be advertised in October 1987.

Table 1: DEEP SEA FISHERIES DEVELOPMENT PROJECT ACTIVITIES
1 August 1986 - 31 July 1987

<u>Country, dates, Master Fisherman</u>	<u>Primary Objectives</u>	<u>Activities of Master Fisherman</u>
Tokelau August - December 1987 P. Taumaia	Demonstration/ Training	Demonstration of small-scale vertical longlining around FAD. Observation of traditional Tokelauan tuna fishing practices with a view to improving vertical longline technique.
New Caledonia August - September 1986 L. Chapman	Training	Preparation for and participation in a rural fisherman's training workshop
Tonga September 1986 - continuing P. Mead	Fishing Gear Development sub-Project (see para 7)	Deployment of a variety of types of Fish Aggregation Device. Development of a number of fishing techniques, including deep-trolling, bottom longlining and small-scale bait netting.
Cook Islands November - December 1986 L. Chapman	Training	Re-organisation of government fish retailing operation. Training of fish shop staff in proper methods of fish handling, simple processing, stock rotation and financial procedures.
French Polynesia March - July 1987 L. Chapman	Demonstration	Visits to five outer islands to demonstrate deep-bottom fishing and vertical longlining techniques.
Federated States of Micronesia June 1987 - continuing A. Moana	Training, survey fishing	Kosrae State - Training programmes for operators of fishing catamarans newly-delivered under Japanese aid. Truk State - survey fishing around Truk.

Fishing Gear Development Sub-Project (FGDS)

9. This sub-project of the DSFD Project was established in 1986 as a result of a recommendation from the 17th RTMF, which directed the Secretariat to undertake a series of longer-term assignments, to allow the development and improvement of a number of selected fishing gears and techniques showing a promise of regional applicability. This sub-project was established in Vava'u, Tonga in September 1986, under the supervision of Master Fisherman Mr Paul Mead. The following paragraphs give a brief account of project activities to date.

10. Initially several weeks were spent working on the 26' fibreglass Yanmar fishing boat, 'Vete', which has been assigned for Project use by the Tonga Government. The work involved repairs to the engine and hydraulics, cleaning and antifouling, and mounting a bracket for the echo-sounder transducer. Since that time additional work has been required for periodic engine and hull maintenance and, in June, mounting of the Commission's new colour-sounder transducer and the construction of a weatherproof exterior perspex box to house the display units of both sounders.

11. Once the Project vessel was fully operational, several weeks were spent in the construction and deployment of four fish aggregation devices in various locations around Vava'u. Two of the FADs are in relatively shallow waters in two of the many sheltered inlets in Vava'u and are intended to act as sites for small-scale bait fishing work by the Project. Of these, one is made from cargo-netting anchored to the sea bed by its four corners and is entirely sub-surface, while the other is of conventional design. The other two FADs were deployed in deeper ocean waters off the coast of Vava'u, with the aim of providing fishing sites for deep-trolling experiments and other trials that target on deep-swimming pelagic species. One of these FADs was lost during a cyclone in January 1987 shortly after deployment. The other is still on station and now appears to be attracting tuna in moderate quantities.

12. The deployment of the FADs finished in January 1987 and since that time fishing activities have focussed on three main areas: Deep-bottom longlining, small-scale bait catching and deep-trolling.

13. Deep-bottom longlining is one method of catching deep-bottom species in depths beyond the range of normal line-fishing using handreels. A number of trials have been carried out during earlier DSFD Project country visits, but the results have never been encouraging. The trials in Vava'u have used a variety of line configurations, but a satisfactory arrangement has yet to be devised. The main problems still to be overcome are those of gear loss on rough bottoms, and of gear handling and storage on very small boats.

14. Deep-trolling trials have been carried out both in open waters and around the FAD, with the aim of developing a workable system by the time the FAD becomes fully effective. The aim is to troll the lure or bait deep enough to expose it to the deeper swimming large tuna and other species thought to be associated with the FAD. A system has been devised whereby this can be done, using two handreels, both rigged through strong trolling booms. One reel carries an extremely heavy trolling sinker on a strong wire line, while the other carries the line itself. The bait is attached to the weight in such a way that it breaks off after a strike. This system has now been refined to a point where it seems workable. The recent installation on the 'Vete' of the colour sounder now makes it possible both to monitor the precise depth of the trolling gear and to detect fish concentrations below the FAD, thus permitting targetted trolling. The next logical extension of this work is the development of multiple-hook trolling rigs.

