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FIRST HEADS OF FISHERIES MEETING
(Noumea, New Caledonia, 9-13 August 1999)

REPORT OF MEETING

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ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AusAID	Australian Agency for International Development
AIMS	Australian Institute of Marine Science
AMC	Australian Maritime College
CFA	Community Fisheries Adviser (SPC)
CFP	Coastal Fisheries Programme (SPC)
CFS	Community Fisheries Section
C-SPOD	Canada-South Pacific Ocean Development
CPUE	Catch per unit of effort
CRGA	Committee of Representatives of Governments and Administrations (SPC)
CROP	Council of Regional Organisations in the Pacific
DWFN	Distant Water Fishing Nation
EEZ	Exclusive Economic Zone
EU	European Union
FAD	Fish Aggregation Device
FAO	Food and Agriculture Organization of the United Nations; IO, HQ in Rome, Italy
FFA	Forum Fisheries Agency
FFC	Forum Fisheries Committee
FETA	Fisheries Education and Training Adviser (SPC)
FIA	Fisheries Information Adviser (SPC)
FMCIL	Fisheries Management Consultancy International Ltd
ForSec	Forum Secretariat
FSTAT	Fisheries Statistician (SPC)
SOPAC	South Pacific Applied Geoscience Commission
GMDSS	Global Marine Distress Safety System
GPS	Global Positioning System
HACCP	Hazard Analysis and Critical Control Point
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HOF	Heads of Fisheries
ICFMP	Integrated Coastal Fisheries Management Project (SPC)
ICLARM	International Center for Living Aquatic Resources Management
IFRP	Inshore Fisheries Research Project (SPC)
IMA	International Marinelife Alliance
IMR	Institute of Marine Resources (USP)
IRD	Institut de recherche pour le développement (ex ORSTOM)
MCS	Management of Coastal Systems
MHLC	Multilateral High Level Consultation
MRD	Marine Resources Division (SPC)
MSR	Marine Scientific Research
NZODA	New Zealand Overseas Development Assistance
ODA	Overseas Development Administration (UK)
OFDC	Overseas Fisheries Development Council
OFCF	Overseas Fisheries Cooperation Foundation (Japan)
OFP	Oceanic Fisheries Programme (SPC)
PFS	Principal Fisheries Scientist (SPC)
PIIDS	Pacific Islands Industrial Development Scheme
PIMRIS	Pacific Islands Marine Resources Information System
PIN	Pacific Island Nation
PHFDP	Post-Harvest Fisheries Development Project
PWRB	Pacific Women's Resources Bureau
ROC	Republic of China
ROK	Republic of Korea
RTMF	Regional Technical Meeting on Fisheries (SPC)
SCTB	Standing Committee on Tuna and Billfish
SICHE	Solomon Islands College of Higher Education
SMR	Service des Ressources Marines

SPAR	South Pacific Albacore Research
SPC	Secretariat of the Pacific Community
SPMC	South Pacific Maritime Code
SPRCARF	South Pacific Comparative Assessment of Reef Resources
SPREP	South Pacific Regional Environment Programme
SPRTRAMP	South Pacific Regional Tuna Resource Assessment and Monitoring Programme (SPC)
STCW-F	Standard of Training, Certification and Watchkeeping for Skippers, Officers and Radio Personnel of Fishing Vessels
STD	Sexually Transmitted Disease
TBAP	Tuna and Billfish Assessment Programme (SPC)
TNC	The Nature Conservancy
UK	United Kingdom
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USP	University of the South Pacific
WPFCC	Western Pacific Fisheries Consultative Committee
WPRFMC	Western Pacific Regional Fishery Management Council
WPYRG	Western Pacific Yellowfin Research Group
WRI	World Resources Institute
WTP	Western Tropical Pacific

I. INTRODUCTION

SPC's first fisheries meeting was held in 1952 and attended by 16 participants, including representatives of the 6 colonial administering powers, FAO and the secretariat. The second SPC regional fisheries meeting was in 1962 and again had 16 participants, but this time including 8 representatives of newly set-up territorial fisheries services.

Regional support for the fisheries sector essentially lapsed for several years thereafter but, after requests by the South Pacific Conference, renewed attention was paid by SPC to the need for regional support in this sector. The third SPC fisheries meeting was in 1968, and mainly for the purpose of re-defining SPC's role in fisheries and starting up a major new project: the South Pacific Islands Fisheries Development Agency (SPIFDA), to be hosted by SPC.

After another meeting in 1970, the SPC's Regional Technical Meetings on Fisheries (RTMF) settled down into an annual cycle from 1972. The fourteenth South Pacific Conference formalised the principle of an annual regional fisheries meeting convened by SPC, and the twenty-ninth South Pacific Conference (1989) reaffirmed the importance that member countries attach to this meeting.

The annual cycle continued until RTMF24 in 1992, whereafter a reduction in SPC core budgetary support to the Fisheries Programme made a fully-funded meeting only possible every second year. The twenty-sixth RTMF, in 1996, decided that the evident shortcomings of the biennial meeting cycle warranted an immediate return to an annual cycle, and went so far as to recommend to itself that participants share any additional costs of participation from their own budgets. However, an administrative decision was made two months later by the Thirty Sixth South Pacific Conference that all SPC regional sectoral technical meeting would thereafter be only allocated funds to permit a triennial meetings cycle.

This report covers the first SPC regional fisheries meeting of the new triennial core funding cycle, in 1999 (although it was possible to convene a committee of the whole in 1998 using mainly extrabudgetary funds). In keeping with a recommendation of RTMF26, and presaging the change in name of the South Pacific Commission itself, the meeting was renamed the **First SPC Heads of Fisheries Meeting**, to reflect its evolution over the years.

This regional fisheries meeting, whilst it no longer stands alone and is complemented by regional fisheries meetings convened by the Forum Fisheries Agency, by the new FAO South Pacific Office, and recently by the international consultations towards a convention for the management of West-Central Pacific highly migratory fisheries, is still the only forum within which development and coastal fisheries issues can be discussed by all island countries and territories in the Pacific.

Unlike the tuna management meetings, which have attained a high international profile in recent years, the SPC HOF is not accorded a high priority by developed countries and provides an opportunity for Pacific Island fisheries services to talk about their own problems and opportunities, without being driven by international and metropolitan agendas. As such, this 1999 meeting was an extremely fruitful reaffirmation of the priorities of the small island peoples that regional agencies were set up to serve.

It is fully intended to hold another "committee of the whole" in 2000, but this depends on the availability of extra-budgetary funding and a decision will be made early in the new year.

Most of the background papers to this meeting are available on the Secretariat of the Pacific Community's website at the universal resource locator address: <http://www.spc.int/coastfish/Reports/rtmf27/index.htm>

II. AGENDA

1. OPENING FORMALITIES

1.1. Meeting Procedures

1.2. Designation of Chair

1.3. Adoption of Agenda

2. OVERVIEW OF SPC MARINE RESOURCES DIVISION

3. DISCUSSION/WORKSHOP SESSION: Maritime/Fishery and Safety Issues (SPC Capture Section, Maritime Programme, Fisheries Training Section, Community Health Programme)

4. DISCUSSION/WORKSHOP SESSION: AQUACULTURE

5. SPC MEMBER COUNTRY AND TERRITORY ISSUES/STATEMENTS (MEETING DELEGATES)

6. COASTAL FISHERIES PROGRAMME (CFP)

7. STATEMENT/PRESENTATIONS BY OBSERVERS AND OTHERS

8. OCEANIC FISHERIES PROGRAMME (OFP)

9. WORKSHOP SESSION: GAMEFISHING (OFP BILLFISH PROJECT)

10. WORKSHOP SESSION/ RESEARCH AND MANAGEMENT ISSUES

III. SUMMARY OF DISCUSSION

1. OPENING FORMALITIES

1.1 Meeting Procedures

1. The Director of SPC's Marine Resources Division welcomed delegates to New Caledonia. He outlined the goal of the meeting: to provide a forum for entire Pacific community region to talk about coastal and oceanic fisheries issues. The meeting also provides guidance for the future technical work of the Marine Resources Division, it fosters dialogue with other institutes and organisations, and provides advice to the final decision-makers of the SPC governing council.

2. The Director of Marine Resources Division then ran through the meeting procedures, particularly the need for speakers to take into account the simultaneous interpretation into English and French, and the formal procedure that this entailed.

1.2 Designation of Chair

3. The Director of the Marine Resources Division welcomed the Chairman, Danny Wase of Marshall Islands.

4. The new Chairman thanked the Secretariat for the arrangements of the meeting and called upon one of the delegations to formally open the meeting with a prayer. The representative of Fiji graciously obliged.

1.3 Adoption of Agenda

5. The Chairman invited the meeting to consider the provisional agenda, and comment or approve as necessary.

6. The delegate of Samoa referred to the second paragraph of Informal Paper 3, and raised the question of the status of other technical fisheries meetings which might be organised between triennial Heads of Fisheries Meetings.

7. The delegate of Palau suggested that this issue should be incorporated into the agenda for further consideration perhaps on Friday morning. The delegates of American Samoa and Federated States of Micronesia supported this suggestion, with American Samoa raising the question of funding.

8. The Chairman amended the agenda as suggested by the meeting.

2. OVERVIEW OF SPC MARINE RESOURCES DIVISION

9. The Director of Marine Resources Division introduced Background Paper 1. He outlined the mission statements of both the Coastal and Oceanic Fisheries Programmes and provided some general background information on the staffing and funding of the Division. He raised several issues that might impact on the future direction of the Divisional work programme, and requested meeting delegates to bear these issues in mind as they progressed in their discussion over the week.

3. DISCUSSION/WORKSHOP SESSION: MARTIME/FISHERY AND SAFETY ISSUES (SPC CAPTURE SECTION, MARITIME PROGRAMME, FISHERIES TRAINING SECTION, COMMUNITY HEALTH PROGRAMME)

10. The SPC Masterfisherman, Steve Beverly opened Discussion/Workshop Session on Maritime/Fisheries issues and Safety, and explained that the session would be organised around six presentations:

- Safe Sex and Safe Seafaring by Masterfisherman Steve Beverly, talking to BP 10;
- HIV/AIDS and STD for Seafarers Project by Wendy Armstrong, Project Co-ordinator;
- Diving Safety by Pierre Labrosse, Reef Fisheries Management Adviser,
- Fishing Vessel Safety Regulations by Peter Heathcote, Regional Maritime Legal Adviser, talking to Background Paper 15;
- Fishing Vessel Crews Certification and Safety Standards by Angus Scotland, Regional Maritime Training adviser, talking to Background Paper 11; and
- SPC Fisheries Training Section's Sea Safety Programme by Michel Blanc, Fisheries Education and Training Adviser.

11. During the Safe Sex and Safe Seafaring presentation, based on Background Paper 10, SPC Masterfisherman gave a few figures proving that commercial fishermen are in one of the most dangerous occupations in the world and are also in one of the highest risk groups for HIV/AIDS and STD. He also pointed out that SPC staff members were personally concerned by safety-at-sea since they often had to go on duty assignments involving unsafe vessels or working conditions. He suggested that the Head of Fisheries Meeting might make two recommendations if subsequent discussion showed that they were justified: one to set a policy for SPC staff in the field, and one to call for a regional conference on safety for seafarers and divers.

12. HIV/AIDS and STD Project Coordinator, Wendy Armstrong, presented the two-year project (1999-2001) funded by NZODA aimed at seafarers. The project goal is to build capacity of the maritime training schools to provide HIV/AIDS and STD training through curriculum development, trainer workshops, resource support, peer education, small grants, and condom supply. It is implemented in the Pacific Island countries which have maritime and fisheries training schools with affiliations to the SPC Maritime Training Programme and include: FSM, Fiji, Kiribati, Marshall Islands, PNG, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

13. The representative of American Samoa made a formal request for his territory to be included in the project. SPC HIV/AIDS and STD Project Co-ordinator agreed.

14. Following discussions covered issues as difficulties encountered when distributing condoms and extension of the project to other group of people (sex workers, etc.). SPC HIV/AIDS and STD Project Coordinator stressed out that the project had to constantly weigh the benefits of preventing STD against offending anyone in the community and that efforts were made to extend the project to other concerned groups including seafarers' spouses.

15. The Reef Fisheries Management Adviser briefly described some of the basic diving safety rules that should be followed to avoid accidents and their often lethal consequences. He pointed out the time spent and the efforts made by professional fishermen and scientists, using scuba or hookah gear, are often greater than in recreational diving activities. Therefore the strict applications of these basic rules is of paramount importance. The number of recent injuries and deaths that occurred among fishermen diving for beche-de-mer, using scuba or hookah gear, was pointed out to further emphasise the necessity for these basic rules.

16. The SPC Maritime Programme Legal Advisor, Peter Heathcote, made a presentation on Safety regulations for fishing vessels based on Background Paper 15 and explained that new draft small boat regulations were intended to replace those found in the outdated South Pacific Maritime Code (SPMC). The issues brought up include the following: safety measures should be uniform, size and range are factors, safety should be uniform across the region, and international standards should be followed. Questions arising from these issues include: is there a need for primary legislation, who monitors the regulations, and who enforces the regulations?

17. The format of regulations should consider: definitions, application, licensing, display of licence, construction of vessel, tonnage and load line markings, safety equipment, manning and training certification, reporting of intended voyage, use of radio, application of other laws, special rules in harbour (?), false distress alarms (?), ad hoc inspections (by whom?), periodic surveys (by whom?), offences and penalties, exemptions (?), transitional arrangements, and incorporation of conventions.

18. The SPC Regional Maritime Training Adviser, Angus Scotland, presented Background Paper 11 on Fishing Vessel Crews Certification and Safety Standards. He gave an overview of STCW78 and STCW95 and mentioned that STCW-F had been adopted by only two countries and so, had not come into effect. The Regional Maritime Project has been working on a programme for basic safety training for small vessels in conjunction with the Fisheries Training Section. Some problems have been identified: there is a shortage of qualified engineers in the Pacific, there are some shortfalls in policing schemes, and marine departments and fisheries departments don't communicate well on safety and manning issues.

19. The representative of Tonga commented that fishermen were rarely consulted before rules and regulations concerning fishermen, were drawn up and expressed concerns about how regulations would be policed in village situations and about what ministry in government would administer the regulations and define the concepts.

20. Following a question asked by the delegate from Kiribati about radios, SPC Regional Marine Training Advisor replied that there was currently some confusion brought about by GMDSS (Global Marine Distress Safety System) concerning type and compatibility of radio and frequencies to be used for distress.

