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TWENTY-SIXTH REGIONAL TECHNICAL MEETING ON FISHERIES

(Noumea, New Caledonia, 5-9 August 1996)

REPORT

**Noumea, New Caledonia
1996**

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ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
ACP	African, Caribbean and Pacific States
AIMS	Australian Institute of Marine Science
AusAID	Australian Agency for International Development
CFP	Coastal Fisheries Programme (SPC)
CIDA	Canadian International Development Agency
CPUE	Catch per unit of effort
CRGA	Committee of Representatives of Governments and Administrations (SPC)
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSPODP-II	Canadian South Pacific Ocean Development Project Phase II
DWFN	Distant Water Fishing Nation
EEZ	Exclusive Economic Zone
ER	Exploitation Rates
EU	European Union
EVAAM	Etablissement pour la valorisation des activités aquacoles et maritimes
FAD	Fish Aggregation Device
FAO	Food and Agriculture Organization of the United Nations
FFA	Forum Fisheries Agency
FFC	Forum Fisheries Committee
HACCP	Hazard Analysis and Critical Control Point
ICFMaP	Integrated Coastal Fisheries Management Project (SPC)
ICLARM	International Center for Living Aquatic Resources Management
IMR	Institute of Marine Resources (USP)
MTC	Minimum terms and conditions
NFMRA	Nauru Fisheries and Marine Resources Authority
ODA	Overseas Development Administration (UK)
OFFP	Oceanic Fisheries Programme (SPC)
ORSTOM	Institut français de recherche scientifique pour le développement en coopération
PIMRIS	Pacific Islands Marine Resources Information System
RTMF	Regional Technical Meeting on Fisheries (SPC)
RTTP	Regional Tuna Tagging Project (SPC)
SCTB	Standing Committee on Tuna and Billfish
SIG	Special Interest Group
SOPAC	South Pacific Applied Geo-Sciences Commission
SPADP	South Pacific Aquaculture Development Project
SPAR	South Pacific Albacore Research
SPC	South Pacific Commission
SPOCC	South Pacific Organisations Coordinating Committee
SPPF	South Pacific Project Facility
SPREP	South Pacific Regional Environment Programme
SPRTRAMP	South Pacific Regional Tuna Resource Assessment and Monitoring Project
UK	United Kingdom
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USP	University of the South Pacific

UVC Underwater Visual Census
WTPTF Western Tropical Pacific Tuna Fishery

I. INTRODUCTION

The SPC Regional Technical Meeting on Fisheries provides the only opportunity for senior fisheries officers from all SPC member countries and territories to meet and discuss common aspects of fisheries development and, through the exchange of ideas, experience and information, to identify mutual needs and problems which can best be met by a regional approach.

The meeting assists the work of the Commission's Fisheries Programme by reviewing and commenting on existing or proposed activities, formulating new initiatives where required, and making recommendations for Secretariat action to the Committee of Representatives of Governments and Administrations and, ultimately, the South Pacific Conference.

As a result of this regular process of review and discussion, the work of the SPC Fisheries Programme is able to retain its relevance to the evolving needs of Pacific Island countries and territories. The guidance provided over the years by successive Regional Technical Meetings on Fisheries has been an essential element in developing the wide range of activities that are undertaken by the Fisheries Programme, which for some time has been the South Pacific Commission's largest work programme.

The 26th Regional Technical Meeting on Fisheries was held at the South Pacific Commission's headquarters in Noumea, New Caledonia, from 5 to 9 August 1996.



II. AGENDA

1. Opening formalities

- 1.1 Official opening
- 1.2 Designation of Chair
- 1.3 Apologies
- 1.4 Adoption of Agenda
- 1.5 Election of Drafting Committee
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- 2.1 Report – Fisheries Programme Manager

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- 3.1 Western Tropical Pacific Tuna Fishery (WTPTF) Overview/Stock Status

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- 4.1 South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP)

5. Oceanic Fisheries Programme overview

- 5.1 Oceanic Fisheries Coordinator's Report
- 5.2 Reports of the Standing Committee on Tuna and Billfish
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- 6.1 HACCP – Regional Implications

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- 9.1 Use of Live Milkfish as Longline Fishing Bait

10. Regional Institutional Review in the Marine sector

11. SPADP – Future Regional Arrangements

- 12. Report on Pearl Projects**
- 13. Report on Trochus Markets**
- 14. Statements from other Organisations**
 - 14.1 South Pacific Aquaculture Development Project
 - 14.2 FAO Fishery Industry Division
 - 14.3 Forum Fisheries Agency
 - 14.4 ICLARM Coastal Aquaculture Centre
 - 14.5 Nelson Polytechnic
 - 14.6 The Nature Conservancy
 - 14.7 World Bank
 - 14.8 University of the South Pacific
 - 14.9 ZoNéCo
- 15. UNDP Offshore Fisheries Development Project Tripartite Review**
- 16. Future arrangements for the RTMF**
- 17. Other business**
- 18. Adoption of report**

III. SUMMARY OF DISCUSSION

1. OPENING FORMALITIES

1.1 Official Opening

1. Dr Bob Dun, the Secretary-General, welcomed delegates to the meeting. He said that the Secretariat was keen to hear clear indications from the meeting of the priorities that member countries and territories held in the fisheries sector, and how the Programme could best address these issues.

2. Dr Dun emphasised that Fisheries was one of the few renewable resources available to Island countries and territories, with the potential for both economic development and food, and that it was the Commission's job to see that the best possible technical and scientific advice was available to members.

3. He drew the attention of the meeting to the report of the Review of Institutional Arrangements in the Marine Sector. The Forum Fisheries Committee (FFC) and SPC Committee of Representatives of Governments and Administrations (CRGA) had considered the recommendations of the review, and had decided that the SPC Fisheries Programme should continue to operate in much the same way as it had in the past. It had been decided that FFA would no longer be involved in coastal fisheries, but that the SPC Coastal Fisheries Programme should continue to share responsibility for regional coastal marine issues with the South Pacific Regional Environment Programme (SPREP). He asked if the meeting could consider mechanisms by which collaboration could be enhanced.

4. In the Oceanic Fisheries area, SPC's main role was the provision of high-quality scientific information on tuna. It is believed that regional stocks of tuna are in a healthy state, although more information is required on some. In contrast, small island coastal fisheries are coming under more pressure as human populations expand. Dr Dun said that it was possible to accomplish sustainability in harvesting but that this would require a strong commitment by all concerned. This meeting provided an opportunity to discuss ways towards more effective fisheries management.

5. The Secretary-General pointed out that the meeting's deliberations will be taken into account by the Secretariat and would guide the Fisheries work programme until the next Regional Technical Meeting on Fisheries (RTMF).

1.2 Designation of Chair

6. The Fisheries Programme Manager invited Tukabu Teroroko of Kiribati to assume the chair, after explaining that it was normal practice at RTMF to rotate the chair in alphabetical order around SPC member countries and territories.

7. The new Chairman said that Kiribati was proud to chair the meeting in this beautiful building, and noted that since the meeting hall was designed in the shape of a Kiribati canoe, it should ensure smooth sailing and a very accurate course for deliberations.

8. He thanked the Secretary-General for his encouraging opening remarks and thanked the Fisheries Programme Manager for steering and managing the Fisheries Programme and staff over the last few years.

9. According to precedent, the Chairman invited the proposed chairman for the subsequent 27th RTMF, the representative of the Marshall Islands, to be vice-chairman of the meeting.

1.3 Apologies

10. The South Pacific Regional Environment Programme (SPREP) sent written apologies that a representative of that organisation would not be attending the meeting. Several SPC member countries and territories were not represented, and a list of participating countries, territories and observers is contained on page 68 of this report.

1.4 Adoption of Agenda

11. The Chairman invited the meeting to consider the provisional agenda, which was explained by the Fisheries Programme Manager. He pointed out that spare slots had been left in the provisional agenda to accommodate any additional issues that might be raised by member countries and territories.

12. The Representative of Fiji was in general satisfied with the form of the agenda, but felt that the presentation of country statements might be given some space. He also suggested that Programme Overviews be scheduled ahead of their respective technical sessions, to improve comprehensibility.

13. The Secretariat explained that certain technical sessions had been scheduled ahead of their respective Programme Overviews because it had been shown in the past that a technical session on the status of the fishery gave a clearer context to the following review of the relevant work programme. However, there were also some technical sessions that were not directly connected to the work programme, where timing had been more or less arbitrary. The meeting then agreed to keep the technical sessions in the order of the provisional agenda, but that the order of sessions be carefully considered in future meetings.

14. The Secretariat further explained that it had been normal practice some time ago to make an opportunity in the agenda for the presentation of country statements, but that in recent meetings there had been few countries and territories wishing to make verbal presentations of their written statements. It was suggested that the most appropriate time for country statements would be at the start of the meeting.

15. The representative of Western Samoa said that some countries had come prepared with a mandate to make certain points, and that the presentation of statements had been an important item on the agenda in previous meetings. The Fisheries Programme Manager suggested that it would be a very time-consuming exercise to go around the table reading out the statements of each and every member country and territory, but agreed that it was important to provide the opportunity, and that this could be accommodated in the free slots that had been included in

the agenda. The meeting agreed to add an item to the agenda on day 1 to cover country statements for those countries and territories wishing to make a verbal statement.

16. The agenda was adopted as amended.

1.5 Election of Drafting Committee

17. The Chairman stated that it was normal practice for the Vice-Chairman to chair the drafting committee, and that there was normally one member from a francophone country and one from an anglophone country. The drafting committee would oversee the writing of the record of proceedings, and would normally meet early in the morning prior to plenary to go through the notes of the Secretariat to check that they accurately reflected the discussion of the previous day. The representatives of Cook Islands, Fiji, Niue, Papua New Guinea and New Caledonia agreed to form a drafting committee.

1.6 Meeting Procedures

18. The Chairman then ran through the meeting procedures, particularly the need for speakers to take into account the simultaneous translation into English and French, and the formal procedure that this entailed.

1.7 Presentations of Country Statements

19. This new item on the agenda was an opportunity for those countries and territories wishing to make verbal presentations of their written country statements.

20. The representative of Fiji made a statement, congratulating the chair and the Secretariat for the organisation of the meeting. He expressed appreciation for the resource assessments carried out by the Oceanic Fisheries Programme, and said that it was because of SPC that Fiji was more knowledgeable about its tuna stocks. He pointed out that these stocks were targeted by Distant Water Fishing Nations for economic benefit, but that few of these benefits yet accrued to the region. Fiji felt that SPC should increase programme activities to ensure that more benefits accrue to the region from the tuna fishery.