15. Bait-catching methods have only recently begun to receive attention, with the delivery to Vava'u of the materials required to construct a small lift-net. This has now been built and deployed several times at night after attracting bait using an over-water light. Some initial handling problems have been overcome and small amounts of bait captured.

16. Work has also been directed towards several other innovations which show promise for further development during the remainder of the project's stay in Vava'u. These include a simple but effective braking system for the standard wooden handreel, and improved methods of FAD construction. All the Project's work will be described in detail in a terminal report to be issued at the end of its stay in Vava'u.

17. The original recommendation for the establishment of the Fishing Gear Development Sub-project noted that assignments of at least two years were considered desirable in the first instance. The Secretariat's view is that, provided that an equally suitable location (with an adequate commitment of support from government) can be identified, the Project should be re-located in late 1988. Some preliminary discussions have been held regarding this relocation, but arrangements will not be finalised until 1988. Countries having an interest in hosting this project for two years are invited to communicate this interest to the Secretariat.

Reports

18. Considerable progress has been made with the backlog of outstanding DSFD reports and a number of drafts, in some cases final, have been sent to the relevant fisheries officers or foreign affairs departments for comment prior to publication. This progress has been slower than expected for the same reasons as in the past, i.e. inadequate administrative support. The 18th RTMF made a recommendation that a full-time administrative support position be allocated to the DSFD Project. No action was taken on this recommendation until March 1987, at which time a part-time administrative assistant was employed on a temporary basis specifically to assist with report preparation. If external funding can be located (which seems likely), this post can be converted to a full-time position and will enable future reports to be processed promptly.

Analysis of DSFD Project data

19. The DSFD Project (and its predecessor, the Outer Reef Artisanal Fishing Project) have together completed forty-nine country assignments, during which detailed catch and effort records have been made of fishing activities in perhaps 100 coastal localities throughout the SPC region. The analysis of this extensive collection of data is a priority activity to be undertaken immediately after the backlog of DSFD Project reports isn cleared. Limited resources have restricted progress on this work, but discussions are currently underway with the NMFS Honolulu Laboratory with a view of initiating the analysis as a joint activity early in 1988.

Attachment Training

20. Training attachments, during which a trainee travels to work as counterpart to a Master Fisherman operating on assignment in another country, have proven effective means of developing the skills and confidence of selected fisheries personnel in the past. No attachments were carried out in 1986/87, mainly due to lack of funds, but it is Commission's intention to re-emphasise this type of training in the coming calendar year. Funding is currently being sought to permit four attachments, of 1 - 2 months each, per year.

II - FISH HANDLING AND PROCESSING PROJECT

21. The origin of this project was a one-day workshop on aspects of fish handling and processing held in conjunction with the 1983 RTMF. The meeting identified training in fish handling and simple processing as a priority need in the region and strongly recommended the appointment of a specialist who could, on request, provide longer term in-country training and assistance in this important area. In response to this recommendation a two-year project was proposed for inclusion in the 1985/86 Work Programme and subsequently endorsed by the 1984 CRGA. Funding for the Project was generously committed by the New Zealand Government for an initial period of two years.

22. Initiated in May 1986, the project developed early momentum through the Regional Fish Handling and Processing Course held in Port Vila, Vanuatu from 6 June to 15 August 1986. Unfortunately this was dissipated to a large extent with the resignation of the fish handling specialist after less than four months service. His successor, Mr Stephen Roberts, has recently taken up post (late June) and as a matter of priority will undertake a series of country visits to meet with graduates from the Vanuatu course to discuss their progress and problems, and in consultation with senior fisheries officials, devise a suitable follow-up programme of training and assistance which will adequately address the defined needs of individual countries. He will also initiate action on several outstanding country requests for assistance under this project.

Solomon Island Fisheries Assistants' Course

23. In September 1986, SPC provided tutorial assistance for a one-week course on basic fish handling and processing, an element of the inaugural Fisheries Assistants Course conducted by the Solomon Islands Ministry of Natural Resources (MNR), and the Solomon Islands College of Higher Education (SICHE), in Honiara. The SPC tutors were Fisheries Adviser Barney Smith, and consultants Holmes Saeve, Provincial Fisheries Officer (Western Province), and Ray Hesao, a private businessman, both Solomon Islands graduates of the SPC Fish Handling and Processing Course held in Port Vila earlier that year. The SPC personnel complemented the work of the core course instructors from MNR, SICHE and the Ranadi Marine and Fisheries Training School.