21. The representative of the Federated States of Micronesia asked about SPC possible assistance for the Micronesian Maritime and Fisheries Academy. SPC Fisheries Education and Training Advisor responded that he would be visiting Pohnpei in August to identify the needs of the local fishing industry and advise on possible training programmes for the Academy.

22. The SPC Fisheries Education and Training Advisor then presented the SPC Safety Campaign focused on small boats, which was an outcome of the 1991 FAO report by Mike McCoy that detailed safety issues in the Pacific. The campaign produced a wide range of resource materials, which have been widely distributed and are still available upon request.

23. The representative of Nauru stated that the materials had been of good value to his country and that they had been used for training courses.

24. The representative of Tonga said that the Safety at Sea campaign resource materials were very adapted for the fishing communities. He questioned the possibility to bring other safety-at-sea training courses at the community level. SPC Fisheries and Education Adviser mentioned that the Nelson Polytechnic students should be able to undertake basic safety at sea training courses for local fishermen. He also informed the Meeting that Wallis and Futuna had successfully adapted the safety training modules to village situations.

25. American Samoa thanked the Training Section for the safety materials and said that they have been widely used. He then suggested that a recommendation be drafted to reflect the importance given by participants to that particular issue. This proposition was accepted by the Meeting. Lastly, he stated that one of the main problems that island fishing communities faced was the cost and availability of safety equipment.

26. The delegate of Niue thanked the Training Section for the safety materials and stated that they were of good value in their safety at sea workshops. He also stated that he would like to see two items added to the list if any safety awareness materials were to be developed by the section in the future: the relationship between alcohol consumption and sea safety, and maintenance of safety gear. He also supported the Masterfisherman's concern that no SPC staff should put their lives at risk while on duty travel in a member country.

4. DISCUSSION/WORKSHOP SESSION: AQUACULTURE

27. The session on Aquaculture was introduced by the Director of Marine Resources, referring to Information Paper 6. This was a session mainly for the information of meeting participants, and to introduce some discussion issues of topical relevance, but also to provide further guidance from member countries and territories on the priorities and preferred directions for continuation of regional aquaculture support.

28. Erick-Ingvald Ask of FMC Inc. and Steven Why of the Foundation for the Peoples of the South Pacific gave presentations on the prospects for *Eucheuma* seaweed farming in the Pacific. In response to a question, the representative of Fiji explained that Fiji had learned from its previous mistakes when *Eucheuma* farming had been promoted in the 1980s, and now knew how to identify suitable areas and suitable socio-economic factors favouring such aquaculture.

29. The seaweed farming presentations generated considerable discussion, covering such issues as quarantine and potential environmental impacts of introduced *Eucheuma*, the prospects for polyculturing seaweed with other organisms such as giant clams or fish and the economics of seaweed farming. The meeting suggested that one priority to assist decision-makers in assessing the feasibility of such aquaculture would be a regional study on the economics of *Eucheuma* seaweed farming, and made this recommendation one of the formal outputs of the meeting.

30. Hideyuki Tanaka of the FAO South Pacific Aquaculture Development Programme presented some of the issues highlighted in Background Paper 14, and made several suggestions about priorities for the future of regional aquaculture development support. The diversification of aquaculture into different species, and the need for a regional network of Pacific Island aquaculture centres in particular was highlighted. Mr Tanaka pointed out that this would be his last attendance at an SPC fisheries meeting, and thanked those present for 13 years of support to the activities of the project.

31. SPC member countries expressed thanks to Tanaka for his service to the region and for the assistance of the FAO project, and also disappointment that it had not proven possible to ensure a smooth succession of regional aquaculture development responsibilities from FAO to one of the regional organisations. The representative of Tonga was particularly eloquent concerning the growing significance of aquaculture in the region, and the need for more, not less, regional assistance in both addressing future problems and reaping the potential benefits. He pointed out that Tonga had recently enacted legislation to provide a firm legal foundation for regulating the development of aquaculture in the Kingdom, and that this legislation had been accorded equal status with the Fisheries Act – a measure of the importance with which Tonga viewed the issue. He also suggested that other seaweed species should be considered as well.

32. As well as the general need, expressed by several countries, for regional organisations and other partners to give more priority to helping countries deal with the issues raised by the development of the aquaculture sector, the meeting also signalled the need for renewed attention to marine quarantine. The existence of both the Guidelines for Aquatic Quarantine approved by this meeting in 1994 (RTMF25) and by FAO was acknowledged, but the need at this stage was particularly for capacity-building for terrestrially-focussed national quarantine personnel on aquatic species to put these guidelines into practice.

33. Tim Pickering of USP (referring to Information Paper 5), Cameron Hay of IMR and Johann Bell of ICLARM gave presentations on their respective activities.

34. The Director of Marine Resources concluded the Aquaculture session saying that SPC submitted proposals to Taiwan and AusAid on a seaweed site survey and also on the Regional Aquaculture Strategy.

5. SPC MEMBER COUNTRY AND TERRITORY ISSUES/STATEMENTS (MEETING DELEGATES)

35. An entire day was devoted to statements and discussion of issues raised by member countries and territories. This was a freely ranging discussion and raised many interesting points. As a consequence it was decided to produce a more comprehensive than usual transcript of discussion for circulation by mail and correction by participants after the meeting. This is attached as Annex A.

36. The meeting however highlighted some discussion items of particular note, for inclusion in the list of agreed meeting outputs, as follows (these do not necessarily constitute a list of regional priorities, but are items arising upon which specific actions are desirable and possible):

- That a regional study be made to analyse the economics of seaweed farming in the Pacific Community region. The study should focus on the analysis of economic returns from seaweed farming compared to income-earning activities currently common in Pacific communities;
- That the Secretariat of the Pacific Community consult with the US Food and Drug Administration to seek opportunities to train island national inspectors to certify fish and fishery products according to HACCP principles;
- That, in view of the growing importance of HACCP principles to the development of island export fisheries, the Secretariat invite the United States to include an FDA official in the national representation at the next SPC fisheries meeting.

6. COASTAL FISHERIES PROGRAMME (CFP)

37. The Director of the Marine Resources Division opened the Coastal Fisheries Programme (CFP) session referring to the Background Paper 2, highlighting the mission statement of the CFP.

6.1. Information Section

38. The Fisheries Information Adviser (FIA) presented the work of the Section to the meeting, referring to Background Paper 7. He also presented, on behalf of the Pacific Islands Marine Resources Information System (PIMRIS), the report of the latest PIMRIS Steering Committee, referring to Information Paper 2.

39. The delegates of Vanuatu, Nauru, American Samoa, Niue, Tonga, Cook Islands, the Federated States of Micronesia, Fiji and Kiribati expressed their appreciation of the work done and the assistance provided by the Section during the past three years.

40. The delegate of Nauru requested the help of the section in producing educational materials for schools, public awareness posters on ciguatera and assistance with the printing of their national fisheries legislation.

41. Following a question from the delegate of Niue concerning the way a request for assistance should be formulated, the Director of Marine Resources Division replied that, as long as requests did not imply significant spending, they did not need to follow the official SPC channels and could be dealt directly with the section.

42. The delegate of Tonga requested assistance in producing a poster advertising career opportunities in the fisheries sector, to promote fisheries as an important and “full of promises” sector. He also sought the help of PIMRIS for setting up a professional library within the Ministry of Fisheries.

43. The delegate of the Cook Islands mentioned that the Ministry of Marine Resources was generating a lot of information but were experiencing difficulties with its dissemination. He hoped that the Information Section could assist them. He also expressed concerns about some private consultants using the SPC Pearl Oyster bulletin as an advertising platform.

44. The Director of Marine Resources Division replied that although SPC includes a disclaimer in most of its bulletins, more editorial control would be done in the future.

45. The delegate of the Federated States of Micronesia requested assistance in publishing various official documents. He also thanked PIMRIS for the assistance given in setting up the fisheries bibliographic database.

46. Following a question of the delegate of Fiji concerning the length of the training attachments, FIA responded that short-term attachments, up to four weeks, could be organised upon request.

47. The delegate of French Polynesia expressed a need for the training of a fisheries librarian and asked if this training could be organised at the regional level.

48. FIA replied that such training could be organised by PIMRIS at USP, but would have to be conducted in English.

6.2. Community Fisheries

49. The Community Fisheries Adviser (CFA) presented the work of the Section, referring to Background Paper

50. The work and the achievements of the Community Fisheries Section (CFS) were highly commended by the delegates of the Cook Islands, the Federated States of Micronesia, Palau, Niue, Samoa, Vanuatu, Solomon Islands and the Marshall Islands.

51. The representative of Fiji expressed concerns about the objectives of the CFS. He thought that these objectives were confused and that the CFS was trying to do too many activities. He also added that he didn't feel that the section had the expertise to cover all these activities. He mentioned that the Section should move towards the community management of resources.

52. The representative of the Cook Islands said he was pleased to see that the CFS had established links with the NGOs.

53. The representative of Palau made a request for a video of the forthcoming practical skill development workshop to be held in Palau in October this year.

54. The representative of Niue mentioned that he will seek the assistance of the CFS as soon as the Women-in-Fisheries Officer is installed.

55. The representative of Samoa said that the CFS was important. He however expressed concerns about the new name. He didn't think that the name change was justified as most of the work was still focussing on women. He reminded the meeting that Recommendation of the 1996 Regional Technical Meeting on Fisheries was only to look at the importance of women's activities. He stressed that if the section was to tap into men's activities at the subsistence and artisanal level, we would have to be very careful about encouraging increased involvement of men in harvesting resources which were already heavily exploited. He also expressed concerns about the involvement of the section into tuna management plans, an activity already carried out by FFA.

56. The Director of Marine Resources explained that the CFS was in a transition period and that the Background Paper didn't include the possible EU project which would include technical support to the CFS on social and economic issues.

57. On the question of tuna management plans, the Director of marine Resources added that the Women's Fisheries Development Project was to some extent a gender programme. National tuna management plans need to link plans with the stakeholders, of which 50% are women and in this CFS can lend a hand.

58. With reference to Recommendation 9 from the last Regional Technical Meeting on Fisheries (RTMF), he mentioned that there was a 3 year gap and in that time decisions have to be made. One decision was to look at women in the context of the whole community.

59. CFA added that reasons for the change of name were also the following:

- The CFS can't only focus on women in isolation in order to gain an understanding of inshore resources.
- Women's activities in the fisheries sector impact on others in the sector and the activities of others impact on women.
- Workshops are open to men and women and though they have mainly been for women some men have attended. Our resource materials go out to many agencies and are distributed to men and women.

60. The representative of Vanuatu asked if the CFS has carried out any impact of women's activities on the reef and that it was done in other countries, he would be very interested to receive some information on that matter.

61. CFA replied that they have collected information on the impact of women in the Kai fishery in Fiji, as part of an ICFmaP project. In the future they will be working with the Reef Fishery Assessment and Management Section in undertaking impact assessments.

6.3 Reef Fishery Assessment and Management Section

62. The Director of Marine Resources, as the former head of the section, introduced the work of the Reef Fisheries Assessment and Management Section, speaking to Background Paper 13. He pointed out that a detailed account of work during the past three years would be provided in the final report of the Integrated Coastal Fisheries Management Project.

63. Incoming Reef Fisheries Management Adviser Pierre Labrosse outlined future plans, based around the proposal to the European Union for a South Pacific Comparative Assessment of Reef Resources (SPRCARF) project, and the strengthening hope of obtaining resources to implement the main components of the Pacific Live Reef Fishery Strategy endorsed by the 1998 SPC "mini-RTMF" meeting.

64. The guidance provided to the section during the following discussion included appreciation from several countries of the section's assistance with the management of live reef fisheries, and pointing out that ciguatera was becoming a major issue again, after recent incidents reported in importing countries. Several countries welcomed the development of standardised and easy to use reef fishery assessment and monitoring tools given the fact that assistance from SPC could only go so far, and local staff would need to extend and complete the job. The concept of attaching local staff to sectional activities was appreciated, and the secretariat was encouraged to include attachments for the purpose of MSc or PhD level research training as well.

65. The meeting urged the programme not to let its activities be driven by the desire to become a "centre of excellence" in reef fisheries science, but to keep its sights firmly fixed on the practicalities of fulfilling the needs of member countries, particularly in supporting local fisheries managers and management actions. Retaining the capacity to respond to urgent appeals for assistance with reef fisheries management crises was important, and the programme was encouraged also to be active in identifying problems and in providing the motivation to take action and develop workable mechanisms at the national or local level. The meeting formally recommended:

- That the Reef Fisheries Assessment and Management Section be proactive in initiating programmes in order to motivate fisheries managers, decision-makers and communities to undertake measures for the management of reef fisheries resources;

66. The meeting also agreed that it might be useful to re-affirm the resolution from the 1998 meeting concerning the need to implement the Regional Live Reef Fishery Strategy, given that the need for a structured response to the challenge had considerable urgency and that SPC's current capacity to address member country requests only permitted short-term, ad-hoc activities. The possibility of the Asian Development Bank providing technical assistance to the region in this area was noted, and the Secretariat was encouraged to convey the hopes of member countries to the Bank.

67. The need for research into other issues, apart from resource and resource-management issues was flagged, particularly research into start-up enterprises in the island context. The information and advice was necessary to identify economies of scale and comparative advantages in fisheries and aquaculture.

6.4 Training Section

68. The Fisheries Education and Training Adviser (FETA) presented the work of the Section to the meeting, referring to Background Paper 12.

69. The representative of French Polynesia thanked the Training Section for the two series of Sashimi tuna Workshops in 1996 and 1998.

70. The representative of Vanuatu gave his appreciation to the Section for its assistance in Pre-Sea Fishing and Safety Training and would like the Section to continue with the distribution of resource and training materials.

71. The representative of Fiji thanked the Section for the training assistance in aquaculture, sashimi tuna handling and fishing skill workshops. He also requested a repeat of the Train the Trainers Workshop in HACCP. FETA explained that the Post-harvest section was presently unfunded but that his section was keen to provide assistance in the interim. Funding is available for the short-term placements of experts in HACCP and quality systems. However, donor support would need to be sought for more comprehensive training activities (regional workshops).

72. The representative of the Cook Islands thanked SPC for helping fisheries staff with the implementation of tuna handling workshops; as a follow-up, several workshops had been run in six outer islands.