21. He had concerns about the status and prospects of inshore fishery resources in general, due to pressure from increasing populations and economic hardship, and noted that these problems were difficult to reverse. Fiji had taken seriously a programme for supplementing the needs of people who have traditionally relied on inshore fisheries, through aquaculture. He said that Fiji was ready to support any regional organisation setting up a programme on aquaculture.

22. Fiji was concerned about the reduced level of dialogue with the SPC Fisheries Programme occasioned by the change from a yearly to a biennial RTMF cycle. He said that Fiji was fortunate enough to be a member of the Forum Fisheries Committee, since FFC meetings can help countries to coordinate tuna issues with the SPC Oceanic Fisheries

Programme (OFP), but that no similar opportunity existed for the Coastal Fisheries Programme (CFP) apart from RTMF. He felt that there were projects in the CFP out of which Fiji could get more benefit. For example, one fishery which did not have problems of market access and the need for complicated Hazard Analysis and Critical Control Point (HACCP) plans was bêche-de-mer. He said that this was an economically viable fishery in the 1800s and was viable now, but sustainability was a problem. Research was needed to ensure that this fishery was developed for long-term benefit.

23. The representative from Nauru also made a short statement noting that the establishment of a national fisheries authority as a corporate body, to be called the Nauru Fisheries and Marine Resources Authority (NFMRA), had been approved by government and was pending enacting legislation. Nauru appreciated SPC's work in the fisheries area, especially the public awareness activities.

2. FISHERIES PROGRAMME ADMINISTRATION

2.1 Report – Fisheries Programme Manager

24. The SPC Fisheries Programme Manager outlined the contents of Working Papers (WPs) 1, 2 and 3. He directed participants to WPs 2 and 3, and to the discussion to come, for consideration of the two fisheries work areas in detail, and concentrated his presentation on WP 1 to give an overview of the whole Programme.

25. In describing staffing issues in the Coastal Fisheries Programme, the Fisheries Programme Manager noted that the Women's Fisheries Development Project (WFDP) had been elevated to the status of a Section since the last RTMF. It was necessary to bring this activity into the main stream of the work of the Fisheries Programme and to give it a higher profile. He also brought the meeting's attention to the fact that the Programme would soon be losing the Fisheries Development Officer (FDO) post, once the UNDP funding for this particular project ceased. Staff funding for the Resource Assessment and Post-harvest Sections would run out in September 1997, and if funding could not be found to sustain activities, the Coastal Fisheries Programme would lose at least five professional staff and three project assistants during the next 12 months.

26. He said that the Oceanic Fisheries Programme staff complement would shortly be augmented by a fisheries scientist to compile individual country reports on the status of national stocks. In addition, the South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP) had just recruited a biological technician and a postgraduate student (from Fiji).

27. MANFISH said that the Fisheries Programme currently had 30 professional staff (14 CFP and 16 OFP) and 10 support staff. The Programme had managed to fulfill most requests from member countries and territories over the past two years, despite the growing difficulties of funding, but the main area of worry had been the Capture Section. The gap had been temporarily filled by consultancies during the period that core funding had been unavailable, but, in a trade off for the restoration of core funding to fill the highly-prioritised

Masterfisherman position, the Coastal Fisheries Coordinator (CFC) position had had to be put on hold.

28. Attachment training for Pacific Island fisheries officers was said to be a growing focus. Fortunately for the work programme, two extra-budgetary donors had provided funds to enable Pacific Island nationals to undertake long-term attachments with the SPC CFP. The Fisheries Programme Manager felt that attachments were extremely useful, and mentioned that SPC would endeavour to maintain funding for this type of on-the-job training.

29. However, in general, maintaining staff at existing levels would be rather difficult. He said that some donors were withdrawing assistance not only to fisheries but to the South Pacific Commission as a whole, and it would be difficult to continue working at the current high levels of activity. There were new options for support on the horizon, but these were some time in the future.

30. The Fisheries Programme Manager noted that less than 10 per cent of the Fisheries Programme funding comes from SPC member country and territories subscriptions to core budget, and that all of this went to programme administration and the Capture Section. The Fisheries Programme has been unsuccessful in persuading CRGA to put more resources into the Oceanic Fisheries area so far, and this entire programme, together with five of the six Coastal Fisheries sections, remains entirely funded from extra-budgetary sources.

31. The Fisheries Programme Manager described two levels of extra-budgetary funding: multi-year heavily-planned projects, and smaller stand-alone projects. Multi-year projects were felt to be preferable, since SPC cannot offer contracts to staff on an ad-hoc short-term basis without any definite commitment of future funding. Apart from the UNDP, European Union (EU) and United Kingdom (UK) Overseas Development Administration (ODA) projects, the only other long-term funding commitment had been from the Government of Australia, which made a four-year commitment to the Fisheries Programme in 1993. An approach to France resulted in an attempt to provide a longer-term guarantee, but this arrangement was unable to be confirmed. The Fisheries Programme Manager extended an invitation to all donors present at the meeting to consider this type of longer-term arrangement, since a yearly allotment made administration of the work programme extremely difficult.

32. Another source of funds was external consultancies. The OFP assisted with Philippines tuna research in 1992, and the acquired funds supported further activities. There was also the likelihood that the OFP would participate in a World Bank tuna project in Indonesia. The Fisheries Programme Manager made it clear that when SPC decides to undertake corporate consultancy work, it is on the basis of two main principles: that the work must have a bearing on the fishery resources of this region, and that the delivery of services to member countries and territories must not be compromised.

33. The Fisheries Programme Manager was glad to report that Taiwan for the first time had made a financial contribution towards funding the OFP, including the costs of the South Pacific Albacore Research (SPAR) meeting in Rarotonga in 1996 and in funding scientific collaboration between the OFP and Taiwanese institutions.

34. After a last-minute decision by the Canadian International Development Agency (CIDA), the Canadian South Pacific Ocean Development Project Phase 2 (CSPODP-II) would not be providing any funding for either SPC or SOPAC (South Pacific Applied Geo-Sciences Commission). CIDA would continue to fund the WFDP only until the end of 1996, and had ceased funding SPC albacore research, and there was a need to look for a donor to cover these areas that had 'traditionally' been a Canadian speciality.

35. The Fisheries Programme Manager said that relations with other organisations had been good. SPC had taken part in several meetings convened by the Forum Fisheries Agency (FFA), SPREP, SOPAC, the Forum Secretariat and the University of the South Pacific (USP). The SPC Executive had attended meetings of the South Pacific Organisations Coordinating Committee (SPOCC), and several of these had had to cover marine affairs in some depth. SPC continued to hold annual colloquia with FFA, and the Fisheries Programme Manager felt that these were a useful forum for the exchange of ideas and the appraisal of respective work programmes. It had been decided to continue this yearly exchange, despite FFA dropping out of coastal fisheries issues.

36. In the coastal fisheries area, given the recent recommendation by the institutional review for the CFP and SPREP to be responsible for regional issues in the coastal fisheries sector, there was a need to develop improved working relations, and he said that SPC and SPREP had already started talking about this. The SPC Fisheries Programme was also said to have good links with USP and SOPAC.

37. The recommendations of RTMF 25 and actions taken by the Secretariat were described by the Fisheries Programme Manager, and several issues were referred to appropriate agenda items.

38. The representative of Western Samoa congratulated the Fisheries Programme Manager on his clear presentation, which updated the meeting about the work of the Fisheries Programme within the Commission, and highlighted the constraints faced. He asked if it could be further explained where the increase in Fisheries Programme staff had come from, noting that RTMF 25 meeting papers reported the total professional staff to be 20, with 9 support staff in 1994, and that now there were 30 professional staff and 10 support positions: a 50 per cent increase. The Fisheries Programme Manager explained that the EU-funded South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP) had not been operating at the time of the last RTMF, that there were two new temporary Pacific Island attachment positions under ICFMaP, and that the Fisheries Development Officer position had also not been filled at that time. He noted that SPRTRAMP was scheduled to end in 1999, at which point those posts would come to term, and that a 50 per cent reduction in Coastal Fisheries Programme staff numbers was entirely possible during the forthcoming 12 months.

39. The representative of Western Samoa said that it was important to know where the additional professional staff were placed, so that a similar redirection of resources to that which had taken place between the Coastal Fisheries Coordinator and Masterfisherman positions could be used to fill the staffing gaps with the Fisheries Programme. He added that the South Pacific Conference had approved the creation of 15 staff under SPRTRAMP, and suggested that some of the extra unfilled positions be redirected to meet the needs of the Capture Section. The Fisheries Programme Manager explained that it had been possible to re-

prioritise the CFC post since it was core-funded and the new activity was exceedingly-highly prioritised by member countries and territories, but that donor funds like SPRTRAMP were very specifically allocated, and SPC did not have the flexibility to reallocate extra-budgetary funding this way. The Oceanic Fisheries Coordinator (OFC) added that the SPRTRAMP had been given a very high priority by the African, Caribbean and Pacific States (ACP) Council of Ministers. Although the South Pacific Conference had approved up to 15 staff for the term of the SPRTRAMP project, not all of these posts had eventually been added to the SPC establishment since it had been possible to fill several posts at the national level.

40. The representative of Tonga paid his compliments to the chairman. He thanked the Fisheries Programme Manager for his report and for a work programme that basically met national needs. However, he expressed concern about the same issues that Western Samoa had raised, and that the projects of the most immediate interest to Tonga seemed to be the ones losing most in terms of staffing and funding. The national policy of Tonga was mandated on the prime importance of the fisheries sector, and this prioritisation of fisheries as a development sector was shared by most SPC member countries and territories. He hoped that these priorities would be reflected when the SPC Executive was seeking funding for various programmes. He noted with some distress that the WFDP was under threat and said that, for Tonga, a lot of aquaculture projects were developed hand in hand with women's fisheries programmes. Tonga saw such joint activities as one of the ways that the activities of women in fisheries could be strengthened, given the important role that they played within the family and the community, and he emphasised the major responsibility they have taken over countless generations. He hoped that these important programmes would not lose out because of 'donor fatigue'. Donor countries were more careful where they put their money nowadays, but would continue to support the priorities established by Pacific Island countries and territories if these were stated clearly in appropriate fora. He said that it was up to SPC members to see that these priorities are properly recognised and communicated. Tonga was concerned that this important work was in real danger of terminating.

41. The representative from Western Samoa pointed out that this meeting had encountered the same difficulties many times in the past. He suggested that programmes needed to be structured in such a way that funding constraints would be taken into account in one way or another. All project plans should have a component stating how the project would be continued once the assistance from the donor is completed. He also noted the separation of the women's fisheries development function from the Post-harvest Section into a separate section by SPC. Whilst he fully endorsed the involvement of women in fisheries, he warned that if such a move entailed the use of additional funds and resources then the meeting would need to consider this along with other priority projects of the Fisheries Programme. He suggested that these issues might be considered under the later discussion of individual sections.