III - REGIONAL FISHERIES TRAINING PROJECT

24. Priority activities for this Project were established by the 1985 Regional Technical Meeting on Fisheries and while revised by the 1986 meeting, remain substantially unchanged:

- (i) Complete the review of existing training arrangements and disseminate this information to member countries.

25. The draft Fisheries Training Directory has been circulated to fisheries departments and all listed organisations or institutions requesting corrections or additions to the text as appropriate to ensure that the entries are as accurate and up-to-date as possible. Slow responses or incomplete information from several important training institutions have delayed finalisation of the directory, which is nevertheless proceeding as rapidly as possible.

- (ii) Assess the training needs of individual member countries through consultative visits and develop action programmes to address these needs.

26. The Fisheries Training Officer has now visited fourteen member countries for consultations on national training needs and priorities. Emphasis will continue to be given to this activity with every effort made in the coming year to visit the remaining countries. The value of this process of regular in-country consultation is fully recognised, not only in shaping and defining the specific activities to be undertaken by the project at national and regional level, but also for its effect in raising the general awareness of the importance of training within individual countries, and of the need for careful planning, if available training opportunities are to be utilised to optimum advantage to ensure that existing and future national requirements for trained manpower in the fisheries sector, are met in full.

- (iii) Develop or continue as appropriate regional training programmes in the priority areas identified in consultation with SPC member countries.

27. Core funding covering salaries and operating expenses for the two Fisheries Training Project staff positions (Fisheries Training Officer and Project Assistant) is currently being provided by the Australian Government. The strong interest shown by member countries in this programme has been particularly encouraging and has been paralleled by strong funding support for specific training activities from a wide range of donor agencies, and the provision of technical assistance from a number of co-operating organisations and institutions, usually in the form of specialist tutors and equipment support. The Secretariat is very grateful for this assistance and is hopeful that similar levels of support will continue, as substantial additional extra-budgetary funding will again be necessary to finance the suite of courses proposed for 1987/88.

28. Training activities have increased considerably with the formal implementation of this dedicated project. Direct country consultations and a greater appreciation of the training needs in individual countries has resulted in several important new initiatives, which together with ongoing commitments, saw the completion of five regional training courses in the last year. A similar level of activity is anticipated in 1987/88. A brief outline of each course completed during this period or now in the late stages of planning and implementation is given below, while summary details, including donor support and levels of country participation are presented in Table 2

29. COMPLETED ACTIVITIES

(i) 1987 SPC/Nelson Polytechnic Pacific Island Fisheries Officers Training Course

The eighth SPC/Nelson Course ended on Friday 17 July. The 23 week course consisted of an 18 week segment at Nelson Polytechnic where the trainees studied a comprehensive range of practical fishing subjects and related skills. This was followed by a 5 week practical fishing module which for the second time was held at Vava'u, Tonga. Here, the students were able to learn a variety of small boat fishing and boat-handling skills, as well as developing under working conditions the techniques and knowledge gained during the first part of the course in Nelson. This practical segment was supervised by the Fisheries Training Officer Alastair Robertson, supported by Nelson Polytechnic tutor Michael Wells, and seconded Tongan fisheries officer, Naita Manu. We would like to record our appreciation to the Tongan Government and particularly Fisheries Division staff for their generous logistical and personnel support which made this segment of the course possible and ensured its success.

This long running course continues to attract strong country interest and a high calibre of trainee, with the 1987 intake considered by course tutors to be one of the best groups to pass through the programme.

In 1984, the RTMF agreed to a triannual review mechanism for this activity with the next evaluation to be carried out in 1987. In line with this, a circular letter was sent to all fisheries departments seeking substantive comment on the course structure and training approach, and an indication of future national demand for this training course. Only three replies were received, all positive and requiring no changes to the syllabus. While this level of response was disappointing, during subsequent consultations, most countries contacted have indicated their interest in the continuation of the course.