73. The representative of the Federated States of Micronesia thanked FETA for coming to Pohnpei to assist with the establishment of a new training institution. He also sought clarification on the criteria used for the planning of the section's activities and asked if travel arrangements could be improved so as to facilitate access to overseas visa.

74. Although American Samoa had not participated in SPC training activities for a long time, its delegate expressed his appreciation for the work done by the section and requested assistance to run a workshop in tuna handling and HACCP, FETA said that this kind of workshop was straightforward to organise and arrangements for the workshop could be made during the meeting.

75. Alastair Robertson, Tutor at the New Zealand School of Fisheries, ran a quick demonstration of the training software developed by the section. This software is a tool to help understand the economics of fishing vessels operations.

76. The Women's Development Officer of the Pacific Women's Resources Bureau (PWRB), introduced the training guide which was developed as part of the Gender sensitisation of the SPC Fisheries Programmes. The training guidelines will help training providers to implement good programme while improving women access to training and education.

6.5 Capture Section

77. The Fisheries Development Adviser, Lindsay Chapman, presented a three-year overview (August 1996 to August 1999) of the Capture Section's work, which was summarised in Background Paper No. 9. The presentation highlighted the main areas where technical assistance was provided in addressing the Section's overall objective of: 'Assisting countries and territories to develop economically viable commercial fishing operations focusing on vessel parameters, harvesting activities and post-harvest practices'. The key areas covered in the presentation were: national-level technical assistance (both short-term and long-term); workshops and follow-up activities; meetings and conferences attended; advisory services provided and publications produced by the Section.

78. To save time, questions were held over and the meeting went straight on to look at the future directions for the Capture Section. This topic was introduced by the Director of Marine Resources, Tim Adams, where he gave the following summary and background behind this topic.

79. 'Every so often SPC does an internal review of a part of the Division. Last year the Coastal Fisheries Programme was thinking about how its component sections might better work together – a process that resulted in the recent amalgamation of separate AusAID-funded projects into a single fisheries development project under the Coastal Fisheries Programme. This year we are concentrating on the role of the Capture Section. This Heads of Fisheries meeting provides a very timely opportunity to obtain the views of member countries, and to start the exercise off on the right foot.

80. The Capture Section, which primarily provides hands-on assistance in developing new fishing enterprises, covers an area which changes very rapidly and thus needs to be regularly reviewed. Ten years ago the efforts of the Section were almost entirely devoted to assisting in the development of deep-water snapper fisheries, which at the time appeared to be a major prospect for fisheries development. However, the much greater potential of small-scale tuna longlining became clear and the Section switched most of its activities into this area. This may well be supplanted by some other capture fisheries development option in future.

81. An additional reason for appraisal is because the Capture Section is the only non-managerial part of the Marine Resources Division that receives funding from the SPC core budget – the assessed contributions of member countries – and SPC core-funded activities nowadays have to regularly justify their existence. It was the SPC Heads of Fisheries Meeting (in its previous incarnation as RTMF) which, earlier this decade, expressed great concern at the decision of the SPC governing council to allow core funding to the Capture Section to be

cut, and to disestablish the Masterfishmen posts. It took us some time to turn this around, but it was the recommendations and prioritisations coming out of this meeting that provided the justification for reinstating our Masterfisherman capacity. It was clear that this kind of hands-on fishing enterprise-building assistance was where most member countries and territories preferred their SPC contributions to be spent, if they were to be spent on the fisheries programme.

82. Most of the rest of the Marine Resources work-programme is donor-funded, and most donors regularly appraise their projects – for example, the EU funded a consultant to carry out a mid-term review of the SPRTRAMP project last year, and we are considering an independent review of the whole Oceanic Fisheries Programme soon. The UK sent a consultant to review its Integrated Coastal Fisheries Management two years ago. In this particular case, SPC will be internally reviewing its own project, so we need a good “steer” from member countries and territories. To ensure an additional measure of scrutiny, I have asked the Manager of the Oceanic Fisheries Programme, Tony Lewis, to be in charge of the review. Tony is entirely separate from the Capture Section, and he is not part of that particular “chain of command”. At the same time he is extremely knowledgeable about the issues involved – for example, he was in charge of the development of small-scale longlining in Fiji for several years, as well as being intimately involved with tuna fisheries all over the region during the past decade.

83. For the last part of this session we would be glad to hear the views of member countries and territories, on which direction you think the Capture Section should be heading over the next three years, or indeed whether you think it needs to deviate from its current direction. The results of this exercise will be fed into the SPC Executive Management process and of course reported back to member countries and territories in my report to CRGA. You have already heard from Lindsay about its activities over the last three years, and I will turn this over to the meeting for some views on the future.’

84. Before the opening up the topic for discussion, Tim drew attention to the suggested future directions as presented in Background Paper No. 9. Tim also presented the following list of possible future directions and other discussion points.

- Continuing existing activities (both short-term and long-term) in the areas of:
 - ⇒ Tuna longlining, gear and technology;
 - ⇒ On-board processing, handling and chilling of catch;
 - ⇒ FAD materials, construction and deployment;
 - ⇒ National workshops covering different tuna issues;
 - ⇒ Production of reports and technical manuals;
 - ⇒ Value-adding processes for tuna and associated species; and
 - ⇒ Studies and advice on development options, vessel parameters, infrastructure needs, training needs, etc;
- Alternative directions for development which need additional resources:
 - ⇒ Sportfishing and gamefishing, looking at the feasibility and infrastructure needs including links to tourism;
 - ⇒ Alternative cheaper FAD designs with research into different buoy systems and mooring configurations;
 - ⇒ Alternative value-adding processes for tunas and associated species including the setting-up of shore facilities to appropriate standards;
 - ⇒ Marketing information for coastal fisheries products including value-added products; and
 - ⇒ Catching and handling live reef fish using non-destructive methods.

- Other areas for discussion:

- ⇒ Pacific Island Trainee Associate position, is there a need for this type of training?
- ⇒ Best approach for requesting assistance of the Section from both the private and public sectors;
- ⇒ Is 'Capture' the best name for the Section or would a more 'environmentally friendly' name be better like the 'Fisheries Development Section?; and
- ⇒ Is Masterfisherman the best title for staff or would they be more appropriately called 'Fisheries Development Officers' or 'Fisheries Development Technicians'?

85. There was considerable discussion on this topic which went into an evening 'informal session' without translation at the agreement of the Francophone participants. At the start of the discussions, the delegate from Samoa expressed the need for guidance to focus the discussions on this important programme. He suggested a detailed paper might assist in this regard. In reply, the Director of Marine Resources thanked the delegate from Samoa for expressing his concerns, however, this review was requested by the SPC Executive for programme management purposes, and with limited time there was a need to get initial comments from member countries and territories before the next Heads of Fisheries meeting in three years time. The Director of Marine Resources Division Director, also added that he was happy to receive further input during the week as well as written comments after delegates returned home. The delegate from Samoa accepted the need for this approach, and the following is a summary of the discussions and points made by delegates on future directions for the Capture Section.

- There was widespread support for the Capture Section (Kiribati, Fiji, Samoa, American Samoa, Tonga, Solomon Islands, Niue, Nauru plus others informally) and its past work with many delegates supporting the continuation of the current work programme.
- There was no need for the Capture Section to become involved in the catching and handling of live reef fish (Kiribati, Fiji, Tonga).
- There was a keen interest by several delegates (Kiribati, Nauru, American Samoa, Tonga, Niue, Fiji, French Polynesia) in experimenting with and developing cheaper FAD buoy and mooring designs as this was still considered an important development area in these countries.
- There was interest in the provision of marketing data and having market studies undertaken for fresh and value-added tuna products (Fiji, French Polynesia, Tonga, Samoa plus others informally) as well as contacts for marketing a range of non-tuna products. This was considered an important area to assist development with recommendation? coming from the range of discussions.
- There was a need for training and more information in the areas of quality control, HACCP and requirements to enter the EU market. This was raised by several delegates (Fiji, Samoa, Tonga) during this session, however, it was also raised during several other sessions and an important need of countries as they endeavour to export products.
- There was a need for shorter-term training rather than the one-year Trainee Attachment position with the Capture Section. Delegates felt that more shorter trainings or attachments would better serve their needs.
- There was uncertainty expressed by American Samoa in regard to the method of seeking assistance for the different Sections in the Coastal Fisheries Programme. This will be clarified by the Director of Marine Resources in the proceedings from the meeting.

- Several delegates felt there was a need for additional Masterfishermen as their services were in high demand (Tonga, Niue). The delegate from Niue also suggested there be more shorter-term assistance to longer-term assistance, to enable a greater coverage of national requests.
- There was inconclusive discussion in the area of sportfishing and gamefishing, and the need for additional resources to be located to focus on this area.
- The delegate from Tonga suggested there was a need for additional funding for the production of publications by the capture Section. The delegate also stated that they were interested in translating some of this material into the local language to get the information out to the fishermen where it would do the most good.
- The delegate from Niue suggested the Capture Section produce a video on tuna longlining as a training aid for member countries and territories. This had already been discussed within the Capture Section and such a video would enhance the tuna longlining manual the Section was working on. However, funding would need to be located for both the manual and the video.
- Nauru was keen to get assistance in the area of value-adding for tunas and associated species, possibly through short-term training.
- There was some discussion on the name of both the Capture Section and the Masterfisherman title. Discussions were cut short on this due to time, however, the general feeling of the meeting was that the 'Capture Section' was involved in many other areas outside 'catching' fish, and that the 'Fisheries Development Section' would be more appropriate. In line with this thinking, the term of Masterfishermen was felt to be too specific to cover the range of tasks undertaken. Therefore, it was suggested that 'Fisheries Development Officer' or 'Fisheries Development Technician' would be more appropriate and this is reflected in a recommendation.

7. STATEMENT/PRESENTATIONS BY OBSERVERS AND OTHERS

7.1 Australian Agency for International Development (AusAID)

86. The representative of AusAID made a presentation summarised below:

87. Support for the sustainable development of fisheries in the Pacific is a key aspect of Australia's Development program AusAID currently supports a range of fisheries activities at regional and bilateral levels. Bilaterally, AusAID is funding projects in Samoa, Tonga and Papua New Guinea. On a regional level, AusAID is a major donor in the SPC Coastal and Oceanic Fisheries Programs, and supports the Fisheries Management Adviser at FFA.

88. AusAID will continue to support these regional funding arrangements will provide increased funding certainty and greater flexibility for regional organisations to be able to prioritise resources and implement activities most relevant to members needs.

89. AusAID looks forward to working collaboratively with the regional organisations and national governments in delivering these activities.

7.2 South Pacific Regional Environment Programme (SPREP)

90. The Cook Islands Delegate thanked the SPREP representative for the training in coral reef survey and monitoring methods conducted in 1994. However, it was noted that some of these methods have not worked as intended and had to be modified. On that basis, the Cook Islands delegate questioned whether the methods currently taught during the SPREP Workshops are the most appropriate for the Pacific Islands. He also noted the need for Environment and Fisheries Departments to work closely on this initiative.

91. The SPREP delegate thanked the Cook Islands delegate for the feedback on the coral reef monitoring training provided and follow-up initiatives since the monitoring workshop. He noted that the methods currently taught during the SPREP coral reef monitoring workshops are internationally validated to include the method that has been adopted by the Cook Islands.

7.3 Marine Scientific Research (MSR)

92. The delegate of the Forum Secretariat made a presentation on behalf of SOPAC on Marine Scientific Research (MSR) in the Pacific. In particular, the issues identified in the report by Alfred Soon on Implementation of the Marine Scientific Research Regime in the South Pacific were highlighted. Countries were also alluded to the recommendations in the report, in particular to enact legislation providing a basis for regulations concerning MSR.

7.4 Marine Sector Working Group Paper

93. The Forum Secretariat presented the CROP Marine Sector Working Group Paper entitled "Regional Marine Initiatives, Priorities and Donor Policies" (Information Paper 23).

94. Heads of Fisheries were provided background on the setting up of the CROP Marine Sector Working Group, a mandate from CROP heads and Forum leaders on marine policy and co-ordination. The Heads of Fisheries were informed that Working Paper will be further refined and take into account of the regional priorities identified in the meeting.

95. The marine sector working paper was well received and supported by Heads of Fisheries. Members of meeting also support the role of the Marine Sector Working Group in developing a Pacific Regional Marine Sector Strategy which would take into account duplication issues and the identification of regional marine sector priorities.

96. The meeting also noted that regional priorities identified by Heads of Fisheries will be included in the working paper (Information Paper 23).

7.5 Forum Fisheries Agency (FFA)

97. The FFA Deputy Director briefly introduced the work done by FFA highlighting the focus of that organisation: secure the sustainability of the resource and maximise economic benefits to the FFA member countries.

98. He also informed the Meeting on the key issues facing FFA, including the National Tuna Management Plans, the Multilateral High level Process and the associated legal and monitoring, control and surveillance aspects, the domestic Industry development and cost effectiveness and efficiency.

7.6 The Nature Conservancy

99. The representative of the Nature Conservancy (TNC) made a presentation, referring to Information Paper 4.

100. He outlined the aim and goals of TNC, one of the most successful organisation in the field of conservation. He then informed the Meeting on the involvement of TNC in a number of marine resources and fisheries activities at the regional and at country level, including Palau, Federated States of Micronesia (Pohnpei), Solomon Islands and Papua New Guinea.

101. He then outlined the current collaboration between SPC and TNC to assist member countries to effectively and sustainably manage the live reef fish trade.

7.7 Canada-South Pacific Ocean Development (C-SPOD) Program

102. The representative of C-SPOD made a presentation referring to Information Paper 21.

103. The Canada-South Pacific Ocean Development (C-SPOD) Program is Canada's major commitments to the Pacific Islands. It reflects the Canadian and Pacific views that ocean development is a key priority. The program focuses on sustainable development of the region's living marine resources, and promotes regional partnership and ownership/accountability for the program's results. C-SPOD Phase II is a \$14 million (CAD), seven-year program. It is a regional program; projects are developed and implemented by four of the regional organisations the Pacific Islands: the South Pacific Forum Fisheries Agency (FFA), the South Pacific Forum Secretariat, the South Pacific Regional Environment Programme (SPREP), and the University of the South Pacific (USP). The Secretariat of the Pacific Community (SPC) and the South Pacific Applied Geoscience Commission (SOPAC) are members of the Program Management Committee, and participate in some of the projects. The program is coordinated by the Forum Secretariat, Suva, Fiji, and LGL Limited, environmental research associates, Canada.