42. The Fisheries Programme Manager suggested that the only realistic way to address Western Samoa's concerns about sustainability would be to ensure that more fisheries projects were devolved to core funding in the final stage of their implementation. Donor priorities changed with time and they could not sustain the same activity indefinitely. He said that was a problem that the present SPC executive was committed to tackling, and that was why the Secretariat wanted this meeting to state clear priorities for future work, so bids for

core funding might be justified in competition with other sectors. He reiterated that SPC wanted to know exactly what the region wanted.

43. In response to a question from the representative from Tonga, the Fisheries Programme Manager clarified that the OFP funding has been entirely non-core (XB) for the past 15 years, and that SPC had, in effect, to take it on good faith that year-to-year funding by major donors would continue. However, there had been attrition in this support, with the USA dropping support for the OFP in 1992 when the United States Agency for International Development (USAID) pulled out of virtually all South Pacific activities, and this had required more external consultancy work to be carried out.

44. The representative of Papua New Guinea asked for clarification about where the Fisheries Programme stood in terms of priority amongst other SPC work programmes. The Fisheries Programme Manager said that there had been a lot of exercises over the years, and that each gave a different answer. It seemed to be impossible to get an actual priority. The representative of Papua New Guinea then asked at which meetings these priorities were set. The Fisheries Programme Manager explained that there were several technical meetings, for each programme, and they all put forward recommendations to CRGA and Conference. However, there seems to be a lack of rigorous mechanism for comparing all these recommendations within CRGA to get a clear idea of where priorities really lie.

45. The representative of Tonga said it was clear that part of the problem lay with member countries and territories. National marine sector representatives might agree on priorities in RTMF and feel assured that these would be translated into action, but it appeared that CRGA might not reach the same conclusion after considering the views of other sectors. He said that it was not enough for representatives to think they had done their job by giving their views only to RTMF. Representatives had to return and promote these amongst other national sectors as well. He noted that national CRGA delegates rarely seemed to request fisheries department opinions about priorities, and he urged RTMF delegates to be more active in making these priorities known. He had no doubt that fisheries was the one area where Pacific Island countries could not only feed themselves, but trade on equal terms with other countries. The region could not expect the smaller islands to make a major economic impact with agriculture, and fisheries held the greatest promise of enabling small countries to pay their own way. When new programmes were started, it needed to be settled how they would be sustained, and a mechanism established to determine whether or not they had accomplished their aims. Even some 'sunset clauses'. He said that RTMF representatives should not be surprised when donor-funded projects terminated. Representatives needed to decide exactly why donor support was needed and for how long, and to more clearly articulate the priorities.

46. The representative from Western Samoa agreed with this, but had one item to add. He stated that another part of problem lay within the SPC hierarchy itself. He said there were some good recommendations made by previous RTMFs which had not been carried through to CRGA until recently.

47. The representative of Fiji agreed with the comments by Tonga and Western Samoa, but noted that the Coastal Fisheries Programme had been without a manager for some time, and now understood that the funds had been reallocated to re-instate a Masterfisherman. He

agreed that the Capture Section was a very important programme and agreed with the reallocation, but noted that it was also a high priority to have a leader in place. He requested clarification from the Fisheries Programme Manager about the future of this vacancy, and how soon it might be filled. He asked also if the policy of encouragement to Pacific islanders to fill positions in the Secretariat was still in place.

48. The Fisheries Programme Manager said that the decision to suspend the CFC post had been made based on the great importance that RTMF had placed on the need for Masterfishermen. Delivery of services to member countries and territories had suffered through the lack of field capability, and he said that hindsight showed that this reallocation was the correct decision. The Fisheries Programme Manager had assumed the leadership of the Coastal Fisheries Programme since the CFC post was vacated in February 1995. Concerning the appointment of Pacific Islanders to Secretariat positions, the Fisheries Programme Manager noted that appointments had to be made primarily on qualifications and suitability for the position. He emphasised that the selection process was by a committee which included other programme heads, and avoided the exercise of personal preference, but all other factors being equal, the selection committee would choose the most appropriate person.

49. The representative of Papua New Guinea wanted to clarify this issue of the prioritisation process for SPC core funding. She noted that a lot of other SPC programmes were social programmes, and suggested that it would be beneficial if RTMF delegates could return to their countries and make sure that fisheries, as an economic sector, was appropriately prioritised by their national representatives during regional prioritisation meetings. She felt that Governments might sometimes overlook the importance of economic issues, particularly if part of their control in these sectors had been devolved to statutory authorities or private interests.

50. The Chairman thanked the meeting for this extended discussion. He suggested there was a clear need to streamline and prioritise SPC programmes as a whole and to develop mechanisms for devolving some projects onto core budget to further the sustainability of projects. He hoped that the meeting could supply some detail on these issues over the next four days.

3. TECHNICAL SESSION 1

3.1 Western Tropical Pacific Tuna Fishery (WTPTF) Overview/Stock Status

51. The Oceanic Fisheries Coordinator presented an overview of Western Tropical Pacific Tuna Fishery, and this was followed by a review of Western Tropical Pacific Tuna stock status presented by the Principal Fisheries Scientist (see Appendix 1).

4. TECHNICAL SESSION 2

4.1 South Pacific Regional Tuna Resource Assessment and Monitoring Project

52. A summary of monitoring and research activities under the South Pacific Regional Tuna

Resource Assessment and Monitoring Project (SPRTRAMP) was presented by the Oceanic Fisheries Coordinator and the two Senior Fisheries Scientists (see Appendix 2).

5. OCEANIC FISHERIES PROGRAMME OVERVIEW

5.1 Oceanic Fisheries Coordinator's Report

53. The Oceanic Fisheries Coordinator (OFC) presented an overview of the work of the Oceanic Fisheries Programme. The meeting was referred to Information Papers 21, 22, 23 and 24, and it was noted that there had been three meetings of the Standing Committee on Tuna and Billfish (SCTB) since the previous (25th) RTMF in March 1994, as well as a meeting of the South Pacific Albacore Research Group (SPAR), to report on. The main development in the Oceanic Fisheries Programme since RTMF 25 had been the implementation of the SPRTRAMP project, through which the OFP had been able to implement much more comprehensive and continuous monitoring of regional tuna fisheries. Through SPRTRAMP, information was now available for research and management, and considerable progress had been made since RTMF 25 towards a better understanding of regional tuna stock structure and dynamics.

54. The OFC also referred the meeting to Information Paper 25, describing the Regional Tuna Tagging Project (RTTP) which had gradually developed a very significant dataset, particularly on skipjack tuna. The recently-compiled review of tuna-fishery bycatch and discards was now in the process of publication and would be available shortly. Recent biological work was described, including age and growth studies based on otolith sections. The OFC mentioned that a lot of effort had been spent by the OFP in maintaining dialogue with other organisations, and that this had been a most constructive dialogue on behalf of member countries and territories.

55. The representative of Guam asked whether it was the policy of SPC to carry out research in-house or to sub-contract research to other organisations. The OFC replied that there was no particular policy in place, but that the Programme tried to get essential work carried out by whatever means possible. He noted however that the recent Standing Committee had recommended that member countries should highlight relevant national initiatives during future meetings, so all options could be considered.

56. The representative of Australia asked why there was a difference between the reporting of bycatch by observers and by logbooks, and what implications this had for assessment work. The Oceanic Fisheries Coordinator pointed out that there was no legal obligation on most vessels to report bycatch, only an indication of the need through the inclusion of appropriate columns in the logbook. In practical terms there was difficulty in collecting detailed information on bycatch in a commercial fishery logbooks. Whilst the region might expect improvement in the reporting of secondary market species like billfish, it had to be accepted that immediate improvements in the reporting of bycatches like shark were unlikely. The only realistic likelihood of improving bycatch estimation in the short term was by the deployment of more observers. He said, however, that the current problem in bycatch reporting was unlikely to have an effect on stock assessments since these were currently single-species assessments. But with the move to multi-species assessments and ecosystem models for

management there would be a definite need to gain information on all components of the ecosystem.

57. The representative of the Solomon Islands thanked the Oceanic Fisheries Coordinator for his eloquent presentation. He welcomed particularly the work done by the observer programme, and said that this was a great help in covering some of the gaps that presently existed in national programmes. A request was made for SPC to consider the possibility of placing a port-sampling observer at the Noro unloading point, once programme priorities had been covered.

58. The Oceanic Fisheries Coordinator acknowledged the definite need for an observer at Noro, and understood that arrangements were already under way to accomplish this.

59. The representative of Kiribati thanked the OFP for carrying out, and the Food and Agriculture Organisation of the United Nations (FAO) for funding, a tuna fishery interaction study. Thanks to this advice there had been action taken by the Kiribati Government to exclude foreign fishing vessels from fishing within 60 nautical miles of Tarawa.

60. The representative of Fiji said that progress by the OFP had been good since the last RTMF, and considered that the reports presented had been excellent. The work done by the OFP on the Fiji national tuna fishery report had greatly helped in the development of national policy. He was pleased that statistical coverage had improved, since poor reporting by Distant Water fishing vessels had been a great area of concern previously. He mentioned that Fiji was always pleased to cooperate in data collection, and also looked forward to the possibility of a training workshop for national observers, to help in collecting data from local vessels. He noted that tuna transshipments through Fiji had increased, and that the existing two port samplers might be inadequate to cover these increases. He wondered if further assistance would be possible from SPC.

61. The Oceanic Fisheries Coordinator mentioned that the venue for the 2nd port samplers workshop was currently being discussed and, based on logistics, there was a strong possibility that it would be held in Fiji. Also, based on Fiji's status as an ACP state, it would be highly prioritised in the allocation of port samplers under the EU-funded SPRTRAMP project.

62. The representative of the Cook Islands thanked SPC for the work of the OFP, which he felt was of high quality. He wondered if the requested report on the Cook Islands national tuna fishery would soon be possible, and how the Cooks Islands could assist in this work. The Oceanic Fisheries Coordinator referred the meeting to the report of the 9th SPC Standing Committee on Tuna and Billfish (SCTB 9), where it was mentioned that a member of staff would be taken on shortly to renew the work on national reports, including the Cook Islands. He outlined several ways in which national fisheries authorities could assist SPC in preparing these analyses, including the compilation of historical information and unpublished reports.

63. The representative of Papua New Guinea thanked the Oceanic Fisheries Coordinator for the comprehensive report, on his ability to achieve so much since the last RTMF, and for facilitating teamwork amongst his staff. She thanked SPC specifically for the assistance with a port sampling workshop in PNG which had enabled national staff to take a greater part in

the national tuna-fishery management exercise. The country reports had been very useful, particularly in assisting access agreements with distant water fishing nations. She said that several national scientists had now been assigned to tuna monitoring and assessment, and she thought that Papua New Guinea was starting to realise that tuna fisheries were the 'bread and butter' of the nation.