At the end of May, Fisheries Adviser Barney Smith visited New Zealand to consult with the trainees, tutors, and NZ officials on all aspects of the course. The conclusions of the Secretariat's review will be reported in detail to the RTMF for consideration and possible action.

(ii) SPC Regional Refrigeration Training Course

The success of the first such course in 1985 and the continuing country demand for training in the maintenance and repair of fisheries sector refrigeration equipment, led to its repetition in 1986. This second course was again hosted in Rarotonga by the Cook Islands Government, and jointly implemented as a collaborative project between SPC and the FAO/UNDP South Pacific Regional Fisheries Development Programme. The seventeen participants from 15 different Pacific Island countries studied the theory and practical application of refrigeration, as used in Pacific Island small-scale artisanal and commercial fisheries. The course, which lasted for 19 weeks, also covered diesel generator maintenance and repair, electrical repairs and training in various types of welding and soldering. At the completion of the training, each student was tested for trade skill levels by the ILO Trade Testing Centre in Rarotonga. All the students passed and were awarded ILO trade certificates at basic, intermediate, or final levels, depending on work experience.

(iii) SPC Fish Handling and Processing Course

Sixteen participants from twelve Pacific Island countries attended the Regional Fish Handling and Processing Course hosted by the Vanuatu Government and held in Port Vila, Vanuatu from 9 June to 15 August 1986. The course aimed to upgrade the technical and managerial skills of both government and industry personnel responsible for fish processing, marketing operations, and training programmes especially oriented towards small-scale fisheries. The ten-week course covered fish composition and spoilage; freezing, icing, and cold storage; design of fish working areas; fish cutting and packaging; factory hygiene; marketing/business; alternative fish processing methods; specialist fish products; quality assessment; and planning of extension work and training courses. The course was funded by the FAO/UNDP South Pacific Regional Fisheries Development Programme and the Commonwealth Fund for Technical Co-operation, with additional support from the FAO, the UK Overseas Development Administration, the New Zealand Fishing Industry Board, the UK Tropical Development and Research Institute (TDRI) and unstinting assistance from the Vanuatu Fisheries Department.

(iv) SPC Catching Methods and Extension Skills Course

This ten-week course was developed to meet repeated requests for assistance to upgrade the technical skills of government officers involved in fisheries demonstration and training projects, and the identified need in member countries for training in extension techniques and communication. The course was hosted by the Fiji Government in Suva, and funded by the FAO/UNDP South Pacific Regional Fisheries Development Programme. Twelve trainees with experience in fishing operations attended the course which comprised four weeks of practical fishing experience and a specialised two-week extension and communication training module. This latter exercise was particularly successful and highlighted the need and value of training in this subject.

(v) Echo-Sounder Courses

Two three-day courses on the use of fish finding echo-sounders were held in conjunction with the Regional Technical Meeting on Fisheries. These courses were run by Captain Angus Scotland, the tutor-in-charge of the School of Fishing at the Nelson Polytechnic, using the School's "Simrad" echo-sounder simulator. The simulator can be used in conjunction with any echo-sounder to generate identical images to those obtained by actual sounding while at sea, and can also measure the dimensions and power of the transmitted pulse. The use of the simulator allowed the eleven participants (six country representatives plus four SPC staff members and one representative of an external organisation) who attended to obtain both theoretical and practical experience in the use of modern colour echo-sounders to identify fish marks and movements and the nature of the sea bottom. The courses were generously funded by the Government of New Zealand.

30. ONGOING OR FUTURE ACTIVITIES

(i) Third Refrigeration Training Course

In response to a request from the Government of Papua New Guinea, the Commission is conducting a refrigeration training course in Kavieng, PNG to train sufficient fisheries sector refrigeration mechanics to meet at least the minimum national requirements in this important area. This course is similar in content and approach to those held in Rarotonga in 1985 and 1986. As some other countries have expressed a need for additional trained refrigeration mechanics to meet ongoing needs, a number of places in this third course have been reserved for regional trainees (6 regional, 10 PNG). Substantial funding for the course has been generously provided by the New Zealand Government and the FAO/UNDP Regional Fisheries Support Programme.

The 18-week course commenced on 3 August and will finish on 4 December. As in previous years, the senior course tutor will be refrigeration engineer Mr Michael Vincent, who will be assisted by Mr Sigfried Herman, a refrigeration engineer with the PNG Government, and by staff of the Kavieng Fisheries College, where the course will be hosted.