104. There are now eleven projects approved. At FFA the projects concentrate on the co-ordination of MCS and developing Tuna Management Plans for individual countries. The Forum Secretariat has completed a study on Fisheries (food fish and aquarium products) Exports to North America and is proposing an additional project to follow up the recommendations from these studies. SPREP has projects in Management of Coastal Systems, Turtle Conservation and Marine Pollution. The USP projects focus on strengthening the Marine Studies Programme, increasing the scholarship support for regional students and improving education and training in aquaculture and post-harvest fisheries. Preliminary results indicate a number of benefits to the Pacific Island Countries from all the projects.

7.8 Australian Maritime College

105. The representative of the Australian Maritime College (AMC) made a presentation on the AMC work programme. A summary of his paper can be found below:

106. Fishing industries in the Pacific region are potentially affected by world crises in fisheries management and the increasing prominence of environmental issues in politics and marine resource management. There is a need for the fishing industry to be pro-active in environmental management and to embrace a more holistic approach to resource management than it has traditionally undertaken. This need could be met with targeted educational opportunities that go beyond competency based training to include environmental management and application of contemporary economic tools in marine resource management. This multi-disciplinary approach to management offers benefits in economic development, marketing, preservation of access rights, and participating more effectively in the resource allocation process.

7.9 Fisheries Management Service

107. The representative of the Fisheries Management Consultancy International Limited addressed the meeting on:

Fisheries Enforcement Training in the South Pacific

108. This presentation introduced Fisheries Management Consultancy International Ltd (FMCIL) and their focus of providing technical, policy and training advice to industry, Governments and International agencies through a multi-disciplinary approach to Fisheries issues, FMCIL explained:

109. The compliance training Fisheries Management Services (domestic arm of FMCIL) together with the Nelson Polytechnic, New Zealand School of Fisheries were delivered to the NZ fishing industry and other agencies such as the Treaty of Waitangi Fisheries Commission.

110. The focus of this training is educating the stakeholders of their responsibilities and legal liabilities of complying with fisheries legislation to ensure compliance and therefore management and sustainability of the fishery resource. FMCIL understand that this is the first time in NZ and maybe in this region that this type of training has been provided. It has proven to be extremely successful in changing stakeholder behaviour to a more compliant attitude in New Zealand and believe that if this training was taken to other South Pacific region countries there is no reason it cannot be equally successful in those countries.

111. The concept of providing fisheries enforcement training to the SPC candidates who come to New Zealand each year or providing this training to individual countries through aid funded programmes.

112. This enforcement training must reflect the country needs but may cover: (i) Enforcement skills i.e. surveillance; field notes; searching; vehicles, vessels, places, arrest; seizure of evidence and property control; scene control; evaluating informants; intelligence analysis; client liaison and education; (ii) Operational planning; the appreciation process Case file management i.e. report writing; summary of facts; preparing charges; briefs of evidence; witness and exhibits schedules; (iii) Exhibit management system; (iv) Court procedures i.e. giving evidence; (v) Legal systems i.e. making law; types of evidence; standards of evidence; (vi) Observer skills.

7.10 University of the South Pacific (USP)

113. The representative of the University of the South Pacific (USP) made a presentation referring to the Background Paper 8. A summary of this paper can be found below:

114. The post-harvest fisheries development project (PHFDP) is being implemented through the University of the South Pacific's (USP) Marine Studies Program (MSP) and is funded by the Canadian government through the Canada-South Pacific ocean development program. In this work USP will collaborate with regional, national and village-level partners. The PHFDP covers all USP countries (Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu) plus Palau and Federated States of Micronesia.

115. The overall goal is to improve the use of inshore and nearshore fisheries resources important to local food security in Pacific Island nations. a secondary goal is to increase the competence and capacity at USP to support future post-harvest fisheries development efforts.

116. The aims of the project are to:

- improve the quality of fisheries products in domestic markets,
- improve food security
- improve the standard of living of small-scale fishers
- reduce waste and seafood-related disease

117. The needs assessment was developed in collaboration with a PHFDP advisory committee with members from SPC, FAO, forum secretariat, USP and others. The needs assessment involved review of literature, interviews, surveys, observation in Fiji Islands, Solomon Islands, Vanuatu, Samoa, Tonga, Kiribati. The proposal to do a State of the Marine Environment Report (SOMER) was outlined.

118. The Strategy developed for the project involves the following activities:

119. Development of curricula for primary and secondary schools, rural training centres and fisheries colleges.

- Development and delivery of media and public awareness campaign on proper fish handling.
- Research into new food sources, appropriate technology for fish preservation and value-added processing at household and community levels.
- Development and delivery of training materials for workshops targeting fishers and fish traders.

7.11 Food and Agricultural Organisation of the United Nations (FAO) - SAPA

120. FAO Sub-Regional Office for the Pacific Islands established in 1996 covers seven member countries in the region. Niue, Marshall Islands and Palau formally applied for FAO membership this year. It is anticipated that their applications will be confirmed at the FAO Conference later this year.

121. FAO implements the Programme of Fisheries Assistance for Small Island Developing States focussing on (1) institutional strengthening and national capacity building, (2) enhanced conservation and management of EEZ fisheries, (3) improved post-harvest fish management and marketing, (4) safety-at-sea, (5) strengthening the economic role of national fisheries industries and the privatisation of fisheries investments, and development. The South West Pacific Ministers of Aquaculture Meeting held in Tonga in April 1999 recommended to implement the Code of Conduct for Responsible Fisheries, to further improve fishery statistical data to improve the safety and quality of fishery products etc.

122. Two regional workshops (fishery statistics, code of conduct) will be re-scheduled in 2000. FAO's technical assistance to the members is provided through Technical Cooperation programme, Special Programme for Food Security, Telefood Special Fund etc.

123. On behalf of FAO Headquarters, SAPA Fishery Officer thanked SPC and its member countries for their support and assistance to the FAO South Pacific Aquaculture Development Project for over 10 year, in occasion of its completion in August 1999.

7.12 Nelson Polytechnic

124. Alistair Robertson, representing the Nelson School of Fisheries, briefly addressed the meeting, after noting the long and fruitful relationship between the School and the Pacific Community. He pointed out that there might be additional funding opportunities for Pacific Islanders to take up New Zealand fisheries training opportunities through Aotearoa scholarships and the PIIDS programme. Those interested might contact their local New Zealand diplomatic mission or write to the secretary of the School of Fisheries. In view of the number of times that fish product quality certification had been raised in the meeting he thought it worth noting that, although the School was primarily a training establishment and not a consultancy, that many staff had an industry background, were registered in HACCP principles, and could possibly be of assistance.

7.13 Australian Centre for International Agriculture Research (ACIAR)

125. The Australian Center for International Agricultural Research (ACIAR) assists and encourages Australia's scientists to use their skills to assist developing countries. It does this by commissioning projects which promote international partnership research arrangements which enable Australian scientists to work alongside their developing country counterparts to search for solutions to problems of priority to the partner country. The ACIAR Fisheries program spans a diversity of production strategies and environments, from wild capture marine and freshwater fisheries and issues related to their responsible management, to aquatic farming systems, mariculture, and fisheries enhancement. Reflecting the importance of fisheries to the countries of the region, ACIAR has maintained a strong commitment to fisheries issues in the Pacific Islands, funding 27 projects worth a total A\$10.6 million over the last 15 years, with 7 projects ongoing. This has involved activities in 9 SPC member countries with strong linkages forged to the relevant regional agencies, with SPC, FFA and ICLARM prominent in this respect. Capacity enhancement within partner institutions is emphasised in all projects through both formal and informal mechanisms.

8 OCEANIC FISHERIES PROGRAMME (OFP)

126. The Oceanic Fisheries Coordinator (OFC) outlined the session of the Oceanic Fisheries Programme referring to Background Papers 3,4 and 5. The session included five topics: 1) overview of the western and central Pacific tuna fishery, 2) status of stocks, 3) overview of the OFP work programmes 4) a report on the SCTB and 5) discussion on the future role of the OFP.

8.1 OFP Review

127. The OFC provided an overview (BP 5) of the western and central Pacific Ocean (WCPO) tuna fishery (west of 150°W) and characterized the fishery as being diverse, ranging from small-scale, artisanal operations in the coastal waters of Pacific states, to large-scale, industrial purse seine, pole-and-line and longline operations in both the exclusive economic zones of Pacific states and on the high seas. The main species targetted by these fisheries are skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*), bigeye tuna (*T. obesus*) and albacore tuna (*T. alalunga*).

128. Annual catches have been relatively stable since 1991, after steady increases during the 1980s. However, the 1998 catch is estimated at 1,773,787 metric tonnes (mt), a substantial increase (more than 200,000 mt) on the 1997 catch, and the highest on record for the region, eclipsing the 1991 tuna catch of 1,647,000 mt. The purse seine fishery accounted for an estimated 65% of the total catch, pole-and- 15%, longline 11%, with the remainder (9%) taken by troll gear and a variety of artisanal gears, mostly in eastern Indonesia and the Philippines. The 1998 tuna catch represented 77% of the total estimated Pacific Ocean catch of 2,281,444 mt in 1998, and 52% of the provisional estimate of world tuna catch (3,400,121 mt).

129. The 1998 catch featured a record catch of skipjack (1,166,861 mt; 66% of the total). Yellowfin (407,391 mt; 23%) and bigeye (97,603 mt; 5%) catches were down slightly on the 1997 levels, while the slight increase in albacore (North and South Pacific) catch (101,933 mt; 6%) over the 1997 level made it the highest for the past 20 years.

130. The 1998 **purse seine** catch of 1,158,326 mt was an all-time record and eclipsed the previous record of just under 1,000,000 mt for 1991. Skipjack (888,740 mt – 77%) contributed most towards this record catch, and was over 250,000 mt greater than in 1997. The yellowfin catch (250,279 mt – 21%) showed a slight increase on the 1997 level, and bigeye (19,307 mt – 2%) was well down on the approximately 30,000 mt catch of 1997. The four major fleets (Japan, Korea, Taiwan and United States) all increased their catches during 1998, with the Taiwanese fleet making the largest gains (+100,000 mt). Pacific Islands domestic purse seine fleets contributed 100,000 mt, or nearly 10% of the 1998 purse seine catch, with the PNG fleet taking 47,200 mt in 1998 compared with 23,800 mt in 1997. Other Pacific Island domestic and distant-water fleets also recorded increases in catch during 1998, especially of skipjack. These increases in total catch were accompanied by significant increases in catch rate (catch per day fished and searched) in most cases.

131. The 1998 **pole-and-line** catch of 262,678 mt showed a slight decrease on the 1997 level and accounted for 15% of the total WCPO catch. As in previous years, skipjack comprised the vast majority of the catch (86%); albacore taken by the Japanese coastal and offshore fleets in the temperate waters of the North Pacific (9%), yellowfin (4%) and a small component of bigeye (1%) made up the remainder of the catch. By fleet, the Japanese distant-water and offshore fleet (118,822 mt) and the Indonesian fleet (86,466 mt) accounted for most of the catch; the Solomon Island fleet accounted for 22,089 mt.

132. The 1998 **longline** catch of 193,850 mt accounted for only 11% of the total western and central Pacific catch, but rivals the much larger purse seine catch in terms of value. The 1998 catch represented a marginal increase on the 1997 catch of 193,448 mt. The species composition of the 1998 longline catch was 32% yellowfin, 34% albacore and 33% bigeye, but these values vary markedly by area and fleet. As in previous years, most of the 1998 catch was taken by the large-vessel, distant-water fleets of Japan, Korea and Taiwan. Effort by these fleets is widespread as they target bigeye and yellowfin for the frozen sashimi market, and albacore in the more temperate waters for canning. In contrast, the offshore fleets from Japan, mainland China and Taiwan are restricted to the tropical waters and target bigeye and yellowfin for the fresh sashimi market.

133. The 1998 **troll** catch of South Pacific albacore of 4,893 mt showed a slight increase over 1997, but remained lower than most catches in recent years. As in previous years, catch and effort were concentrated in two main areas – in coastal waters around New Zealand, and in the central Pacific in the vicinity of the sub-tropical convergence.

134. The Principal Fisheries Scientist (PFS) presented the current status of the four tuna stocks in the WCPO referring to BP 5.

- Skipjack Tuna – The available fishery indicators (catch per unit effort and size data) suggest that, while the skipjack stock in the western and central Pacific shows considerable inter-annual variation, the fisheries have had little measurable impact. The analyses of tag-recapture data, which indicate exploitation rates in the early 1990s in the vicinity of 0.20 (i.e. fishing represents 20% of the total mortality), are consistent with this interpretation of the fishery data. The application of modern stock assessment methods should provide more detailed information on skipjack stock status in the future.
- Yellowfin Tuna – Catch per unit effort and size-based fishery indicators show no evidence that the yellowfin stock in the western and central Pacific has been adversely impacted by the fisheries. The results of a length-based, age-structured model (MULTIFAN-CL) are substantially in agreement with this, and give a consistent interpretation of the catch, effort, size and tagging data. The impacts of the fisheries in most areas appear to be low, with the possible exception of the Philippines and eastern Indonesia area, where local exploitation rates are relatively high. Estimated recruitment shows considerable variation, possibly related to ocean climate effects, which in turn drives the variability in population biomass. Population biomass appears to have been trending downwards in recent years, probably as a response to the environment rather than an impact of fishing. This trend is not expected to continue, but the situation will require careful monitoring in the coming years.

- **Bigeye Tuna** – Bigeye tuna is demonstrably slower growing, longer lived, and, as a consequence, less resilient to fishing than skipjack and yellowfin tuna. The results of limited tagging indicate that bigeye tuna exploitation rates are at least as great as for skipjack and yellowfin tuna. Preliminary estimates of relative stock abundance from standardised longline catch per unit effort indicate a decline in abundance since the late 1970s in the western and central Pacific and since 1990 in the eastern Pacific. Although the estimates require further study, the preliminary results raise a concern of overfishing and decline in adult biomass. Stock assessment studies planned for the coming year should enable more detailed advice on the status of the stock to be provided in the near future.
- **South Pacific Albacore Tuna** – Fishery indicators and the results of a length-based, age-structured model (MULTIFAN-CL) suggest that the South Pacific albacore stock declined significantly from the mid-1970s to early 1990s. This decline in stock biomass is attributed to a sharp, downwards shift in recruitment in the mid-1970s, which may have been related to a large-scale climatic regime shift. The partial recovery of longline CPUE indicators during the 1990s may indicate a return to higher recruitment levels. Estimated exploitation rates increased during the late 1980s and early 1990s, but are still at a moderate level. An update of the MULTIFAN-CL analysis, to include recent fishery data and to incorporate the modelling of albacore tagging data, is planned for the next year.