64. The representative of the Solomon Islands thanked the Oceanic Fisheries Programme for the bio-economics work done for the Solomon Islands, particularly on behalf of the two national tuna companies. He asked if there were any possibility of SPC organising attachments for national officers whilst country reports were being compiled? The Oceanic Fisheries Coordinator thought this was a constructive suggestion and said that the OFP would welcome such attachments in principle. There were obvious financial consequences but the Oceanic Fisheries Programme had already approached a potential source to cover the attachment of a PNG scientist to a national activity, and would attempt to extend this type of attachment to other cases. He noted that such activities were attractive to those donors who had a commitment to training and national capacity development.

65. The representative of Papua New Guinea also raised the issue of improving national capacities for tuna research. She noted that Papua New Guinea had access to several sources of assistance for postgraduate scientific training, and wondered if tertiary students could be attached to the Oceanic Fisheries Programme. The Oceanic Fisheries Coordinator said that this was a more formal type of attachment where SPC was conscious of needs, and that SPRTRAMP already included two postgraduate research attachments. There was the possibility of more, but he asked representatives of tertiary institutions in the region if they would care to comment.

66. The Marine Studies Programme coordinator of USP said that there was one postgraduate student from USP on attachment to the Oceanic Fisheries Programme already. USP was willing to facilitate all collaboration of this sort and students did not have to be based only in Suva. The representative of Guam said that the University of Guam welcomed postgraduate students and that other SPC member countries and territories should get in touch if they were interested.

67. The representative of Papua New Guinea said that the Oceanic Fisheries Programme scientific observer activity obviously required experienced staff, but was there any possibility of graduating students being employed in any observer work? The Oceanic Fisheries Coordinator said that there were constraints on SPC's capabilities to employ observers, and the limited number of posts available were currently filled. However there were likely to be more opportunities in national observer programmes arising in the future as monitoring capabilities expanded.

68. The representative of New Caledonia recalled discussion about training sessions for national observers, and asked if any regional sessions would be held in the future. The Oceanic Fisheries Coordinator said that most observer training had been held at the national level in collaboration with FFA, and involved a large number of participants. A completely regional course would have to involve an enormous number of people, and would be impractical to organise. He suggested that for the francophone territories, a joint workshop at one location could be possible in future using SPC translation assistance.

5.2 Reports of the Standing Committee on Tuna and Billfish

69. The Oceanic Fisheries Coordinator then introduced the reports of the three Standing Committees on Tuna and Billfish that had been held in the interval since the previous RTMF. First, he reviewed the terms of reference of the Committee as being a non-constituted peer-review mechanism for the scientific work of the Oceanic Fisheries Programme, and as a means to facilitate the provision of statistical data on regional tuna fisheries to SPC, particularly by non-SPC member countries. In passing, he noted that funding was increasingly problematical and that attendance at future Standing Committees on Tuna and Billfish would probably have to be funded entirely by participants. The Committee normally agreed a list of action items for the guidance of members, and might make recommendations to RTMF. The Oceanic Fisheries Coordinator explained the action items that had resulted from previous Standing Committees on Tuna and Billfish, and the actions that had been taken to address them. This presentation addressed Information Papers 22 and 23.

70. The latest Standing Committee on Tuna and Billfish (No. 9) forwarded recommendations as follows to RTMF:

SCTB9 Recommendation 1

SCTB9 urged the Oceanic Fisheries Programme to continue efforts to secure stable funding for the Programme. SPC core-funding for critical positions within the Oceanic Fisheries Programme would provide considerable assistance in this regard.

SCTB9 Recommendation 2

The Oceanic Fisheries Programme should secure, as a priority, funding support for those activities previously identified as high priority, but not currently guaranteed funding. Maintenance of the catch/effort database and statistical monitoring had been identified as one such broad activity, for which funding is not guaranteed.

71. The representative of Fiji asked what was the official status of the recommendations of the Standing Committee on Tuna and Billfish. The Oceanic Fisheries Coordinator said that these recommendations were for the consideration of RTMF, and that the normal way of dealing with them would be for RTMF to discuss and pass them on to CRGA for further discussion and transmission to Conference for approval, and for implementation by the Secretariat. The Fisheries Programme Manager pointed that this was a very involved process, and also that there was a problem in that there were at least two Standing Committees on Tuna and Billfish between every RTMF. He suggested that this issue might be discussed during agenda item 15, to decide on the future of RTMF. The Oceanic Fisheries Coordinator noted that the recommendations of the last two Standing Committees on Tuna and Billfish were essentially identical, so this higher meeting frequency was not a particular problem at present, but it would need to be settled at some point.

5.3 Report of the Sixth Meeting of the South Pacific Albacore Research Group

72. The Oceanic Fisheries Coordinator explained the background of the South Pacific Albacore Research (SPAR) Group as an ad-hoc multinational group of scientists interested in

developing a more rigorous assessment of the stock of albacore tuna in the South Pacific. SPAR met regularly only from 1989 to 1991 to address the concerns that the region had raised about the unknown effects of the greatly increased scale of the driftnet fishery at that time. This sixth meeting in Rarotonga was funded largely by the Government of Taiwan, and met for the purpose of reviewing recent achievements in the development of a model of the southern albacore stock (SPARCLE), and to review the status of the fishery since the previous SPAR meeting in Papeete in 1993. This presentation addressed Information Paper 24.

73. There were no questions about the SPAR report.

5.4 Report on Technical Consultations

74. The Oceanic Fisheries Coordinator reported briefly on the Consultation that was held in Noumea two weeks previous to RTMF, jointly with FFA. This included consideration of possible scientific advisory mechanisms for a possible management arrangement for Pacific tuna fisheries. He noted that a Multi-lateral High-level Consultation on Pacific Tuna Fishery Management is planned for the first half of next year.

75. There were no questions on this report.

76. The Chairman thanked the SPC and particularly the Oceanic Fisheries Programme for its work, which was clearly appreciated by member countries and territories. He noted that the several requests for further assistance that had been mentioned by member countries were also an indication of the Programme's utility.

6. TECHNICAL SESSION 3

6.1 HACCP – Regional Implications

77. The Post-harvest Fisheries Adviser chaired a session that provided an introduction to, and emphasised the growing significance to the region of, Hazard Analysis and Critical Control Point (HACCP) systems of quality control. The discussion under this technical session is reported in Appendix 3.

7. TECHNICAL SESSION 4

7.1 ICFMaP – Progress Report

78. The Fisheries Resource Adviser introduced the work of the UK Government-funded Integrated Coastal Fisheries Management Project (ICFMaP). The Inshore Fisheries Scientist and the two ICFMaP attachment officers presented the results of fisheries management plan subprojects. The discussion under this session is reported in Appendix 4.

8. COASTAL FISHERIES PROGRAMME OVERVIEW

8.1 Capture Section

79. Lindsay Chapman, who recently joined the SPC Fisheries Programme as Fisheries Development Adviser (FDA) in place of Peter Cusack, introduced the work of the Capture Section and referred the meeting to Working Paper 3 and Information Paper 16. The main focus of the work of the Section over the past two years has been assisting member countries and territories in the development of fishing associated with Fish Aggregation Devices (*payaos*), and the development of small-scale longlining.

80. In talking about the future of the Capture Section, the FDA emphasised that there was a clear need for a growing level of support to small-scale longlining development in Pacific Island countries and territories, including several requests that had arisen during this RTMF already. This obviously had funding implications.

81. The Masterfisherman addressed Information Paper 15 and also referred the meeting to the latest issue of the SPC Fisheries Newsletter where the Capture Section's assistance to the Federated States of Micronesia's National Fisheries Corporation longline fleet was described on page 4.

82. The representative of the Solomon Islands took the opportunity to thank the Capture Section for assistance provided towards Solomon Islands fisheries development. He said that this was an area of assistance that was still much-needed by member countries and territories. He was concerned about the need to secure funding to keep the section running, and he felt that consultancy services were probably a good way of maximising the value of scarce funds in the short-term. He noted that local consultants were likely to be available to carry out local work in some countries and territories, where such skills were available, and that this option should be borne in mind when choosing consultants. Solomon Islands currently had a rural fisheries establishment project funded by EU, originally based on deepwater snapper as a target species. He noted that the deepwater snapper resource was limited in scope, and that the Solomon Islands would appreciate some assistance from SPC in helping to expand fishing activity into small-scale tuna longlining, which is less resource-limited.

83. The representative of Fiji appreciated the 'troubleshooting' skills of the current Masterfisherman, and felt that the new FDA had put his finger immediately on some very pertinent points. He noted that the inter-relationship between different sections of the SPC Fisheries Programme was important, and he suggested that publication of the FAD handbook would have been more timely if the coordination between sections had been better. He was a little surprised that the section that deals with the practical development of oceanic and offshore fishing techniques was still in the Coastal Fisheries work area, but if this was an administrative convenience he suggested that coordination with the Oceanic Fisheries work area should be prioritised. He suggested that this might be an appropriate area for the meeting to make a recommendation to the South Pacific Conference.

84. The representative of Western Samoa asked how many national requests were outstanding with the Capture Section. The FDA replied that there were only two official requests outstanding, one of which was received shortly before the meeting, and the other of which

would be actioned shortly after the meeting. Few official requests had been received over the past two years, and those had been fairly promptly dealt with.

85. The representative of Western Samoa said that he had been led to believe previously that there was a large backlog of requests, particularly for the services of Masterfishermen, and if that had been so, he had been going to lobby for extra support to this programme. He understood that recommendations had been made by RTMF several times previously, based on the apparent shortage of Masterfishermen to fulfill existing requests. The FDA replied that *official* requests had been met up to present, but that there had been a lot of verbal requests and interest by fisheries departments (including at least 5 already at this meeting) that did not reach the official stage when it was made clear that the section currently had a limited capacity to respond. The Masterfisherman pointed out that the vacancies in the Masterfishermen posts were known to all, and thus official requests would not have been made despite the apparent need.

86. The representative of Nauru agreed with this, and pointed out that his country saw no point in making a request when it was known that the capacity was still under-strength at SPC. He knew, however, that countries would use the assistance if it were available. Speaking for his own country, he noted the changing economic emphasis in Nauru recently, and the urgent need for practical small-scale longlining and FAD development advice and assistance. He emphasised that the need for Masterfishermen could not be judged on the volume of official requests to SPC, given the general knowledge about the current staffing shortfall in the Capture Section. He felt that the region had received a very good service previously from the Masterfishermen.

87. The representative of Kiribati associated himself with the statements by other representatives, and wished to make use of the services of the Capture Section in the near future. He also wished to introduce an additional consideration—that of the possibility of assistance or advice on artificial reefs.