(ii) Fad Workshop

The premature loss of costly fish aggregation devices remains a serious problem for most Pacific Island countries. While some losses are unavoidable, being due to natural causes such as cyclones and fish bite, a greater number are caused by human errors such as poor design, bad construction and the use of inappropriate materials. A proportion are also lost due to bad deployment practices. Recognising the need to upgrade staff capabilities in this important area following requests from several countries within the region, a two-week training workshop will be conducted to cover all aspects of FAD design, component selection, fabrication procedures and deployment techniques. The course will also include detailed instruction in the use of both simple and sophisticated depth sounders to survey and select suitable deployment sites. Practical exercises will be emphasised throughout with each student being in charge of the deployment of a FAD.

Hosted by the Kiribati Government, the course will be held at the Tarawa Marine Training School, Betio, from 7 to 18 September 1987. Funded in full by the New Zealand Government, this activity has attracted strong interest and support from member countries.

(iii) Fisheries Extension Training Workshop

A comprehensive training programme in extension and communication skills has been developed for implementation in early 1988. Based on the ideas and recommendations generated from discussions during the 1986 RTMF Extension Workshop, a two phase approach was proposed: a four week regional course for future extension training officers (Phase I), to be followed by a series of in-country courses (Phase II) which will be conducted by the graduates of the first course with limited assistance from the tutorial staff. A discussion document was circulated to all countries and a number of interested specialists and institutions in November 1986 seeking comments and suggestions. This training approach has been further developed in the light of feed back received from all sources as well as the experience gained during the extension skills segment of the Fiji course. The International Centre for Ocean Development (ICOD) have generously agreed to fund the Phase I activity and further extra-budgetary funding will be sought to support Phase II activities.

(iv) Training Attachments

Mr Noah Idechong, a senior fisheries officer from Palau, is spending six weeks on attachment to SPC (10 July to 14 August 1987) as part of an FAO/UNDP sponsored fellowship programme also involving assignments to FFA in Honiara and the FAO/UNDP Regional Fisheries Support Programme in Suva.

As noted earlier, attachment and counterpart training is considered a particularly effective means of imparting skills and knowledge and will be emphasised during the coming year. Funding will be sought for a number of attachments to each of the field oriented SPC projects i.e. Deep Sea Fisheries Development Programme, Inshore Fisheries Research Project, and the Fish Handling and Processing Project, as well as to SPC Headquarters.

(v) Computer Training

Both FFA and SPC have been active in providing assistance and training in computer related areas. Requests for further training continue to be received by both organisations, and country responses to a questionnaire circulated recently by SPC enquiring about Fisheries Departments' computer training needs indicated that many countries require staff training at both basic and advanced levels. A proposed joint SPC/FFA regional training course in the use of computers for Fisheries Departments will be discussed in detail during this meeting.

IV - INSHORE FISHERIES RESEARCH PROJECT

31. WP. 8 examines in detail the background, structure and proposed activities of this project which will be reviewed by the meeting under Agenda Item 6.

32. A two-week workshop on Pacific inshore fisheries resources will be held in January 1987 (see WP.9) under the auspices of this project. This workshop will give research workers from all participating SPC countries a complete and up-to-date awareness of present knowledge of, and research into, a wide selection of fishery resources, as well as facilitating contact among workers with like interests. The workshop will also enable the Commission to evaluate more accurately the most appropriate specific areas of activity for the IFRP and refine its programme of in-country activities in discussions with national representatives. The United States Agency for International Development (USAID) has indicated its willingness to fund this activity, the terms and conditions of which have yet to be finalised.