135. The delegate from American Samoa inquired if the decline in albacore biomass was related to El Niño events. The PRS noted one hypothesis whereby El Niño events reduce recruitment in the western Pacific; conversely, recruitment may be enhanced after El Niño events in the eastern Pacific for certain tuna species. The extended El Niño event in the 1990s may have had a greater impact on recruitment than the isolated El Niño events in 1982–83 and 1986–87.

136. The representative of the Solomon Islands asked if the decline in yellowfin biomass could be attributed to increasing purse seine effort. The PRS indicated that the decline in yellowfin biomass may be related to decadal scale changes in recruitment. The increase in purse seine effort alone does not appear to have been sufficient to explain the decline given the low to moderate exploitation rate in most areas. The delegate further inquired if the decline in biomass or catch might be related to fish prices. The PRS commented that prices probably respond to catch levels and as an example noted that skipjack prices are currently low (<US\$500 per tonne) following the record production in 1998.

137. The SPC masterfishermen requested that longline catch rates be illustrated as kilograms per hook in addition to numbers per hook. This can be accommodated in future studies as needed.

138. Shark longlining is increasing in several coastal states and the representative from the Palau Nature Conservancy asked if the OFP was monitoring the shark fishery. The OFC noted that the OFP primarily conducts research on the four tuna species, but has recently deployed at-sea observers on shark longliners in the Solomon Islands and has gathered some information on this fishery.

139. The OFC outlined current OFP activities (BP 3) which involve three basic research areas: 1) statistics and monitoring, 2) tuna biology and ecology and 3) assessment and modelling. The FSTAT presented the section on statistics and monitoring that provides: 1) data collection, 2) data compilation, 3) data dissemination, 4) national fishery statistics systems and 5) and chairing the SCTB statistics working group. The OFP presented examples of activities within the two additional research sections and concluded the presentation with a funding report, outlined existing and future work priorities, and funding possibilities.

8.2 Report on Standing Committee on Tuna and Billfish

140. The OFC described the significant changes to the structure and functions of the SCTB since the last RTMF in 1996. These changes, to broaden participation on SCTB, remove the OFP review function, and streamline arrangements for scientific cooperation, were proposed by SCTB 10 in June 1997 and approved by CRGA in October 1997. He then reported on the activities of the during the last two SCTB annual meetings (SCTB 11, Honolulu, June 1997; SCTB 12, Tahiti, June 1999) referring to BP 4. Major SCTB accomplishments included a revision of SCTB participation and the establishment of six research groups, a workshop on the precautionary approach (SCTB11) and determining a scientific consensus on the status of the four tuna stocks (SCTB12). The OFC noted that the SCTB in its revised format has become an authoritative source of scientific advice on oceanic fisheries of the region. He thanked 'Akau'ola for his role as SCTB chairman during two critical years and the Western Pacific Regional Fishery Management Council and Governments of France and French Polynesia for financial support of SCTB11 and SCTB12.

141. The representative from PNG inquired about unreporting and misreporting of fishery data. The FSTAT reviewed the quality control measures undertaken in the statistics and monitoring section, and improvements to data coverage since 1996 .

142. There was a lengthy debate on the change in the SCTB format. Delegates from American Samoa, Samoa and Fiji expressed concern that the proposed revisions to SCTB were not brought before the HOF for approval. Additionally, the delegates had additional concerns with agreed principles on data dissemination and the fact that SCTB is no longer required to report to the HOF.

143. The OFC clarified the revised role of SCTB as bringing additional scientists into participation, as previously representation was limited. The OFC reassured the HOF that continued collaboration with scientists from distant-water fishing nations would not compromise OFP services to member countries. The primary role of the OFP remains the provision of scientific information to member countries for rational management of their oceanic fishery resources.

144. The Tongan delegate commented that the SCTB developments were in the best interest of Pacific Island countries. In fact, allowing greater participation of scientists from DWFNs has actually strengthened the process, and the current SCTB structure is better able to provide informed scientific opinion as a result. However, he acknowledged that the lack of formal association with HOF remains the problem. Both the Tongan delegate and the Director of Marine Resources indicated that this largely results from the 1996 CRGA decision regarding a 3 year schedule of HOF meetings. If the SCTB was to continue purely as an advisory body to HOF, the ability of the SCTB to evolve in an effective manner would have suffered.

145. Delegates from Fiji, Kiribati and Samoa commented that they were concerned about data dissemination on principles agreed within SCTB. Considering the confidentiality of fishery data, the delegates requested clarification on procedures for data dissemination. The OFC suggested that data dissemination is always a sensitive issue and clarified that logsheet data are never disseminated. Currently, only data aggregated by 5 degree square, month and gear type are considered public domain. For dissemination of data with finer levels of aggregation (e.g. in which individual countries are identified) prior approval of the data providers is always sought and accepted confidentiality provisions apply. The OFC ended by noting that the HOF determines the work priorities of the OPF not the SCTB.

8.3 Future role of OFP

146. In considering possible changes to the future role of the OFP, the OFC noted that the main impact in the foreseeable future was likely to arise from the anticipated requirement for the provision of scientific advice and services to the developing Commission for the Conservation and Management of Highly Migratory Fish Stocks in the WCPO, given that a range of participants in the MHLC process saw a logical role for the OFP in this process. He then provided an update of recent developments in the MHLC, describing the proposed Commission structure and the draft Convention structure for the provision of scientific advice (Arts. 11-13) and the relationship agreements for the delivery of services by SPC (Art. 23) proposed. The views of SPC management on the continued compatible delivery of services to member, the appropriate administrative arrangements which might apply, and the enhancement this regional role might provide to existing member country services were outlined.

147. The OFC opened the subsequent discussion by again emphasising that the function of providing existing services to member countries was the highest priority, would not be compromised, and that there is existing funding arrangement from AusAID to secure the continuation of key services to member countries for the next three years.

148. It was discussed how the MHLC process is still evolving, with the intent being the provision of scientific advice in regard to the conservation and management of the main oceanic fisheries of the Pacific. It was discussed how the MHLC process is to involve all of the relevant participants of the fisheries including the DWFN's in a co-operative, open and transparent body to provide scientific advice.

149. It was reiterated by the meeting that OFP must still fulfil its member obligations as the highest priority. Some participants felt that the need for such national services may increase in the near future. It was emphasised that any extra work to be carried out by the OFP, in connection with the MHLC process, would not occur to the detriment of existing functions and would only occur with the application of additional resources. The view was expressed that the involvement of OFP at the regional level should in fact enhance the quality of scientific services to the member countries.

150. The meeting generally supported the concept of OFP involvement in this process, though it was noted that there must be monitoring of the OFP activities to ensure that they fully meet member country needs.

151. The future of the SCTB, in relation to the proposed new structure, was discussed, and while the process is still evolving it is thought that the SCTB would naturally dissolve upon the creation of the new body. There is a general expectation that the existing SCTB would evolve into the Scientific Committee proposed under Arts 11 and 12 of the draft Convention, given the similarity in proposed structure and functions.

152. There was general satisfaction with current OFP services, and the view was that it was currently satisfying member country needs. The OFP should however be periodically reviewed by representatives of the member countries and other 'experts' to ensure that this continues, a process to which SPC Management has already made a strong commitment. There was some recognition of the unique role of the OFP in the overall SPC structure, and that some thought might be given when considering administrative arrangements associated with the OFP's anticipated future role to account for this.

153. There was some dissatisfaction that SCTB is no longer required to report to HOF, and it was felt by the meeting that there was a need for both SCTB outcomes and developments in the MHLC process to be reported regularly to the HOF, at least until the new regime is in place. SPC will endeavour that the HOF occurs on an annual basis, at least for the next year or so.

154. In conclusion, the meeting thus discussed at length the possible future involvement of the Oceanic Fisheries Programme in the provision of scientific information and advice to the proposed Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific, and the implications of such activity for member countries.

155. Although the details of such an arrangement remain to be resolved, it was **agreed** that OFP involvement in the provision of such activity may enhance the value of scientific support for member countries and should be supported, **provided that** the delivery of existing or additional services to member countries not be compromised, that additional scientific advisory work for the Commission be undertaken only if additional resources are made available for such work, and that periodic review of OFP work be undertaken to ensure that the needs and interests of member countries continue to be fully accommodated.

9 WORKSHOP SESSION: GAMEFISHING (OFP BILLFISH PROJECT)

156. The Fisheries Scientist (Billfish Scientist), introduced this topic (Background Paper 16) and outlined the intent of the session, which was to look at the billfish resources of the Pacific and their commercial and recreational fisheries. It was described how the game fishery in the Pacific, while only catching a small percentage of the total Pacific catch, can provide a valuable economic benefit to Pacific countries. Gamefishing is a tourism activity and as such utilises the resources in an alternate manner than does commercial fishing.

157. It was discussed that while gamefishing, and charter fishing in particular, is an important fishery, there is presently little catch and effort data being collected and archived. It was described how gamefish data can provide information on; a) the resource, b) seasonal and inter-annual variation, c) fisheries interactions, d) resource allocation, e) catch rates to assist in the gamefishery development and f) catch data to assist in stock assessments.

158. An attempt was made, for the first time, to quantify the main billfish species caught by gamefishing in the Pacific. It was stated how this figure (around 1300 tonnes p.a.) is very 'preliminary' and 'rubbery' and that there is a need for more accurate data on both the catch, fish weights and effort (number of boat days etc).

159. Potential 'log' sheets were discussed for both gamefishing tournaments and charter vessels to assist in this data collection. It was agreed that there was an on-going need for gamefish data and that SPC would liaise with interested countries to further develop data forms and databases.

160. Mr Claude Accili (Pacific Charters, Noumea) described his charter business and how they depended very heavily on international tourists. He also described how his business had to diversify into other activities such as 'whale watching', 'island tours' etc. to be profitable. His business, besides owning some of the smaller vessels, leased other vessels from private owners, as it was not profitable for the business to purchase the larger gamefishing vessels.

161. The billfish work was seen as important and the concept of gamefish data collection was encouraged with suggestions that it is advantageous to collect data on other gamefish species as well as the billfish.

10 WORKSHOP SESSION/ RESEARCH AND MANAGEMENT ISSUES

10.1 World Resources Institute & International Marine Alliance

162. Vaughan Pratt of the International Marine Alliance and Charles Barber of the World Resources Institute, spoke to the meeting about their work on the live reef fish trade (LRFT). As with The Nature Conservancy (TNC), it was emphasised that the approach of their NGOs was non-confrontational and emphasised working together with governments rather than in opposition.

163. They provided a general review of the trade in the Indo-Pacific and then described some of the specific work that had been going on in the Philippines to mitigate the deleterious effects of the trade, particularly the testing and certification of fish for cyanide and the positive work in training fishermen in non-damaging high-value fishing methods and the provision of direct marketing channels. Based on this experience in the Philippines, the Alliance was now helping other countries through a destructive fishing initiative, and several potential services that could be of assistance to other Pacific Island countries were described. Whilst there were several activities that could already be supported under current resources, such as providing statistics and information from importing ports, the team could also help.

164. The IMA, WRI and TNC were currently discussing a Memorandum of Understanding with the SPC, in order to better coordinate future international work on the issue in the region, and to provide the NGO's with a better feedback from Pacific Island governments and communities.

10.2 World Bank

165. The representative of the World Bank presented a summary report of the document: "Voices from the Village, A Comparative Study of Coastal Resource Management in the Pacific Islands". She summarised the key lessons learned during the study: Community groups in general perceived coastal resources to be declining and the nature of the threats to coastal resources appears to be changing; Communities need help and further collaborative efforts are needed; Simple management rules work best, while open access constrains community action and most alternative income generation programmes are not perceived to be successful; Some of the most valued external partners play primarily an advisory role to the communities and sanctuaries help increase community awareness.

166. Following the concerns associated with the apparent failure of fisheries-related alternative income-generation programmes in the areas of the study (aquaculture, deep-bottom fishing or tuna fishing), the representative of the World Bank suggested that alternatives should be looked for at a broader level, not only at fisheries level.

IV. RECOMMENDATIONS

During the course of the 1st SPC Heads of Fisheries (HOF) Meeting (Noumea, New Caledonia, 7-13th August 1999) the following recommendations or statements were agreed by Pacific Community island member representatives to be included into the record of discussion, for the guidance of the Secretariat of the Marine Resources Division and/or the benefit of other SPC or international processes:-

1. After discussing at some length the prospects and problems of the expansion of commercial *Eucheuma* farming, the Meeting agreed that a regional study to analyse the economics of seaweed farming in the Pacific region should be commissioned. The study should focus on the analysis of economic returns from seaweed farming compared to other cash-earning activities common in Pacific communities, and include an analysis of different marketing options for farmed seaweed.
2. The meeting pointed out the continued high importance of establishing national and territorial responses to the requirements by many importing countries for certification systems covering marine product export trades, and urged the Marine Resources Division to develop appropriate linkages with certificatory authorities and sources of potential assistance to members in developing their own certificatory systems and standards, in particular to seek further opportunities to train island national inspectors to certify fish and fishery products according to HACCP and other appropriate principles. The meeting welcomed the intention expressed by the representative of the USA to convey the aspirations of the meeting to the appropriate authorities within the USA, and encouraged major fish importing countries to include appropriate officials in their delegations to the next HOF.
3. Recalling the considerable discussion of regional aquaculture needs and priorities that had taken place at the 1998 SPC fisheries meeting or "Mini-RTMF", and emphasising the even more urgent need for the aquaculture investments being made by members to be supported by effective networking at the regional level, the Meeting strongly re-endorsed "Regional Aquaculture Strategy" put forward in 1998 to guide regional institutions in coordinating the efficient provision of future aquacultural advice and assistance to Pacific Community island member countries and territories, and further re-endorsed the 1998 agreement that:

"SPC be urged not to slacken its continued efforts to obtain the resources necessary to implement an Aquaculture Programme in January 2000 in order to complement the aquaculture capabilities of national aquaculture projects, USP, and ICLARM CAC and relevant specialisations of other projects, with efficient outreach, extension, member consultation and clearing-house activities;"

To further lend weight to this identification of a major gap in regional support to members, the Meeting requested the Director to convey this recommendation in his report to the SPC Committee of Representatives of Governments and Administrations, for broader attention.