88. The representative of Fiji suggested that the catch rates of small-scale longlining could be improved through livebait aquaculture, and wondered how SPC could help here. He also wondered how the loss of the FDO post would affect the ability of the section to deliver services. The FDA referred the aquaculture comment to the later session devoted to this issue, and said that that the loss of the FDO would obviously further reduce the ability of the section to provide a service to the region.

89. The representative of Tuvalu appreciated the outstanding work done on their national FAD programme by SPC, but wondered how it would now be possible to take the next step of developing fisheries to optimally utilise these FADs if the Capture Section reduced its service. The development chain would be broken. He thought that several countries were in the same situation, where a development path had been embarked on, but where the actual stage of commercial export had not yet been reached. Tuvalu would like to see SPC assistance continue, and if funding were the problem, then SPC ought to give special priority to this section.

90. The representative of Papua New Guinea said that her country had greatly benefitted from the work of the Coastal Fisheries Programme, and that recent changes in national fisheries

administrative structures meant that rural administrations in Papua New Guinea would be requiring the national government to request more and more assistance from SPC. She noted that the Coastal Fisheries Coordinator (CFC) vacancy was likely to severely prejudice the capability of SPC to deliver services in general.

91. The Fisheries Programme Manager said that the hiatus of 18 months without Masterfishermen, and the strong views expressed by member countries and territories, had made it necessary to fill the Masterfisherman position as top priority. The CFC position became vacant and was one of the very few core-funded posts in the Fisheries Programme. It was thus the only funding source at the time flexible enough to turn to the purpose of recruiting the Masterfisherman, and that this was a decision that had been agreed by all Coastal Fisheries Programme staff. However, the outstanding question of the eventual filling of the CFC post would have to be considered by this meeting. The Fisheries Programme Manager additionally agreed that cohesion and collaboration between SPC fisheries sections was an important issue, and that there would be an opportunity to discuss this in the following day's session.

92. The Fisheries Programme Manager felt that there was a need for the region to re-focus economic *development* activities away from commercial coastal fisheries and onto the more abundant tuna resources, and that small-scale tuna longlining and FAD-fishing would be very important. There were many reasons for the long development path towards an economically-viable fresh-fish export industry, but efficiency of fishing and harvesting practices were still the fundamental factors determining success or failure. In an aside, he announced that the manager of the Sydney Fish Market, Graham Crouch, was present at the meeting to provide advice, and that the market would play an important role in the development of the fishery as an economic activity.

93. The representative of the Northern Marianas said that his territory was also a member of the Western Pacific Fisheries Management Council and, being close to Guam and Hawaii, had witnessed all the changes in this longline fishery. He saw the SPC Masterfisherman programme also as a tool to help governments manage fisheries. A great amount of money was becoming tied up in this fishery, and it was becoming more and more difficult for departments to justify and accomplish any changes. He felt that the SPC Masterfishermen and training courses helped bring together the fishing community and fisheries administrations, acting as a kind of independent arbitrator, and helped both partners to see things in a new light. The interaction and excitement generated by the arrival of a Masterfisherman had value in its own right. He hoped that the Masterfisherman programme could be considered a permanent body within the SPC organisation.

94. The representative of the United States of America appreciated the Masterfisherman's guidelines on appropriate longline vessels. He asked if the Masterfisherman could expand on the relative benefits of buying used vessels versus building new vessels for longlining. The Masterfisherman suggested that there were so many existing vessels on the market that second-hand purchase would have to be the first choice. However, the availability of spare parts had to be a primary qualifying factor when considering buying a second-hand vessel. 'Mainstream' brands, particularly of engines, were usually safer.

95. The University of the South Pacific Marine Studies Programme (MSP) coordinator said that the USP Marine Studies Programme had assisted in past times in Samoa and Fiji with FAD deployment, and he reminded the meeting that this capability was still available.

96. The representative of the Cook Islands presumed that the parameters for optimum longline vessels presented by the Masterfisherman were based on suitability only for fishing. He said that in the Cook Islands, the type of vessel was also defined by the availability of air-cargo space out of the country and by constraints on wharf space. Just one vessel of the size that the Masterfisherman recommended might take up the entire current national post-harvest capacity.

97. The representative of Tonga pointed out his country's awareness of SPC's funding constraint, and that it had approached FAO for assistance with longline-vessel optimum characteristics. He noted that these findings agreed very well with those of the SPC Masterfisherman.

98. The representative of the Solomon Islands suggested, based on the feeling that seemed to be coming out of the meeting, that a recommendation be made that the Secretariat make all possible attempts to keep the Fisheries Development Officer on the SPC staff establishment.

99. The representative of Niue wanted to join with other participants in emphasising the need for cohesion between SPC sections, but also for coordination with other programmes such as FFA.

100. The representative of Western Samoa appreciated that there was a lot of support for the Masterfisherman programme, and had posed his original question in order to obtain the views of other participants. As Western Samoa had stated in the past, he felt that there was an indisputable need demonstrated. He felt that it was regrettable that SPC's CRGA had not given due priority to the wish expressed by this meeting, indeed from two successive meetings. He wondered if this meeting would give priority consideration for another strong recommendation that Masterfishermen be funded through a core budget project and this be rated as the highest priority activity within the Coastal Fisheries Programme. He said that this recommendation needed to be given great weight in order to carry it through CRGA.

101. The Chairman asked the representatives of Fiji, Solomon Islands and Western Samoa to draft appropriate recommendations for consideration by CRGA, and these were agreed as follows:

Recommendation No. 1

The meeting recognised the importance of the Coastal Fisheries Programme to the development of domestic fisheries within Pacific Island countries and territories. The meeting also acknowledged the need for increased collaboration between the different sections that make up the Coastal Fisheries Programme, and between the Coastal Fisheries Programme and other relevant organisations, to ensure a unified approach to all aspects of fisheries development. The meeting recommended the continuation and strengthening of the Coastal Fisheries Programme, including increased collaboration

between the various Coastal Fisheries Sections for the development of funding proposals and their implementation.

Recommendation No. 2

The meeting noted with grave concern the low priority accorded by the CRGA for the development of the Capture Section through its past decisions, despite the growing interest and demand by Pacific Island countries and territories in developing their own domestic commercial offshore fisheries (tuna longlining, FAD deployment and associated fishing techniques, and deep-water snapper fishing), as part of their overall fisheries development plans. The meeting as a matter of top priority, strongly supported the continuation and strengthening of the Capture Section of the Coastal Fisheries Programme, to ensure that the needed services required by Island countries and territories are effectively delivered in a timely manner. Accordingly, the meeting recommended as its highest priority that the number of core-funded qualified Masterfishermen be increased to three, that core funding should also cover activity and operation costs, and that adequate support staff be maintained in Noumea for the Capture Section, to ensure that the growing demands for the services of this Section by Island countries and territories are met.

Recommendation No. 3

Concern was expressed by some delegates that the position of Coastal Fisheries Coordinator had not been filled and that this was needed to facilitate greater collaboration and coordination between the Sections of the Coastal Fisheries Programme, as well as providing a focal point for seeking extra-budgetary funding for the whole programme from donor organisations. The meeting recommended that the position of Coastal Fisheries Coordinator be maintained under core funding, and filled as a matter of priority.

8.2 Training Section

102. The Fisheries Education and Training Adviser (FETA) described SPC's fisheries training activities, referring the meeting to Working Paper 3 and Information Paper 13. The Fisheries Training Officer (FTO), provided additional detail, particularly on the Training Section's assistance to SPC member countries and territories in human resource development (HRD) planning.

103. The representative of New Caledonia thanked the Training Section for its activities. New Caledonia supported this because training activities required continuous follow-up and were a continuing necessity. He was pleased to note the successful collaboration between New Caledonia and SPC in training, including hosting the Nelson Polytechnic practical course in 1994 and 1995, and welcomed the production of various resource materials by the Section. He felt that the support to development of national fisheries training structures was especially important, and noted that the training materials produced by the Section are very useful to local institutions like the *Ecole des métiers de la mer* of New Caledonia.

104. The representative of Palau noted that an HRD plan for the Marine Resources Division had been produced with SPC assistance several years ago, and was interested in developing this further and exploring ways of taking more concrete action.

105. The representative of Nauru said his country had just finished setting up the 'safety at sea' public awareness programme. SPC assistance was very useful, and he said that this activity would continue at the national level. He encouraged other countries to use the SPC training modules, since they could greatly assist in running workshops.

106. The representative of Wallis and Futuna thanked the Training Section for the FAD training skills work it had carried out. One particular point was raised concerning business training. He noted that 90 per cent of the population of Wallis and Futuna was presently in the subsistence economy, and he hoped that business training like this might assist in the creation of employment opportunities within the local fishing community. He asked other member countries and territories to express support for this type of training.

107. The representative of French Polynesia expressed appreciation for SPC training activity, and all the efforts that had been made that had benefitted his territory.

108. The representative of Kiribati joined the meeting in expressing appreciation for SPC's fisheries training activities. Concerning future directions, he noted that the development of national training programmes would continue to need regional advice and assistance for some time to come, particularly artisanal and small-scale fishing activities.

109. The representative of the Marshall Islands said that his country was developing a domestic small-scale longline fleet, and a fisheries training centre in Majuro would be complementing this development. There was also the capacity for sending students abroad for advanced training, and he requested SPC's assistance in coordinating this.

110. The coordinator of the USP Marine Studies Programme congratulated the Training Section on its excellent practical work and noted that some of the training materials produced by this SPC activity are also used by USP. He appreciated FETA's assistance as an occasional member of the Marine Studies Coordinating Committee. He noted that USP's marine public education activity would have to be scaled down now that Canadian funding was drawing to a close. Like SPC, USP had been asked to take marine sector staff onto core funding, and this had not been prioritised highly in the central planning process. He noted that the CSPODP-II had been approved recently (to run from 1997–2002), and that Canada had decided not to fund activities at either SPC or SOPAC. However, he noted that it had been determined that funding might be channelled to these organisations through other organisations, and the views of this RTMF were urgently solicited. There would be an opportunity to restructure the whole funding programme and establish new priorities in the near future, and the USP MSP coordinator could convey the views of this meeting to CIDA in Ottawa at the end of the week.

111. He also drew the attention of the meeting to the fact that the SPC women-in-fisheries activity overlapped considerably with the USP marine public education programme, even though they were both funded from the same Canadian source. The possibility of merging these two programmes ought to be considered. Professor South added that the two new foci

for Canadian assistance appeared to be 'gender' and the 'private sector'. There was still an opportunity to come up with a joint programme that might be attractive both to the region and to the donor.