Table 2

TABLE 2 SUMMARY DETAILS OF SPC FISHERIES TRAINING COURSES 1986/87

Name of course	Refrigeration 1986	Fish handling 1986	Echo Sounder 1986	Catching Methods 1986	SPC/Nelson 1987	Refrigeration 1987	FAD Workshop 1987
Location	Rarotonga Cook Islands	Port Vila Vanuatu	Noumea New Caledonia	Suva Fiji	Nelson New Zealand	Kavieng Papua New Guinea	Betio Kiribati
Duration	19 weeks	10 weeks	3 days	6 weeks	23 weeks	19 weeks	2 weeks
Dates	9 June - 17 October	9 June - 15 August	August	29 September - 7 November	9 Feb - 18 July	3 August - 4 Dec	7 September - 18 September
Available Places	16	16	6	12	12	16	16
Donor Agencies	FAO/UNDP SPC	FAO/UNDP CFTC SPC BDDP	NZ Govt.	FAO/UNDP ICOD	NZ Govt. CFTC C'Foundation SPC FAO/UNDP	NZ Govt. ADAB CFTC FAO/UNDP BDDP	NZ Govt.
American Samoa		(1)	1		1	(1)	Selections to be finalised
Cook Islands	1	(1)		1			
FSM	1 (2)	1 (2)		(1)	1	2 (4)	
Fiji	1	2	2	4	1		
French Polynesia							
Guam		1		(1)			
Kiribati	1 (2)	1		1	1	1 (2)	
Marshall Is.	1	1		(2)	1		
Nauru							
New Caledonia	1		1		1		
Niue			1	(1)	1		
CNMI	1	1 (2)					
Palau	2 (3)	1 (2)		(1)	1		
PNG	2	2 (5)		1 (2)	1	10	
Solomon Is.	1 (2)	2		1	1	2	
Tokelau	1						
Tonga	1 (2)	1		(2)	1	(2)	
Tuvalu	1	1		1	1	1 (3)	
Vanuatu	(1)	2		1 (2)			
Western Samoa	1	1	1	1			

NB: Where some or all candidates not accepted, number of applicants is indicated in brackets ().

V - SPC GRANTS-IN-AID (FISHERIES)Inter-country study visits

33. One fisheries-related study visit was approved for 1987; Mr Ronald Alfred, fisheries officer from the Marshall Islands spent three weeks in Vanuatu and studied all aspects of the Village Fisheries Development Programme including visits to village projects and extension centres in Paama, North Efate, Malekula and Santo.

Short-term expert and specialist services

34. The following requests were approved or completed in the last twelve months.

- (i) FSM - a survey of the potentially important economic seaweeds in Yap lagoon. SPC covered all direct costs of the consultants with UOG contributing staff salaries. The report of the study, conducted from 23 - 28 November 1986 by a team of research workers lead by Dr R. Tsuda, describes the abundance of two species of Gracilaria inhabiting the nearshore seagrass beds around Yap. Gracilaria salicornia and Gracilaria sp. were abundant on both the west and southeast coast. Laboratory analyses of the agar found in these two species showed low yields from less than 1% to 10% (without NaOH pretreatment) and low gel strengths of less than 100 g cm. There appears to be little potential for the commercial harvesting of Yap seaweeds for the extraction of industrial colloids. There is, however, a potential of marketing Gracilaria sp. as a fresh vegetable in Guam, if farming in the seagrass beds or ponds can be developed.
- (ii) FSM - a feasibility study of a trochus and giant clam hatchery for Yap State. The request has been approved in principle and awaits clarification and agreement on the overall scope and structure of the study.
- (iii) COOK ISLANDS - a pearl culture technician to visit the islands of Manihiki and Rakahanga to assess the potential for the production of high quality pearls, to advise on culture and production techniques for optimum yields, and to carry out trial implantation operations on demonstration farms and local pearl farms as time allows.
- (iv) COOK ISLANDS - a seaweed specialist to advise on a pilot Eucheuma project proposed for Aitutaki, and to assist with the design and subsequently with the interpretation of growth trials at selected sites throughout the lagoon.

- (v) FIJI - an experienced scientist to assist with planning and early implementation of a planned two-year yield assessment study of the deep bottom snapper fishery in Fiji. The consultant will advise on sampling design and help initiate the field sampling programme including the training of local technicians and government observers assigned to the project. It is anticipated that follow-up advice and assistance could be provided by scientists of the Inshore Fisheries Research Project.