4. The meeting, noting that the work programme of the Reef Fisheries Assessment and Management Section would have greater capacity, through the availability of donor funding, for scientific assessment, urged the Section to keep seeking the means to maintain its capacity for providing practical management advice on a wide range of reef fisheries, and encouraged the Division to be proactive and motivational in the development of reef fishery management capacity in member countries and territories.
5. SPC member countries and territories, pointing out the need to build effective local capacity to cope with the management of the expanding live reef fish trade, and to strengthen the information base for management, directed the Secretariat to continue to seek the means for implementing its part in the Regional Live Reef Fishery Strategy endorsed by the 1998 SPC fisheries meeting, and supported the proposal for a regional Live Reef Fish Initiative being prepared by the Secretariat in collaboration with the International Marinelife Alliance (IMA), The Nature Conservancy (TNC) and the World Resources Institute (WRI).

6. The meeting agreed that the SPC Marine Resources Division assist FFA, and collaborate with the Forum Secretariat, to compile marketing data on fresh, frozen and value-added tuna products, as well as non-tuna products, including contacts within these markets to assist member countries and territories in marketing of marine products. It was noted that additional funding would need to be identified for a significant level of assistance to be provided by SPC.
7. Whilst being fully in support of practical approaches to the problem of safety at sea, the meeting recalled Output 6 of the 1998 "Mini-RTMF", and pointed out the continued problems being faced in the reconciliation of international maritime standards and local realities. The meeting re-emphasised the need for adequate consultation with fisheries authorities during the process of drawing up maritime legislation. The meeting suggested that coordination at the regional level might be improved by the Maritime Programme physically joining the Marine Resources Division.
8. The meeting discussed at length the possible future involvement of the Oceanic Fisheries Programme in the provision of scientific information and advice to the proposed Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific and the implications of such activity for member countries. Although details of such an arrangement remain to be resolved, it was agreed that OFP involvement in the provision of such activity would enhance the value of scientific support for member countries and should be supported, provided:-
 - that the delivery of existing or additional services to member countries would not be compromised;
 - that additional scientific advisory work for the Commission be undertaken only if additional resources are made available for such work; and
 - that periodic review of OFP work be undertaken to ensure that the needs and interests of member countries are being fully accommodated
9. The meeting directed that the Marine Resources Division seek resources to provide practical assistance to member fisheries and quarantine authorities to set up, or build capacity in, aquatic quarantine capabilities and regulation of marine species introductions. This capacity should also be built into any future SPC Aquaculture Section or Programme.
10. The meeting noted the growing problem of marine debris, and its detrimental effect on navigational safety, nearshore environments and marine organisms, and encouraged SPC to continue to work with SPREP with a view towards addressing this intersectoral problem in the Pacific Community region.
11. Whilst discussing future directions for the Capture Section for consideration during the SPC internal review of the Section, the meeting particularly highlighted the need for new experiments to be conducted on FAD buoy designs and mooring configurations to reduce the cost and increase the life of these units as this was still an important, although costly, development area in many Pacific Island countries and territories. The meeting recognised that the SPC currently advised and assisted with the deployment of locally-funded FADs, and that dedicated funding would need to be located to undertake any experimental work in member countries.
12. The meeting drew attention to the need to either continue or initiate gamefish catch and effort data collection in member countries, and for the Marine Resources Division to assist in compiling, archiving and analysing this information. The meeting suggested that this data be available to scientists and managers under similar conditions of confidentiality to the existing SPC commercial fisheries database.
13. Recalling Recommendation 14 of the previous full meeting of SPC fisheries Heads (RTMF 26 of 1996), the Heads of Fisheries Meeting agreed to convene again in 2000, funding permitting, and asked the Director to circulate an update in the new year on progress with meeting arrangements.

14. The meeting, wishing to retain the opportunity for reflective discussion of issues arising from written member country and territory presentations, and for measured consideration of the Marine Resources Division work-programme, agreed that the next HOF meeting agenda include a more limited range of special themes.
15. The meeting agreed that Sectional reports to the next HOF be based on outputs rather than activities, and that the reporting format clearly identify which outputs are the result of collaboration and cost-sharing between sections.

(Note: the issues highlighted here are in no particular order and do not constitute a full prioritisation of the work programme of the SPC Marine Resources Division but are presented separately in this way because they are issues which required particular consensus agreement in plenary, or the attention of authorities or partners outside the scope of the meeting. A context within which to judge the prioritisation of issues is provided by the Record of Discussion of the meeting, which also provides additional guidance to the SPC Marine Resources Division work-programme)

V. DOCUMENTS PRESENTED TO THE MEETING

BACKGROUND PAPERS

Background Paper 1	Overview – Marine Resources Division (prepared by the Secretariat)
Background Paper 2	Overview of the Coastal Fisheries Programme (prepared by the Secretariat)
Background Paper 3	Oceanic Fisheries Programme Overview (prepared by the Secretariat)
Background Paper 4	Report on the Standing Committee on Tuna and Billfish 1997–1999 (prepared by the Secretariat)
Background Paper 5	The Western and Central Pacific Tuna Fishery: Overview of the fishery and current status of tuna stocks (prepared by the Secretariat)
Background Paper 6	Overview of the Community Fisheries Section 1996–1999 (prepared by the Secretariat)
Background Paper 7	Information Section activities, 1997–1999 (prepared by the Secretariat)
Background Paper 8	CSPOD-USP03 Post-harvest Fisheries Development Project Needs Assessment and Strategic Approach (prepared by the USP)
Background Paper 9	Capture Section Three Year Overview (prepared by the Secretariat)
Background Paper 10	Safe Sex and Safe Seafaring–Something to think about (prepared by the Secretariat)
Background Paper 11	Fishing Vessel Crews Certification and Safety Standards (prepared by the Secretariat)
Background Paper 12	Overview of Activities of the Training Section 1996–1999 (prepared by the Secretariat)
Background Paper 13	Reef Fisheries Assessment & Management Section Activities (prepared by the Secretariat)
Background Paper 14	Recommendations for Supporting Further Aquaculture Development in the Pacific Islands Region (prepared by Tanaka Hideyuki, FAO South Pacific Aquaculture Development Project (II))

Background Paper 15 Fishing Vessel Safety Regulations
(prepared by the Secretariat, Suva, Fiji)

Background Paper 16 Billfish and Gamefishing in the Pacific
(prepared by the Secretariat)

INFORMATION PAPERS

Information Paper 1 Statement by FAO Sub-Regional Office for the Pacific Islands
(prepared by FAO)

Information Paper 2 Report of the Pacific Islands Marine Resources Information System (PIMRIS)
Steering Committee
(prepared by Ganeshan Rao, PIMRIS Coordinator, USP)

Information Paper 3 Country Statement 1999: Australia

Information Paper 4 The Nature Conservancy Statement
(prepared by TNC Asia-Pacific Coastal & Marine Program -
Palau Field Office)

Information Paper 5 Statement by the University of the South Pacific
(prepared by USP, Suva, Fiji)

Information Paper 6 Aquaculture Sessions Notes
(prepared by the Secretariat)

Document d'Information 7 Exposé national de la Nouvelle-Calédonie
(prepared by New-Caledonia)

Information Paper 8 Country Statement – American Samoa

Information Paper 9 Country Statement – Solomon Islands

Information Paper 10 JICA's Assistance in Fisheries to the Pacific Islands Nations
(by SHIMURA S. (JICA Fisheries Advisor, Japan International
Cooperation Agency)

Information Paper 11 New Zealand Fishery Report with Emphasis on Tuna
(by Andrew Bedford, William Emerson and Talbot Murray - Ministry
of Fisheries and National Institute of Water & Atmosphere, Wellington)

Information Paper 12 Country Statement by the United States

Information Paper 13 Profile of the Institute of Marine Resources (IMR) in Solomon Islands

Information Paper 14 Country Statement – Papua New Guinea

Information Paper 15 Country Statement – Cook Islands

Document d'Information 16	Exposé national de la Polynésie Française - Le Secteur de la mer: Situation et perspectives
Information Paper 17	The use of Village By-laws in Marine Conservation and Fisheries Management (by U. Fa'asili, Fisheries, Apia, Samoa)
Information Paper 18	Poison and Profits – Cyanide Fishing in the Indo-Pacific (by Charles Victor Barber and Vaughan R. Pratt)
Information Paper 19	Aquaculture: a development opportunity for Pacific islands (by Johann Bell, ICLARM)
Information Paper 20	Statement by the South Pacific Regional Environment Programme Representative (SPREP)
Information Paper 21	Summary of Canada-South Pacific Ocean Development (C-SPOD) Program Phase II
Information Paper 22	The Involvement of Students in the Collection of Artisanal Fishery Data – A New Way Forward (by Gilles Hosch, Marine Resources Information Officer)
Information Paper 23	Regional Marine Initiatives, Priorities and Donor Policies - DRAFT (by the Forum Secretariat with input from CROP marine sector working group participants)
Information Paper 24	Country Statement – Niue

INFORMAL PAPERS

Informal Paper 1	Provisional list of participants
Informal Paper 2	Provisional list of documents
Informal Paper 3	Meeting arrangements

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ANNEXES

RECORD OF DISCUSSION - COUNTRY STATEMENTS SESSION - (Agenda Item 5)

The meeting agreed that the session to discuss statements by countries and territories should be organised more informally than originally proposed in the agenda. It was agreed that participants would be encouraged to make points briefly and pursue interesting lines of discussion rather than make a succession of formal statements, many of which would be available in written form anyway.

The representative of the Federated States of Micronesia gave a brief overview of the recent implementation of fisheries policy. The current policy was passed into law in 1997 and is largely oriented towards oceanic fisheries. Extracts from the policy review paper being prepared for the economic summit on September 17th were circulated.

The representatives of Samoa, Tonga and French Polynesia devoted some time to exploring the issue of the quality certification systems, including HACCP, required by fish importing countries. The meeting felt that there was still great confusion concerning the implementation of these systems, and worry about the consequences of small island countries not being able to get certificatory systems in place in time. It was hoped that SPC would be able to continue to monitor the effects of such systems on fishery trade and to provide early warnings and advice as issues arose.

The need for a few certified personnel in each country to help businesses implement HACCP plans was highlighted and the assistance that SPC provided, both in defining the parameters of certificatory system needs and training, was commended. It was hoped that SPC could continue to provide assistance in tackling this development issue.

The varying certification and quality requirements of several major import markets were touched upon, particularly Japan, USA, and Europe. The need for "competent authorities" to be developed to address future European markets was highlighted, and the representative of the USA offered to convey to her government the utility of an FDA official being part of the US representation at the next SPC Heads of Fisheries Meeting.

The representative of American Samoa drew the attention of the meeting to Information Paper 8 and highlighted one issue in particular. Recent research in American Samoa indicated that several fish families were becoming threatened, and that these families were also the main targets for the SCUBA spearfishery. A draft regulation had been prepared to prevent the use of SCUBA for spearfishing, which would soon be going through public hearings, but there already was positive feedback from villages and the public. He asked if this was a common problem in other areas and, if so, it might be raised as a regional concern by the meeting.

Several other countries were interested both in the SCUBA spearfishing issue and the American Samoan system of public hearings. Possibilities for public commentary on proposed new legislation were not necessarily available in all countries, although fisheries heads were in favour of this as it would be difficult to enact a regulation which had little public support. However, the question was also raised of lobby groups being able to use a public hearing to successfully oppose a regulation which was obviously in the general public interest.

The representative of Palau outlined the public hearing system in his country, which was similar to American Samoa. It required the use of the local language and provided opportunities for comment from all interested parties.

The representative of Samoa pointed out that Samoa had much the same customs and tradition as American Samoa but a different legal system. The system that had come into practice did not so much seek public opinion on State law but rather tried to make the community responsible for setting up its own laws within the framework of the State system.

The meeting decided to postpone discussion of fisheries governance until after the paper on the Samoan by-law system had been presented, and instead discussed SCUBA- or night-spearfishing in some depth.

The Cook Islands also had a problem with spearfishing and asked how American Samoa planned to differentiate between commercial and subsistence spearfishing in the proposed ban? American Samoa planned to introduce a certification system for all sale and use of SCUBA gear. The representative of Fiji said that not so much SCUBA, but other forms of underwater breathing apparatus, had been a problem in several Fiji fisheries for years. However, despite considerable problems and fatalities, the incentives to continue using this gear were strong. The Fisheries department had problems in enforcing the law banning the use of underwater breathing apparatus for fishing - fisheries officers were not trained in evidence-gathering on such issues and prosecutions had been unsuccessful - but had now discovered that the Labour Department had powers to regulate the use of equipment and this control mechanism was likely be more feasible.

Papua New Guinea has legislation covering SCUBA spearfishing but the Government had never been given reason to prosecute anybody. It was suggested that an effort might be needed to publicise the problems of SCUBA spearfishing might be needed in the same manner as had been done with dynamite fishing.

The representative of Tonga said that Tonga had banned all mechanically assisted underwater breathing apparatus on the practical grounds that this tends to protect the deeper-water part of the stock of many species from spearfishing or hand-collection. Tonga had also placed a total ban on exports of all bêche-de-mer for 10 years, after the SPC ICFMaP project had carried out some research on the status of the stock. Although there were complaints, it was obvious to all that the drop in export earnings had been indicative of the extremely poor state of the fishery.

Only qualified divers and overseas tourists were exempted from the ban on diving gear, and only bona-fide aquarium fishers were allowed to fish with SCUBA, since there was more incentive to use quick and damaging methods to collect live fish if free-diving was obligatory. Compliance was good since infringement leads to loss of licence, and the tourist industry was also helpful in awareness-raising. Although there might be some resentment amongst the food fishermen against the ban on SCUBA when tourists were allowed to use it, the Tongan night spearfishermen were very efficient, even when free-diving, and already probably landed more fish than other coastal fisheries combined.

The chairman, speaking for the Marshall Islands, pointed out that Majuro had recently imposed a complete ban on the use of SCUBA gear for fishing, under the Fisheries Act which provides local Government with powers to manage coastal fisheries. The representative of Vanuatu suggested that fishing with underwater breathing apparatus was not a valid fishery, and that it should be prohibited everywhere. The representative of the Solomon Islands pointed out that her country also had a regulation banning the use of SCUBA for fishing and the representative of Palau said that Palau had banned SCUBA fishing whether for commerce or subsistence since 1994.