112. FETA thanked the meeting for its support for the training work programme, and suggested that this might be most constructively summarised into formal recommendations by the meeting. He further invited discussion of the issues raised by USP concerning Canadian funding. The Fisheries Programme Manager emphasised that this was an opportunity for the region that should not be lost. The USP Marine Public Education Programme had been of great value in bringing the region's reliance on marine resources to the forefront of public attention. Despite the importance of the sea to the Pacific Islands, there was surprisingly little attention paid to this in school curricula and in public dialogue. He felt that this meeting could help keep this programme alive.

113. The representative of Fiji wished to comment on this suggestion, but meanwhile took the opportunity to express appreciation for the work of the Fisheries Training Section, particularly the Nelson Polytechnic course that had so contributed to the development of the human resources of the region. He felt that SPC might also usefully develop the concept of the long-term training attachment of Pacific Island Fisheries Officers as a general policy. He thought that the example provided by the ICFMaP attachment officers towards better stock assessment and management was a particularly relevant future direction. Also, although there had been considerable training in the use of computers in the past decade, there was a need to continue this. He additionally suggested that the meeting give a full mandate to Professor South to represent the expressed wishes of the meeting in his negotiations with the Canadian Government.

114. The representative of the Solomon Islands supported the suggestion by the representative of Fiji that the sentiments of the meeting be conveyed through Professor South. He also appreciated the training activities provided by SPC, and indicated that some of the activities were very important to the development of the rural fishery sector. He subsequently wished to inform the Training Section that a request for assistance with FAD deployment would be submitted to SPC by Solomon Islands soon.

115. The SPC Women's Fisheries Development Officer (WFDO) said that she had attended a Pacific Science Congress in Townsville, and was impressed by the output of the USP marine public awareness programme that was presented. These materials subsequently proved to be very useful in a national educational programme. She felt that there was a lot of scope for a joint programme with USP along these lines and would be very supportive of such an initiative.

116. The chairman asked if the appropriate countries and the Secretariat could work together on the wording of recommendations to express the views of the meeting about the training issues considered thus far. These were agreed by the meeting as follows:

Recommendation No. 4

In recognition of the importance that national fisheries training institutions play in the implementation of in-country training programmes, the Meeting recommended that the Commission further assist with the strengthening of national training capacities and, wherever possible, should collaborate with local institutions. This assistance and cooperation could include, but not be limited to, activities such as tutor training and planning of staff development, the production of resource materials and the development of new programmes.

Recommendation No. 5

In view of the need to support the development of commercial fishing activities in the region, and as a means of enhancing job opportunities, the meeting recommended that the Commission continue to implement training programmes for the artisanal and industrial fisheries sectors. Priority areas for training should include, as far as possible, all aspects of technical and management skills required to successfully operate commercial fishing enterprises.

Recommendation No. 6

The Meeting recognised the value of the USP Public Marine Education Project as an important vehicle for dissemination of information on issues relating to rational and sustainable utilisation of marine resources, and that it should continue as a collaborative effort between the regional agencies with appropriate complementary competencies. In this context FFA, SOPAC, SPC, SPREP and USP are regional institutions that, in working together, could produce a comprehensive and effective programme. In recognition of this, the meeting recommended that SPC should, together with USP and possibly the named regional agencies, explore every opportunity to continue the Public Marine Education Project as a regional multi-agency programme.

117. The representative of Western Samoa understood that the meeting had expressed considerable support for Professor South to carry the views of the meeting to Canada, but was not sure that a recommendation was the correct constitutional way to proceed, since recommendations were for the benefit of CRGA, and this would not sit until October. He suggested that a letter from the Chairman would be more useful.

118. Professor South agreed, and said that it was the views of *this* technical meeting that were important. He also noted that it was the view of a previous RTMF that had been extremely influential in originally getting the Pacific Islands Marine Resources Information System (PIMRIS) started, and also the USP post-harvest fisheries centre.

119. The Fisheries Programme Manager pointed out that recommendations from RTMF had to go to CRGA and Conference for approval, and any recommendations would thus not be endorsed until the end of the year. He suggested that a letter of support from the Chairman would have some value to Professor South in carrying out the immediate task of negotiating

with CIDA on behalf of the region, but that this could also usefully be given additional formal support via a recommendation for later endorsement by CRGA.

120. After this discussion on the future of fisheries training in general, FETA described the Nelson Polytechnic/SPC fisheries officer training course. The views of the meeting on the future of this course were invited since the value of funding for this course had gradually devalued over the years, and the number of fisheries officers that it was now possible to sponsor on the course (9) was falling below viable levels.

121. The representative of Western Samoa reassured FETA that the Nelson course was considered to be an essential part of the training of all promising fisheries officers, and very much hoped that funding would be found to continue. He noted that departments were continually taking on new recruits and that many nations were too small to develop the required type of specialised training under their own resources.

122. The representative of Nauru pointed out that the great strength of the Nelson course was its practical hands-on nature, and that Nauru also considered it an essential stepping-stone in staff development. He further noted that fisheries staff development was like a 'never-ending story' at this current stage in the region's history, and that the Nelson course was exactly what the region needed. He strongly supported all attempts by SPC to see this activity continued.

123. The representative of Palau said that his country strongly recommended that the course continue. Palau was looking at the development of State fisheries departments now and had identified at least nine officers who would benefit from such training.

124. The representative of Kiribati made a supportive statement based on his personal experience of the Nelson course. The representative of the Cook Islands then summed up the support of the meeting, but pointed out that the 'bottom line' was funding. Perhaps the Secretariat could provide more information, and was there the possibility of continuing the course in a slightly different form if full funding was unavailable?

125. FETA said that the major donor had expressed a wish that the views of the meeting be sought in order to justify a further cycle of funding, if such a justification was indeed possible. He said that several options for modifying the structure of the course to reduce costs had been considered, and some of these were described. The average full cost of funding one participant to the course was US\$15,000 (including all travel expenses and living costs). He said that one of the problems was that the Commonwealth Secretariat had a new policy on training assistance: to fund only course costs and not travel, and that this affected four participants every year. Taking this trend a little further, one option for the future would be to ask countries and territories to cover the travel costs of all participants, and if this could be done it would enable the number of participants on the course to be increased back up to 12.

126. Mr Alastair Robertson then ran through various options for reducing the cost of the course at Nelson Polytechnic. Most of these involved reducing the scope of the course in various ways, such as cutting the two-week industrial attachment, or dropping the one-week visit to the Greta Point laboratories in Wellington (most of these additional costs were in accommodation). But all of these cuts would only allow one additional student to attend.

127. The representative of the Cook Islands thought the meeting could not settle the details of the cost-cutting exercise, but wondered what broad options were recommended.

128. The Fisheries Programme Manager suggested that it might be time to seriously consider some form of cost-sharing by participating countries and territories. He noted that bilateral donor assistance had been used in the past to support national participants on the course, but suggested that there had to be some sort of mechanism for cost-sharing eventually.

129. The representative of Western Samoa hoped that there was more than one option available, and suggested that the prospect of cost-sharing ought to be on a voluntary basis to start with. It would require some time for the national budgetary process in many countries and territories to accommodate a completely new and major item like this.

130. The representative of the Cook Islands suggested, in the interests of efficient procedure, that the Secretariat put together a written list of options and their costs, and that these could be considered by the meeting for decision at a later session. The Secretariat agreed to collaborate with the representative of Nelson Polytechnic to do this.

131. The representative of New Zealand said that he had not been aware of the extent of the effect that inflation had had on the operation of the course, and that when he returned to his office he would flag this with the appropriate authority. He also said that the extremely strong support expressed by the meeting for the Nelson Polytechnic course was notable, even taking into account that at least three of the member country representatives sitting at the table were graduates of the course. He said that this support would obviously be taken into account in New Zealand's future plans for funding this activity.

132. Later, on the last day of the meeting, the Fisheries Education and Training Adviser presented the results of an exercise to list alternative options for maintaining or reorganising the SPC/Nelson Polytechnic training course for Pacific Island Fisheries Officers, taking into account growing funding constraints. Captain Alastair Robertson then addressed IP 38 which summarised the costs associated with the Nelson Polytechnic Training Course, amounting to US\$ 189 000. The revenues available from the donors and the SPC for the 1997 training course amounted to only US\$ 144,000 of US\$ 15,750 dollars per student, with a shortfall of US\$ 45 000. The training course needed about 12 students to be cost-effective, but might be able to handle up to 14 students.

133. To cope with the shortfall, Captain Robertson outlined various options that were explored by the Secretariat. The first was to try to increase donor funding, but this appeared not to be a realistic option, as donors did not appear willing to make such increases. The second option was for member countries and territories to seek bilateral assistance for individual course participants from New Zealand via New Zealand consulates and possibly from other countries such as Australia and France. A third option was to look at the course budget and to see where savings could be made without compromising the course content. A two-week fish factory attachment for the students could be reduced to one week, with tuition at the School of Fishing, and involve day visits to fish factories. A one-week visit to the Ministry of Agriculture and Fisheries Laboratory in Wellington could also be terminated, with tutors at the School of Fishing giving courses in similar subjects. The total savings from reducing the course by two weeks would be only US\$ 16,000.

134. The fourth option was to initiate some form of cost-sharing, for example for member countries and territories to cover the costs of the students' airfares. This option would be unfair, as there were different fare prices between different member countries and territories and New Zealand. Instead, the budget shortfall for the 1997 course of US\$ 28,000 (if cost savings are made from reducing the course by two weeks) could be recovered in the form of a course fee. When this was divided by 12 students, it amounted to US\$ 2,384 per student, and this and future course fees estimated in a similar manner could be announced each year in the savingram sent to member countries and territories seeking nominations for the training course.

135. The representative of New Zealand stated that setting some form of course fee seemed inevitable but this might have some positive aspects. There would be no better measure of the value of the course than the necessity of paying for it. Given the costs involved, this might also result in more careful selection of candidates and this might in turn benefit the individuals and the member countries and territories.

136. The Fisheries Programme Manager said that during a recent visit by representatives of the Commonwealth Secretariat (ComSec), it was stated that they would only fund course fees, and that countries and territories would have to cover the cost of participants air fares. However the Fisheries Programme Manager thought that if countries and territories accepted the option of paying course fees then ComSec might review its policy and not insist on them meeting the additional costs of airfares.

137. The representative of Kiribati asked if member countries and territories close to New Zealand could be allowed to pay airfares rather than course fees as it would be easier to buy a student a plane ticket than to give them the money to carry to New Zealand to pay for the course.

138. The Fisheries Education & Training Adviser (FETA) replied that this would result in member countries and territories paying different amounts for course participation. Further, the course participant would not be expected to pay the course fee on arrival in Nelson, but this would be paid directly into the Commission by telegraphic transfer of funds.

139. The representative of Western Samoa suggested that from the perspective of a treasury official in Western Samoa, it might appear more attractive to keep the money in the country by paying for the student to travel to New Zealand on the national airline.