Applied research experiments and field work

35. The following projects have been approved and are now in late planning or early execution phases.

- (i) FIJI - funding support provided towards the publication costs of a manual on the criteria for certifying fish which have been killed by explosion.
- (ii) FSM - supplementary funding for a follow-up survey of the outer islands seeded with trochus in 1984-86 to evaluate the effectiveness of the transplant project. The study confirmed the success of these earlier reef seeding trials, with populations now well established at most release locations where the habitat was favourable, and juveniles observed at a number of sites.
- (iii) KIRIBATI - a survey of the potential for commercial exploitation of the deep-water shrimp resources of Kiribati. The actual survey programme, which lasted six weeks, commenced in February 1987. All practical work associated with the survey was supervised by consultant deep water fisherman Bernard Crutz, with assistance during the first three weeks from SPC Assistant Fisheries Officer Garry Preston. Fishing time was limited to 13 days with the remaining time spent on the construction, repair or replacement of traps and other fishing gear. Two types of trap were used during the survey. Most were small and similarly sized to those used in earlier surveys in other Pacific locations, and were set in strings of 4 - 8 traps equally spaced along a bottom-line. A small number of larger traps were built and were set individually, attached directly to the hauling rope. The catch rates for the small traps averaged 1.0kg/trap in the optimum fishing zone (400 - 500m) with the large traps catching about 4 times that of the small traps in the same depth zone.

The survey results, while very preliminary, suggest that the deep-water shrimp resource in Kiribati is limited, with the potential for commercial exploitation low. Any further research should focus on increasing catch rates by improving the efficiency of the traps and fishing regimes, and on establishing a more meaningful assessment of resource levels.

- (iv) VANUATU - code of practice for airfreighting chilled fish.
A grant was made to the Government of Vanuatu to cover part of the cost of production of an illustrated code of practice for the handling, preparation and packing of chilled fresh fish for airfreight to overseas markets. The manual, which is jointly being prepared by the Vanuatu Fisheries Division and the New Zealand Fishing Industry Board, is based on the earlier, similar manual designed for New Zealand fishermen and exporters. The new manual will reflect the differences in scale and style of fishing operations between New Zealand Vanuatu, and will use a combination of simple language and visual presentation more suited to users who do not speak English as a first language. When completed, the manual will have widespread applicability in many Pacific Island locations other than Vanuatu.

VI - TRAVEL, COMMUNICATIONS AND DISSEMINATION OF INFORMATION

Duty Travel

36. Duty travel in connection with the coastal resources work programme was undertaken to the following countries.

Fisheries Adviser: Cook Islands, Niue, Marshall Islands, Guam, Nauru, New Zealand, Papua New Guinea, Australia, Fiji, Vanuatu.

Assistant Fisheries Officer: Fiji, Kiribati, French Polynesia, Tonga.

Fisheries Training Officer: Nauru, Palau, FSM, Kiribati, Marshall Islands, Guam, Tonga, Western Samoa, Fiji, Vanuatu.

Fish Handling Officer: Fiji

Master Fisherman (P. Mead): Tonga

Master Fisherman (L. Chapman): Cook Islands, Fiji, French Polynesia, New Caledonia.

Master Fisherman (P. Taumaia): Tokelau

Master Fisherman (A. Moana): FSM (Truk, Kosrae).

Advisory and Information Services

37. This function is of particular importance to member governments and every effort has been made to respond in timely fashion to the large number of requests received for technical information embracing a wide range of topics. This service will be substantially improved with the establishment of the PIMRIS network and the recruitment of a Fisheries Information Officer to the Coastal Fisheries programme.

38. Production of the Fisheries Newsletter has been hampered by the current heavy publication workload in the section and limited staff resources. Two issues have been published with a third in the final stages of preparation. This newsletter was conceived as a means of promoting the interchange of ideas, information and experience amongst fisheries workers primarily from within but also outside the SPC area. It is therefore pleasing to see fisheries officers making increasing use of the newsletter both for the publication of short reports on current activities as well as more detailed articles on specific subjects.

Other publications

39. A handbook on trolling techniques which synthesises the experience and knowledge of the SPC Master Fishermen, has been prepared by SPC Assistant Fisheries Officer Garry Preston and consultant graphic artist Steve Belew. A draft was displayed at the 1986 RTMF, and the revised version is now being published in New Zealand and will be distributed in the near future. A draft of a second handbook, on deep bottom fishing techniques, by the same authors, has been circulated for critical comment and will be finalised during a one-week in-house workshop of Coastal Fisheries staff to be held immediately after the technical meeting. Preparation of both handbooks has been possible through the generous funding support of the Commonwealth Foundation and the FAO/UNDP Regional Fisheries Support Programme, while publication and distribution costs will be provided by the United States Agency for International Development for the Trolling handbook and by the British Development Division in the Pacific for the Bottom Fishing handbook.