Niue, French Polynesia and New Caledonia also had regulations prohibiting SCUBA spearfishing. In Niue the main compliance problem was in relation to yachts (the Niue yacht club has an establishment of 600 despite there being no yachts owned on the island). In French Polynesia, the law had been in place for some time and seemed to be comparatively well observed. In New Caledonia the law was most easily enforced not so much by banning SCUBA spearfishing, but by making it an offence to have SCUBA gear and fishing gear aboard the boat at the same time.

The chairman pointed out that it seemed as though most countries already had regulations in place to control or prevent fishing with underwater breathing apparatus, and that most of the problems were in enforcement.

The representative of Tonga presented a summary of the challenges and issues facing the Tongan Ministry of Fisheries in fulfilling two main objectives: to maximise the sustainable use of marine resources for the benefit of the economy and to continue to feed the people. There was a need to counter dietary bad practices and to bring out the positive aspects of healthy eating. Economically, the main prospect was seen to be tuna, and a lot of development effort was concentrated here. From SPC, Tonga was assisted in a practical way by the Capture Section, and by the Oceanic Fisheries Programme with the assessment of stocks. Tonga was confident about raising the local level of investment but also accepted that the EEZ should not remain closed with respect to highly migratory species. However, not many distant water fishing vessels were interested in Tonga, except perhaps for the albacore.

Some of the problems of the tuna fishery in Tonga are actually problems of success, and one of the main current constraint on growth was air freight capacity. There was some competition for freight space with other Pacific Island countries until a separate service was introduced by a commercial airline. The possibility of dedicated airfreight services was also being explored. Another constraint was the level of levies on fuel, and other services, extracted by government, but this could only be reduced if more revenue could be predicted in other areas.

The representative of Tonga noted that fishermen are very individualistic and it is difficult to build a rapport with government. There was some success, however. Recently a group of tuna exporters held an evening function to explain to Government some of the successes of the industry and to present a case for some changes in Government policy, and this had built a positive rapport. The success of fishery exports is beginning to be seen as a success for Tonga, and not just as potential profits for a few individuals.

Another development area in Tonga is the culture of mabe, or blister, pearls of the winged oyster *Pteria penguin*, and this had benefited formerly from the expert advice of the FAO regional aquaculture development project. There had recently been attempts to move this out of the Ministry, to the Vava'u Pearl Farmers Association. The quality of mabe pearls produced so far was apparently good, fetching US\$20-30 per half pearl in Japan. However, local entrepreneurs had started to innovate and, by decorating and embellishing the shell around the half-pearl could sell good pieces for A\$50-100 on the local market. Tonga was now interested in blacklip pearl oyster, *Pinctada margaritifera* and, because this was likely to be a long development path, was looking for guidance and assistance. For example, it would be helpful to get some of the ICLARM experts to sit down with the Association and develop plans. The Government was also aware of the potential for conflict if large companies came in from outside the country, and also wanted to support longer-term local development. Maintaining the balance between local and foreign investment would be difficult, and Tonga had looked closely at the pearl development experiences of French Polynesia and the Cook Islands, particularly quality control and the development of markets.

Moving on to the management of fisheries, he pointed out that formal fishery management planning was not well-developed in Tonga, and that much of the previous progress had been assisted by the SPC, particularly in beche-de-mer and aquarium fisheries. Most areas had no plans in place at all, and Tonga looked to SPC for additional specialist inputs in the future. Reef fisheries management was a major challenge. Even without SCUBA, night-divers are formidable predators, and it is difficult to get information on small-boat catches from numerous landing points, particularly when much of the fish is for home consumption. He welcomed any assistance that could be given with reef fisheries management planning - at least with plans that are realistic and likely to work. One urgent problem is at Tongatapu, where fish-fences are highly developed and where gillnets fill the gaps. Prospects always seem rosier to the fishing community than to observers, but even they are starting to notice that some species plentiful 20 or 30 years ago are becoming scarce. A large part of the lagoon at Tongatapu needs managing to maximise local consumption and nutrition and restricted to commerce.

The representative of Tonga also acknowledged that the staff of the Ministry of Fisheries sometimes had problems with their roles. It is difficult to be an extension worker and an enforcement officer at the same time, and assistance in developing the management functions of the Ministry would be very useful. Some time ago, a fishery sector study recommended community management advisory councils down to the village level.

It would also be useful if SPC could assist Tonga in analysing fisheries in terms of gender, in order to produce development programmes that take into account how women and men use fish. It was pleasing to record that Tonga had been able to send a woman for the first time to the SPC/Nelson fisheries training course, and the Tonga Ministry of Fisheries wanted women not just to be involved in "gender" issues, but in everyday fisheries issues.

Tonga also had a particular interest in seaweed, particularly in the outer-islands context, and was interested in the intervention by Fiji during the aquaculture session explaining how their latest seaweed development plans had been based on the lessons learned from previous experience. It was also encouraging to hear how Kiribati had established farming systems in the villages. Tonga was grateful for SPC's quick response and assistance with a sustainable development plan for the local *Cladosiphon* species. The Ministry had difficulty in reconciling the plans of two different exporters and the plan would help reconcile the issues as they developed.

The Tonga Ministry of Fisheries had recently submitted a draft Act to provide a sound legal basis for aquaculture development. Like many of its sister States, Tonga had declared all land below the High Water Mark to be owned by the Crown, with legally free access to all citizens, but had been convinced by discussion at previous SPC fisheries meetings that local communities need more control of resources. The draft Aquaculture Act provides a legal basis for community management.

Apart from these major issues, Tonga also felt that it was important to complete the process leading towards the formal management of regional tuna fisheries, and hoped that the Multilateral High Level Consultation process would soon reach a conclusion.

The representative of Kiribati stated that no major oceanic fisheries had yet been established in Kiribati, but there were a series of commercial developments in the inshore area, many still at an experimental stage. Seaweed farming had been mentioned, and there was an ACIAR-sponsored series of experiments on blacklip pearl farming that were due to finish this year. However, a considerable amount of work still needed to be done to test the feasibility of establishing pearl culture on the outer islands. Experiments were also being carried out on the possibility of enhancing natural stocks of one of the most sought-after and highly-valued species of sea-cucumber, the white teatfish. It had been found difficult to spawn in culture and, whilst progress had been made, there would still be a lot of work to do after the official end of the ACIAR project in 1999.

Another activity had been assisted by SPC: the development of small-scale tuna longlining using an offshore design of the FAO alia catamaran. This had not started fishing yet, but it was hoped to get the vessel fitted out and start fishing trials, with SPC assistance, before the end of the year. Kiribati had also had assistance from SPC with the assessment and management of the live reef fishery. Other countries were probably aware that there had recently been a ciguatera scare on the import market in Hong Kong and imports had been suspended from several countries. The Kiritimati aquarium fishery was another major development, where the Fisheries Department had some concerns about the market, and the use of good practices by fishermen, and would welcome assistance.

The representative of the Commonwealth of the Northern Marianas outlined the rapid growth since 1979 and the changing basis of commercial fisheries, with the Division of Fish and Wildlife responsible for the conservation and management of natural resources. Fishing was mainly artisanal, and the commercial component was only growing slowly. The current legislation governing fisheries is the Northern Marianas Fisheries Act, which defines the rights of the inhabitants to manage Internal Waters etc. The EEZ is managed in association with the USA. Marine Safety depends on USA law, and all vessel skippers must be certified by the US Coastguard and vessels must be in compliance with safety rules.

Aquaculture in CNMI is very small-scale and there is no commercial activity as yet, just backyard projects to develop local interest. Sportfishing is a major activity and the Saipan International sportfishing tournament is held annually in August, drawing anglers from Japan, Korea, Guam and the Marshall Islands. Rota and Tinian hold separate sportfishing events.

In the afternoon session, the representative of Samoa mentioned that Samoa had presented two papers in last year's SPC fisheries meeting, on the longline fishery and the community-based management programme. It was now appropriate to complete the picture with a presentation on the use of by-laws in community fisheries management. The presentation was made by Iulia Kelekolio and is available as Information Paper 17 in the meeting papers (<http://www.spc.org.nc/Coastfish/Reports/RTMF27/PDF/IP17-SAMOA.PDF>).

This paper provoked a great deal of interest and discussion. The representative of Kiribati asked if there were any financial reward available to villages for the policing of by-laws. The representative of Samoa said no. Many government laws were subject to poor compliance and the police would not be very useful in the enforcement of fisheries laws, but if the village is given the power to make its own rules then experience had shown that they also had the incentive to enforce them. Many villages, for example, rotated the responsibilities for watch-keeping amongst individuals.

The representative of Tonga asked about the mechanism of getting the by-laws through Government, and the time-frame. He suggested that this was not just a fisheries matter, and that Cabinet decisions would presumably have to be made at some stage. The representative of Samoa pointed out that the initiative originally arose from the villages themselves in the early 1980s, with the putting-together of village rules. The process of giving legal weight to this was inserted into the Fisheries Act of 1988.

The representative of Niue asked for more information about the constitutional process and noted that unilateral declarations of ownership or authority in Niue tended to be based more on territorial grounds than on a particular concern about the state of resources. There was little consultation with the Ministry, and elders often wanted reserve areas to be off-limits to surface trolling or vessel transit, even when the purpose of the reserve was to protect only invertebrates. How was the fisheries department's point of view conveyed in Samoa? The representative of Samoa said that Fisheries provided advice to each Council on how bylaws should be tailored to fit within the framework of the Act. If the village rules were outside the Act then they would be illegal. For example, by-laws could not set a minimum size limit greater than that set by the national Act. The national regulations were the envelope and the by-laws the detail.

The representative of Tonga asked how reserve areas were defined. The representative of Samoa stated that the definition of reserve areas was beyond the capability of the by-laws. Protected areas were defined physically by markers and the Attorney-General's office then defined that area in law.

The representative of Palau asked how traditional punishments worked in Samoa. The representative of Samoa replied that the punishment depended on the perceived seriousness of the offence. There was usually some tribute levied -- perhaps taro - but in extreme cases the offender would be chased from the village. There was no set method covering the whole country.

The representative of American Samoa pointed out that they had the same traditions as Samoa but were governed by USA law, so it would be difficult to develop a similar by-law system in American Samoa. However, the Government was getting requests from villages to implement something similar. The Department of Marine and Wildlife Resources had sought legal advice from the Attorney-General, but the advice was that everyone had equal rights below the High Water Mark, despite the Samoan traditional understanding that each set of people owns land running from the mountain to the depths of the ocean.

The representative of American Samoa was happy to hear that Samoa had been able to establish a more natural system, and this was something that would provoke further thought. He wanted to enable people to manage their own resources and needed to find some way of accommodating this under US law.

The representative of New Caledonia noted that village rules in Samoa seemed to be more binding than national regulations. He asked what would happen if national regulations were breached? Was village enforcement only applied to village rules? The representative of Samoa said that the national Fisheries Regulations take precedence and can be enforced by national authorities, whilst villages only enforce their own rules.

The representative of the Solomon Islands noted that the Samoan experience demonstrated that customary marine tenure is still a very useful mechanism, and highly commended the presentation. She also noted that her Government was often notified when people from one village travelled to another village's fishing grounds and broke the rules there. The system found it difficult to cope with this in the Solomon Islands, and how was it approached in Samoa? The representative of Samoa said that this also happened in Samoa, but since such practices usually also break national laws they can be nationally enforced. He pointed out that village rules are actually more feared than government laws (which, for example, only prescribe a \$100 fine for dynamite fishing), and if you break the rules in a village which has by-laws set up, they will punish you wherever you are from.

The representative of Fiji was interested in Samoa's marine tenure system, and wanted to follow up on the question by Tonga since he was still not sure how area subject to by-laws were defined as being owned by the village. And were marine boundaries contiguous with village land boundaries? The representative of Samoa said that the by-laws only applied within legally defined "protected areas", and protected areas were only declared immediately in front of villages, so there was no possibility of dispute over boundaries with neighbours.

The representative of Fiji then explained some of the differences with the Fiji system of tenure, where villages, or traditional groups of people, were registered as owners of fishing rights from High Water Mark to the outer edge of the barrier reef, with sea boundaries usually being contiguous with land boundaries. Fishing within those areas was only allowed by permission of the registered traditional owners, and this system covered all of Fiji's Internal Waters. Some isolated areas were difficult for villagers to police, but the Fisheries Division could assist by emplacing special marine reserves within customary areas. The current SPC Director of Marine Resources had been the first to promote this.

The representative of the Federated States of Micronesia congratulated Samoa for having provided the opportunity of learning from this experience. It was not clear how this system might work in FSM, with 4 States subdivided by 8 languages and belief systems but there was plenty of food for thought. FSM had developed several coastal management plans but these were currently going through a review and consultation process. The Asian Development Bank had also assisted in developing model legislation for the States, but this was also going through a consultative process, since all stakeholders needed to be involved. He asked if there had been any public awareness programme on the by-laws in Samoa? The representative of Samoa replied that public awareness activities had not been made in specific connection with the by-laws which, after all, arose from the people themselves, but there was considerable awareness activity concerning resources themselves, and the need for more specific conservation measures in certain cases.

The representative of Vanuatu said that customary marine tenure was also used as an option by the administration in his country, and was very effective in some areas. He noted that fisheries management is mainly about managing human activity, and the respect traditionally given to village elders gave them considerable influence over fishing. That respect was not always automatically given nowadays, but it was noted that giving responsibility for fisheries rules back to the elders can itself generate respect.

The representative of Tonga said that he didn't think that the Samoan system would work wholesale in Tonga, since the Samoan fono has sanctions at its disposal that are no longer available in Tonga, but that certain elements were probably transferable. Tonga has a lot of small islands facing each other where boundaries are important, unlike Samoa, and also traditional open areas which would be difficult to regulate. Another complication is the fact that all land is owned by Chiefs. The fono is there to carry out the will of the chief rather than being a forum for discussion. If the foreshore is opened to the community then it is likely to come under individual control, and this had not proven a good basis for management on land. However, Tonga would be interested to follow the implications through and there was no doubt that if better marine management was to be accomplished then this kind of system would have to be adapted to different realities.

He asked what would be necessary to mobilise SPC in providing this kind of assistance? There were promising indications from the Fiji experience with the traditional control of net-fishing in Macuata. There was need for a system with more free flow of information to develop the possibilities of those with the most interest in conserving resources: to develop the ability to manage within the legal and cultural framework.