140. The Fisheries Programme Manager reminded the meeting that the total cost of airfares involved not only travel to New Zealand but also to the member country or territory which was hosting the practical module.

141. The representative of the Marshall Islands stated support for the general concept of course fees, but noted that the Marshall Islands would have its own funding problems when the US Compact money terminated in the near future. Could the Secretariat assist in identifying additional sources of funds to support member country and territory participation?

142. The FETA replied that he would of course try again to seek more donor funding, but the Savingram seeking participant nominations would have to be sent out by the end of August,

and it was necessary to know immediately if the 1997 course could indeed be held, by asking member countries and territories for some commitment to assist with financial support through mechanisms such as course fees.

143. The representative of Papua New Guinea endorsed the concept of a course fee in this case and agreed with New Zealand on the appropriate selection of candidates. However, Papua New Guinea was unsure about participation in 1997 if the course fee is to be introduced immediately. The 1997 PNG fisheries budget was currently being reviewed, and a course fee for the training course had not yet been planned for.

144. The Solomon Islands sought clarification of the options proposed by the Secretariat with respect to introduction of the course fee.

145. Captain Robertson then explained again how savings could be made, and how the shortfall remaining was divided on the basis of 12 students to obtain the course fee.

146. The representative from the Solomon Islands agreed with the sentiments expressed by New Zealand that having to pay for the course might ensure selection of better candidates. However, like Papua New Guinea, the Solomon Islands 1997 fisheries budget was currently being reviewed and it might be hard for the Solomon Islands, and possibly most other member countries and territories to meet the demand for a course fee during this national budgetary cycle. The Solomon Islands might be able to divert US multilateral tuna fishery access revenue, as this was mostly used for fisheries activities. The Solomon Islands therefore supported the suggestions of New Zealand and Papua New Guinea, and suggested to the meeting that the various fisheries administrations emphasise the importance of the fisheries training course to their respective governments.

147. The representative of Palau asked if the shortening of the training course would reduce its efficiency. He said however, that Palau did not have a problem with concept of a course fee, and recognised the value of the training course.

148. The representative of Western Samoa endorsed the comments of the previous speakers, and suggested that the meeting approve the Training Project setting a course fee, so that the Savingram could be dispatched on time. However, in the interim, the Training Section and the Secretariat were encouraged to continue to seek funding from donors to offset the additional costs to member countries and territories incurred by the course fee, until appropriate internal budgetary arrangements could be made. A possible alternative suggested by the representative of Western Samoa was that if some member countries and territories could not immediately pay the course fee, then a reduced number of participants might be fully funded from available financial resources.

149. FETA thanked the meeting participants for their valuable suggestions and discussion, and replied to the representative of Western Samoa that negotiations with the Commonwealth Secretariat over the past three years had in fact secured an increase in funding, but that the devaluation of Sterling over the same period had reduced the true value of this contribution. FETA confirmed that the Secretariat would continue to negotiate with the Commonwealth Secretariat to secure increased funding. In response to Papua New Guinea and Solomon Islands concerns over their 1997 fisheries budgets, FETA suggested that they and other

member countries and territories approach New Zealand consular officials to get some bilateral support for participation in the Nelson training course for an interim period.

150. The Fisheries Manager noted the point made by the representative of Western Samoa that a smaller number of participants in the training course could probably be totally funded by existing funding resources. However, he encouraged the meeting to consider approving the concept of a course fee. As well as allowing the 1997 training course to proceed, it would send a positive message to donors of the value of the course to the region.

151. The Chairman finished the session by summarising the consensus of the meeting that the concept of a course fee is accepted, but that efforts to meet the funding shortfall by the Secretariat continue.

8.3 Resource Assessment Section

152. The Resource Assessment Section continued the presentations on the national fishery management plan subprojects that had been discussed under Agenda Item 6 (see Appendix 4). The SPC Coastal Fisheries Resource Adviser then opened discussion on future activities of the Resource Assessment Section.

153. He noted that the Integrated Coastal Fisheries Management Project (ICFMaP) was the major focus of activity in the Resource Assessment Section, and that funds under ICFMaP paid all staff salaries. Although there were three national subprojects still to accomplish, the project would come to a definite end in August 1997 and with it, the entire resource assessment and management advisory capability of the Coastal Fisheries Programme.

154. The representative of Guam asked if any attempt had been made to produce a general framework to assist the decisions of Pacific Island fisheries officers charged with the management of fisheries, and he suggested that this kind of aid to the evaluation of options would be very useful. The Fisheries Resource Adviser said that such a framework had not been realistically possible in the past, at least for Pacific Islands coastal fisheries, but that there had recently been some very important developments both in our basic knowledge of reef-fishery biology and ecology, and in our experience of practical reef-fishery management, and that it would be quite possible to produce a useful practical 'handbook' of this nature out of the work of ICFMaP once the national sub-projects had been completed and evaluated.

155. The representative of Fiji said that he didn't wish to appear to be revisiting the issue, but he wanted to emphasise the great utility of the type of attachment training being sponsored by the Resource Assessment Section through ICFMaP. It had noticeably elevated the technical competence of the officers concerned, particularly in their ability to make decisions on the management of inshore fisheries, and he was very happy that one of these attachment officers would be rejoining the Fiji Fisheries Division bearing this increased 'know-how'. He proposed that SPC should seek further assistance in sponsoring more practical educational attachments of this kind. He noted that the ICFMaP project was also developing the ability of member countries to provide the 'raw material' for making management decisions, and that coastal fishery management was one issue that Pacific Island fisheries officers faced on a day-to-day basis. He hoped that SPC would be able to come up with some continuation of

this activity, and felt that Guam's suggestion, for a handbook giving options to assist decision-making by Pacific Islands inshore-fishery managers, would be a very useful and evolutionary focus of extension for the project.

156. With limited time remaining, the Chairman summed up the general feeling of the meeting as being very impressed by the range of work accomplished by the Resource Assessment Section, and the strong hope that SPC would be able to continue its advisory and educational role in this very important and developing area for Pacific Island government decision-makers. He asked if a form of wording could be put together in a recommendation that would encapsulate this view to the SPC CRGA and South Pacific Conference for the guidance of future SPC work programmes. The text of the recommendation subsequently endorsed by the meeting is included as follows:

Recommendation No. 7

The Meeting expressed the general appreciation of the region for the breadth of work carried out by the Integrated Coastal Fisheries Management Project, and to the Overseas Development Administration of the United Kingdom for enabling this. Recognising the increasing importance that coastal marine resources are playing in both the subsistence and economic sectors of Pacific Island countries, the meeting welcomed the qualitative improvements in the information available for government decision-making that the project was in the process of developing, and particularly appreciated the practical educational potential that had been demonstrated by the process of attaching member government marine resource management officers to the project. It was hoped that SPC would be able to find the resources to continue the activities of the project in its present form, to extend activities to additional member countries and additional attachments. At the minimum it was hoped that resources could be found to support an extension of the project that would draw the coastal marine-resource management experiences of Pacific Island countries and territories together with recent advances in the ecology of reef organisms to provide a practical 'handbook' of coastal-fishery management options, and the Meeting asked the Secretariat to approach the Government of the United Kingdom with this possibility.

8.4 Post-harvest Section

157. The Post-harvest Fisheries Adviser (PFA) presented an account of work that had been carried out over the past two years, both as part of the Integrated Coastal Fisheries Management Project (ICFMaP) and under UNDP and other programme assistance. He drew the attention of the meeting to the draft recommendation that had been circulated as a result of the outcome of the technical session on HACCP (See Appendix 3).

158. The representative of the Solomon Islands mentioned some of the local benefits of SPC's post-harvest fisheries advice and also asked if the proposed SPC work on shell markets in Asia would include giant clam shells as well. The PFA said that the prospects for adding value to, and marketing, all types of shell in Asia would be considered. He was particularly

interested in getting some information towards a project that would help women to add more value to currently low-value shell production.

159. Nauru acknowledged and appreciated SPC Post-harvest Section assistance in drawing up a plan for a fish market in Nauru. He was particularly interested in further assistance with post-harvest work in general, and supported the continuation of sub-regional sashimi-grading workshops similar to the workshop that SPC had run in Pohnpei.

160. The Fisheries Programme Manager asked if the representative of the Solomon Islands could expand on the project that was in the pipeline concerning the export of maricultured live giant clams from the Solomon Islands. After referral, Dr Johann Bell of the ICLARM Coastal Aquaculture Centre in the Solomon Islands replied that a lot of attention was now being paid to *Tridacna derasa* as an animal that would grow well, and survive, and reach a reasonable size within two years, to address the 'sashimi' market for adductor muscle. A lot of work was also being concentrated on other species to address the aquarium market, but this market was not capable of much expansion hence the development of the 'sashimi' alternative.

161. The representative of the United States of America brought to the meeting's attention the existence of aquarium suppliers advertising on the World Wide Web, who claimed they could supply orders within three days from the Pacific. Some suppliers were actually doing 50 per cent of their business by this route. It was also noted that there were probably signs of a downward pressure on prices as a result of increasing availability of clams for aquaria.

162. After some discussion, the meeting endorsed the wording of the recommendation arising out of the HACCP technical session as follows:

Recommendation No. 8

The Meeting recognised the importance of complying with the new health regulations of major seafood importing countries, such as the USA and the EU countries, and the need to take urgent action to upgrade quality-assurance procedures for Pacific Island seafood exporters, based on the HACCP quality-assurance system. The Meeting recommended that the Secretariat take all necessary action to bring about these improvements to ensure that access to these markets can continue, and to allow the smaller states the opportunity to develop export industries. The Meeting further recommended that FAO should be approached to provide funding for a Technical Cooperation Project to assist member states to meet the requirements of major importing countries.

8.5 Women's Fisheries Development Section

163. The SPC Women's Fisheries Development Officer made a presentation to the meeting describing both the situation of women in fisheries in the region and the work of the Section in trying to address some of their problems. She noted that one of the biggest problems in this area was the lack of basic quantifiable information about the involvement of women in

fisheries in general, although there was some indication from the work of the Resource Assessment Section that the Pacific Island coastal-fishery subsistence sector (which involves many women) was probably four times larger than the commercial sector. As well as work accomplished, some options and priorities for future work were suggested, and the views of the meeting sought.

164. The representative of Papua New Guinea described some aspects of women's activities in fishing in her country. As in most Pacific Islands, women were heavily involved in the subsistence fishery, but were also becoming increasingly involved in commercial fisheries, particularly the post-harvest aspects. She strongly supported the idea of assessing national needs for development assistance and options for women.

165. The representative of Kiribati thanked the WFDO for the survey that had been carried out in Kiribati, and particularly for being able to follow this up with a (forthcoming) workshop.