The representative of Samoa agreed, and said that the secret was to get your own communities involved in the process. Samoa was fortunate in having traditional customs still largely intact, and the matai and fono with continuing authority. But measures which work in Samoa would not necessarily work in Tonga or Fiji, and each needs to look at their own system of how communities work and how they can be involved. No approach is perfect and the Samoan fono system is like any other organisation, but the main idea is to find out how the community can effectively participate.

The representative of Niue referred to the list of actions in Table 1 of Information Paper 17, and asked if Samoa also promoted national laws, and how close the new by-laws were to the national laws. Did villages also keep an eye open for breaches of national law, and are villages of any help in national law enforcement? The representative of Samoa said that people were well aware of the national laws and there were a lot of Samoan-language information papers in circulation. But the idea is to translate the national laws into local bylaws and let the people look after them. The national law was usually only required in inter-village disputes.

To close the third session, the representative of New Caledonia presented Information Paper 7.

After tea, the representative of the Cook Islands presented Information Paper 15. The representative of Tonga commented on the problems that the Cook Islands Ministry of Marine Resources had in obtaining reliable information on the value of pearl exports, and said that Tongan fishery exports also seemed to be undervalued in declarations, and the statistics often underestimated the quantity of exports. He was also interested in the experience that the Cook Islands had with radical government downsizing, and thought that most countries could probably benefit from something similar. Tonga was not actively downsizing, but there were quite a number of individuals within the system who needed to be "reactivated", and who did not seem to be currently using their skills to best advantage. He noted that there was much talk about re-energising and empowering communities, but how about individuals? International issues now took up a lot of the time of the top managers of fisheries departments, leaving little time for keeping their own departments motivated. He was encouraged by Samoa's encouragement of younger people, and of giving them the opportunity to participate in regional discussions like this. Again, there should be a case for strengthening the support of regional organisations in this area.

The representative of the Cook Islands referred back to the issue of export undervaluation, and noted that the problem of under-reporting was growing very rapidly, without management being able to cope. He also paid tribute to French Polynesia for having pioneered the black pearl industry. On downsizing, he noted that Government had reassessed its role in relation to the private sector. It was now focussed on facilitating, rather than competing with, private sector activities, and now that it had dropped out of pearl farming it no longer needed such a large staff complement.

The representative of French Polynesia then presented an Information Paper 16 on the marine sector in French Polynesia.

The representative of Tonga commented once more on the issue of under-declaration of fishery exports, this time in French Polynesia, and wondered why it should be so difficult to get reliable figures for national planning. The representative of French Polynesia pointed out that there was a levy of US\$1.50 per gramme of pearls leaving the territory, so there was incentive for under-reporting. This levy was by the Association for the purpose of promoting industry and did not go to Government.

The representative of Tonga was also interested in the comparatively large investment by French Polynesia in infrastructure to support the private sector, particularly in view of the continual advice by consultants to the Tonga Government that infrastructure should be a private sector responsibility. He felt that the fisheries private sector had enough on its plate just struggling to survive in a new industry, without having to support shared infrastructure as well. The representative of French Polynesia could not comment on the role of consultants, but felt that Government had a definite role in the provision of basic infrastructure, particularly in the early stages of an industry. There was some Government contribution to tuna fishing, but it had been less than 50% of the cost of vessels, and this had encouraged a flourishing and sustainable local small-scale tuna fishing industry. But most infrastructure resulted from earnings from fishery access agreements that was re-invested in the sector, and this was the main reason for continuing with foreign fishing agreements.

The representative of Wallis and Futuna made a verbal presentation, outlining the gradual development of commercial fisheries from the traditional and subsistence sector. The provision of infrastructure, in particular with European Union assistance having been recently granted to construct a fishing port, was of major importance before developing a fleet. There was also an emphasis on training, and the SPC Fisheries Training Section had been of considerable assistance in the provision of French-language resource materials. The Fale fono was a useful venue for public information materials such as safety at sea posters, which generated considerable interest. He also thanked the Community Fisheries Officer for the assistance provided in the Futuna fisheries training course. Only women fish at night in Futuna. Training abroad would be desirable, but because of the language problem the territory was as yet unable to nominate any women for the SPC/Nelson Training course. SPC assistance had also been instrumental in developing fishing for flying fish around the fish aggregation device. A priority for the future would be stock assessment, particularly of deep-slope demersal stocks, but also in the lagoon.

The Director of the SPC Marine Resources Division regretted SPC's limited capacity to provide assistance with inshore stock assessments over the past few years, and explained that the scope of the Integrated Coastal Fisheries Management Project had been reduced to a few major subprojects defined in 1995, at the start of the project. The normal capacity of SPC to respond quickly to requests in this area was currently small. However, from 2000 the Division expected to implement an EU-funded project which would enable stock assessments in all Pacific ACP states, and hopefully also in EU territories. This expression of interest would help in securing funding for the territorial component.

The representative of the USA presented Information Paper 12, and expanded on some points. The problems caused by marine debris were seen by the USA as an important focus for international action, and she invited all present to take part in a workshop on the subject that would be held alongside the Western Pacific Regional Fisheries Council meeting in June 2000. The USA also believed that the UN implementing agreement on highly migratory and straddling stocks was one of the most important recent advances towards sustainable fishing, and congratulated the Pacific Islands on the leading role that they had taken in developing this. The USA recognised the problems that some Pacific Island nations were having with the FAO compliance agreement, but felt that it was a significant tool in the conservation of stocks on the high seas. The representative of the USA also noted the importance that the region placed on the development of export quality standards and offered to contact the FDA and put them in touch with the region to help clarify the issues. She noted that it would be useful to invite the FDA to any future workshops on HACCP and related issues.

The representative of Samoa felt that it would indeed be useful to invite the FDA to help clarify some of the confusion that was currently being experienced by many countries, particularly with the certification of local inspectors. He stated that Samoa still had some worries about the compliance agreement. For example, it had a 24m cut-off and there were quite a few vessels smaller than 24m operating on the high seas.

The representative of American Samoa said that marine debris was a concern to all SPC members. American Samoa was about to run a workshop for local fishermen, and pointed out that it was not just a case of fish and wildlife being affected, but of safety at sea, when propellers and engines got caught in discarded lines and nets.

The Director of the SPC Marine Resources Division explained the existing role of the South Pacific Regional Environment Programme in implementing the "PACPOL" project, to limit marine debris, and the part that SPC was playing, through the Maritime Programme's Legal Adviser, in supporting this activity.

The meeting agreed to develop a recommendation on this issue, to be included in the list of Outputs of the Meeting, to reinforce the need for general attention.

The representative of the Solomon Islands presented Information Paper 9, and expanded on several issues. The Solomon Islands was strongly in favour of tuna fishery management, and requested the support of all Pacific Island countries in concluding a successful international agreement through the MHLC process. The fact that the Solomon Islands had launched its own domestic tuna management plan in May was token of their resolve. The Solomon Islands had also put a moratorium on the issue of licences in the Live Reef Fish trade, and was particularly interested in protecting spawning aggregation sites. The Solomon Islands also wanted to venture further into aquaculture, because of the potential social benefits, given the major aim of improving the livelihoods of rural people. She felt that the development of quarantine protocols would be all-important to the development of appropriate aquaculture.

The representative of Palau referred the meeting to previous country statements for a general introduction to the Palau fisheries sector. Current issues included the development of a national tuna management plan in association with FFA, but with some assistance from SPC on development and gender issues. Palau had hoped to complete this in August but an extension was needed to accommodate the views of all stakeholders, and a task force had been created by Presidential order. It was also hoped that SPC would be able to implement a programme of aquacultural assistance in the near future, since this was a particular interest in Palau. Current projects included OFCF-sponsored mariculture research and *Plectropomus leopardus* aquaculture was promising. There was also continuing interest in giant clam culture in Palau. There was some discussion of the technology of grouper production after a question by French Polynesia on the preferred methodology: wild fry collection or spawning in the hatchery?

The representative of Niue referred the meeting to Information Paper 24, describing fisheries issues and priorities. He pointed out that Niue only had three staff working in the government fisheries service to cover all issues, including stock assessment, licencing, the review of legislation and development. However, despite this small institutional base, fisheries was one of the highest revenue earners for Government. Because of the small human resource base to fulfil its national obligations Niue was grateful for the assistance of SPC. Recently this had included small-scale longlining development, a marine reserve baseline survey and a women in fisheries workshop.

In response to a question from the representative of Tonga there was a short discussion on the role of nearshore FADs. Whilst Fish Aggregation Devices are normally set considerably offshore, Niue had found that FADs 3-600m offshore provided considerable benefits for fishermen. It was difficult for small boats to venture far out because of the lack of shelter.

The representative of Australia presented Information Paper 3 and expanded on the section relating to Torres Strait fisheries, as they are the Australian fisheries with the greatest similarity to fisheries elsewhere in the Pacific. The Torres Strait has a population of around 8,000 and fishing is an important cultural, subsistence and commercial activity. About half of the population live around the administrative centre of Thursday Island and the remainder live in 13 other island communities. Fishing is important in Torres Strait because it provides the major source of income to Torres Strait Islanders apart from social service payments. A Protected Zone was established in 1985 by a treaty between Australia and Papua New Guinea and that treaty, among other things, established the basis for environmental and fisheries management. A joint authority between the federal and state governments' answers to a joint advisory council established between Australian and Papua New Guinea on fisheries management issues.

The tropical spiny (rock) lobster fishery was worth \$6 million to the local economy in 1998. Similar concerns over over-exploitation to other Pacific Islands have been experienced in the lobster fishery with the move to underwater breathing apparatus by some operators. Hookah is banned for two months each year. Efforts are in progress to refine estimates of the sustainable level of stock that can be exploited. Since the establishment of the treaty, trawling of lobsters has been prohibited and lobster can only be caught by divers, but even this fishing method appears to be pushing the limits that the stock can withstand.

There is also a major prawn trawl fishery operating in the area, and this is fully commercial, with most of the income from it being taken out of the area to other centres. Efforts have been made to attract local people into the fishery but they have been mostly unsuccessful. Dugong and turtle are both harvested by traditional fishermen but the catch is restricted by agreement to subsistence and ceremonial uses. One of the main ways of monitoring the dugong and turtle fisheries was via a schools programme where primary school students in island communities keep a record of animals caught by the community. Training officers also hold classes on the identification and sexing of sea creatures. The trochus and beche-de-mer fisheries in Torres Strait have a 150-year history and, like in the rest of the Pacific, have been marked by "boom and bust" cycles. When the market was good there was quick depletion and then the fishery laid dormant for many years. It is a major challenge to find a more reasonable, yet workable management arrangement.

The Torres Strait Fisheries Act is the enabling legislation that separates the fisheries in Torres Strait from the rest of the country. Australia reviews management arrangements to determine what indicators are most useful for monitoring the state of fisheries. There is a partnership approach taken to fisheries management that includes representation of all stakeholders on consultative subcommittees of the Protected Zone Joint Authority.

The representative of Commonwealth of the Northern Marianas asked if there was opposition to traditional turtle harvesting from environmental groups, and how was this responded to? The representative of Australia said that representatives of environmental groups were included in the management advisory committee and in discussions, and their collaboration in the process of management helped minimise misunderstandings. The representative of American Samoa was also interested in the issue and asked about the level of catch of turtles. This was said to be around 1,600 per year, but since confidence limits on this subsistence estimate were large, possibly up to 2,400.

In response to a question from the representative of French Polynesia it was stated that trochus was currently a traditional subsistence fishery in the Torres Straits and not picked up on a commercial basis since the value was not attractive compared to other local fisheries. There was commercial trochus fishing elsewhere in Australia though.

The representative of Fiji made a verbal presentation concerning some of the developments in the Fiji fisheries sector. Fiji was currently battling economic problems and the Fiji dollar had dropped in value several times during the last year. The main commodity income earner was sugar, but the success of this industry was largely dependent on preferential pricing in Europe under the Lomé Convention. This was expected to cease in 2000 and the government was looking at fisheries as a potential replacement for sugar as an economic leader. As a result,

the Fisheries Division was no longer running a routine service programme, but was focussed on the active development of selected commodities within a 3-5 year time-frame.

The sector had developed a package promising industry-creation to Government, and potential entrepreneurs who asked for assistance from the Fisheries Division were directed towards the commodities identified for active development. The aim of the idea was to "jump-start" these industries. He had been very encouraged by the comments from Tonga suggesting that there was a role for government in developing new industry and not just leaving it all to the private sector, since this mirrored the Fiji philosophy.

Tuna was a major focus for development, and the government had just provided infrastructure, in the form of a jetty, to assist the development of this industry. Fiji was of the opinion that most of the inshore living marine resources did not have sufficient sustainable capacity to support this kind of high-pressure development, and so was devoting much of its development resources to aquaculture. He urged SPC to pick up the threads of regional assistance left dangling by the termination of the FAO South Pacific Regional Aquaculture Project. One of these aquaculture commodities was Eucheuma seaweed. Government was helping the private and village sector with baling and packing facilities, but intended to privatise these once the industry was better established. Tilapia was another example. After running a small-scale development service for a decade or more, the objective was now to put tonnes of Tilapia on the market and to look at export.

Although the Fiji Public Service had been downsized, the Fisheries Division had been radically restructured to deliver specific outputs with regard to each commodity identified, and he felt that everyone was working more efficiently nowadays. Fiji had also implemented a consultative process to produce guidelines for development and management of fish, corals and other natural resources, and had brought NGOs into the process. Bodies such as the offshore fisheries council and the aquarium fisheries council were informally constituted but it was hoped to formalise them by legislation once an optimal system was worked out.

This commodity development framework started in 1998/9 but results were already being seen. The industry would hopefully be mature by 2002/4.

The representative of Palau was interested in the Fiji developments and suggested that there could be some additional consultation between countries on the subject of harmonising fisheries departments with the development process, and he felt that all could learn from this new Fiji experience.

The representative of New Zealand drew attention to the New Zealand country statement, Information Paper 11, but did not present this verbally because of time constraints. The representative of Papua New Guinea also drew attention to his country statement in Information Paper 14.

Summing up the session, the representative of American Samoa thanked the Secretariat for providing the opportunity for open discussion of Pacific Island fisheries issues amongst fisheries heads, which he felt had provided some extremely useful food for thought. He hoped that a similar opportunity for "comparing notes" would be provided at the next meeting.