166. The representative of Fiji was also appreciative. He said that most fisheries projects in Fiji needed to touch women, and he was disappointed that the funding for this area of work was coming to an end almost before it had been able to make an impact on the problem. This was an area which all fisheries staff needed to consider and include in their plans, and this SPC programme was a very positive influence in keeping this need in the forefront of consideration.

167. The representative of New Caledonia agreed with Fiji, that a great deal of work remained to be done, and that this work was too important to let it end without a fight. Although the funding constraints were understood, it should be possible to at least incorporate the principles into other sections of the fisheries programme, if the main project had to be terminated.

168. The representative of Papua New Guinea reiterated that women played a very large part in Papua New Guinea fisheries, and urged the Secretariat to make all possible efforts to continue the project. She additionally suggested that the Secretariat might approach the Papua New Guinea Government to discuss how aspects of this project might be continued.

169. The representative of the Cook Islands urged that women's fisheries activities should not be included under another fisheries section, as the activity might lose focus. He pointed out that gender issues are highlighted as areas for donor support, so by remaining separate, the section may have greater potential for attracting donor funds.

170. The representative of Palau said that his government was very supportive of the role of women in fisheries, and noted that in recent fishing competitions women had come first in almost all categories. Women were also becoming involved not only in coastal fisheries but in deepwater snapper fishing.

171. After summarising discussion, the chairman asked the representatives of Fiji and Papua New Guinea to draw up an appropriately-worded recommendation on behalf of the meeting for the guidance of the future SPC work programme. The text of the recommendation subsequently endorsed by the meeting is included as follows:

Recommendation No. 9

The Meeting recognised the important contribution of women in fisheries development and also the functions of the Women's Fisheries Development Section in supporting and developing the activities of women in the fisheries sector. The Meeting recommended that the Secretariat pursue every avenue to secure funding for the continuation of the Section.

8.6 Information Section

172. The Fisheries Information Adviser (FIA) presented the work of the Coastal Fisheries Programme Information Section to the meeting, referring to Working Paper 3 and Information Paper 27.

173. The representative of Niue said that the Information Section was one of the most essential sectors in the Coastal Fisheries Programme. He supported and commended the Section particularly on its training attachment. Niue would probably seek future Information Section help for local publications.

174. The representative of Papua New Guinea appreciated the very good work done by the Section, particularly the way the Section was working in integration with the other sections of the programme. She thanked SPC for the training that Henry Yule had received during his one-year attachment. She added that Papua New Guinea was currently creating an Information Section on fisheries, and would seek SPC advice in getting this section going.

175. The Fisheries Information Adviser mentioned that someone from the Information Section was due to travel to Papua New Guinea before the end of the year, and would give all the assistance needed to set up the local Information Section.

176. The representative of Guam said that the publications of the Fisheries Information Section were very useful and were used extensively as teaching tools.

177. The representative of Tonga asked if support would be available to improve the Ministry of Fisheries library. He also expressed concern about the delays between the compilation and publication of some SPC reports.

178. The Fisheries Information Adviser said that the Pacific Islands Marine Resources Information System Coordination Centre at USP had given considerable assistance in the setting up of national fisheries libraries, and they might be more appropriate to this task. He said that the delay in publications will definitely be shortened now that the Information Section was fully staffed (4 people). In future the Information Section would do everything possible to have the reports published in less than a year.

179. The Fisheries Resource Adviser added that although the final, public, version of a report has sometimes taken a long time to print in the past, the countries and territories concerned by the report always received a full draft, including the recommendations, within one month of the assignment being completed.

180. The representative of the Solomon Islands said that the Information Section was doing very important work, and should continue to work in close relationship with the other sections of the Programme. He asked if the Information Section was able to cover material coming from outside the region. The FIA said that the Information Section was making an extensive use of materials from outside the region. SPC had access to this information through its very efficient library and through its long-established contacts with fisheries workers in many countries and territories.

181. The representative of Papua New Guinea was strongly supportive of the idea of the creation of a Special Interest Group (SIG) on Women in Fisheries. She felt that this SIG should talk about fisheries seen through the activities of fisherwomen.

182. The representative of Niue supported the suggestion of the representative of Papua New Guinea concerning a new Special Interest Group (SIG) on women in fisheries. He asked what kind of help could the Information Section provide for the publication of materials similar to the ones prepared for the Safety at Sea campaign.

183. The representative of Australia tendered felicitations for the quality and the quantity of materials published by the Information Section. The materials were put in a form that made them very accessible and very useful, particularly for work in the Northern Territories and Torres Strait. Australia also supported the creation of a SIG on women in fisheries. This general view of the meeting was incorporated into a formal recommendation, on the request of the Chairman, as follows:

Recommendation No. 10

The Meeting recognised the significant involvement of women in fisheries activities. In order to facilitate the role of women in fisheries in the region through the exchange of ideas, knowledge and experience, the Meeting recommended that a Special Interest Group Bulletin on Women-in-Fisheries be set up under the SPC Fisheries Information Section. The Bulletin would serve as an information and communication network outlining the activities of interest and concern to women in the fisheries sector.

184. The representative of Kiribati thanked the Information Section for the very good work achieved. He asked what was the length of the training attachments. Were they always 4 weeks? The FIA said that normally the training attachment was a one-year contract for one trainee at a time, but that shorter periods of training (four weeks or six weeks) could be eventually organised. He said it was up to member countries to express their needs.

185. The representative of Palau asked if the help of SPC was still available for the publication of annual reports. The FIA said yes, and the Information Section strongly suggested that SPC member countries and territories seek its help for the publication of relevant material, and for the compilation of annual reports.

186. Ganeshan Rao of the PIMRIS Coordinating Centre at USP then briefly outlined the report of the Steering Committee that guides the activities of this multi-agency network of marine resource information services. This is contained in Information Paper 17.

187. The representative of Papua New Guinea thanked PIMRIS for its good work. She asked if Mr Rao, in referring to 'networking', was talking about computers. The PIMRIS coordinator replied that he was using the word in the sense of linking people, not the narrower sense of linking computers.

188. The representative of Tonga said that the person sent for training in Fiji was looking after computer networks, but Tonga still needed someone to be trained to look after the library. He acknowledged Mr Rao's proposition of assistance.

189. The representative of Western Samoa pointed out that PIMRIS was created after a recommendation made by RTMF some years ago, so this meeting should bear some responsibility concerning the future of PIMRIS. He suggested that the meeting make a recommendation to support PIMRIS in its search for funds.

190. The representative of Northern Marianas asked if PIMRIS has any plans for electronic publication and connection? Mr Rao said that PIMRIS was connected to the Internet for email, but pointed out that this connection did not allow the exchange of large documents. PIMRIS was investigating ways of getting this problem solved. The SPC Fisheries Resource Adviser added that only a few countries and territories in the Pacific yet had Internet connections, and that regional organisations had to keep this in mind when assessing the cost-effectiveness of electronic publishing.

191. The Integrated Fisheries Management Associate asked Mr Rao about the apparently limited availability of documents for postgraduates following courses at USP. Mr Rao pointed out that USP library is currently under review. He was also hoping that connection with other libraries in the region (e.g. ORSTOM) might improve the situation.

192. The representative of Tokelau emphasised the importance of information in small remote islands like Tokelau. He wondered what kind of support the RTMF could bring to PIMRIS to help it in becoming core-funded by USP, and not so dependent on extra-budgetary funds.

193. The representative of Western Samoa said that it was his understanding that it had been agreed some time ago that the PIMRIS Coordinator position would be taken onto the core budget of USP once Canadian funding finished. Mr Rao explained that no final decision had yet been taken by the USP governing body concerning this matter.

194. The Chairman asked the representatives of Western Samoa and Tokelau to prepare recommendations from the meeting concerning the funding of PIMRIS, which were agreed as follows:

Recommendation No. 11

Noting that the Pacific Islands Marine Resources Information System (PIMRIS), being a regional marine/fisheries information network of Pacific Island countries and territories and regional organisations (FFA, SPC, SOPAC, SPREP and USP), established by recommendations made by previous RTMFs, has now proved to be effective in providing marine/fisheries information services and technical assistance in

library/information management under the leadership of the PIMRIS Coordination Unit at USP, the meeting appreciated the role that USP has played in hosting the Coordination Unit. In view of the importance of the services of PIMRIS to Pacific Island countries and territories and emphasising the importance of technical assistance in marine/fisheries information management, the meeting recommended that USP take all necessary actions to continue supporting and sustaining the operations of the PIMRIS Coordination Unit.

Recommendation No. 12

Acknowledging the Canadian financial assistance received for the establishment of PIMRIS, including the PIMRIS Coordination Unit, and noting that the core activities of PIMRIS are information services, document delivery, information technological assistance to countries, and bibliographic database development, the Meeting recommended that the Canadian International Development Agency (CIDA) consider the continuation of support to PIMRIS activities under the CSPODP phase II funding cycle for the benefit of the Pacific Islands in fulfilling their marine/fisheries information needs.

9. TECHNICAL SESSION 5

9.1 Use of Live Milkfish as Longline Fishing Bait

195. The Fisheries Development Adviser presented a paper prepared by a consultant, Bill Fitzgerald, who was unfortunately not present at the meeting. This was presented to the meeting as Information Paper 14, and additional discussion on this interesting issue is included in Appendix 5.

10. REGIONAL INSTITUTIONAL REVIEW IN THE MARINE SECTOR

196. The Fisheries Programme Manager briefly spoke on Information Papers 3 and 4. He noted that decisions about the recommendations of the review that concerned the SPC Fisheries Programme had already been taken by CRGA, taking into account the discussion and decisions arising from the latest Forum Fisheries Committee, and that this item was presented to RTMF for information, rather than action, at this stage.

197. The Fisheries Programme Manager then asked the Fisheries Resource Adviser to present Working Paper 5 to the meeting, concerning the institutional future of the Coastal Fisheries Programme. It was emphasised that although several suggestions had been made in various fora, no clear direction had yet emerged and that the views of the meeting would be very valuable. It was also pointed out that the Coastal Fisheries Programme might need a more structured and formal strategic plan, or mandate, if it were to be taken into better account by the upcoming planning cycles of major donors. All of the multi-year projects of the Coastal Fisheries Programme would come to an end in 1996 or 1997.

198. The representative of New Zealand said that discussion of this item was much needed, given the views expressed in the previous few sessions. The Coastal Fisheries Programme covered a wide range of expectations and, unlike the Oceanic Fisheries Programme, it was hard to focus activities and plan the use of limited resources. He felt that it was time to make some tough decisions at the strategic level. The lack of guidance provided by the Institutional Review on coastal fisheries issues may have been disappointing, but the preparation of a strategic plan was now a matter of some urgency. SPC had to decide on the mission of the CFP. He pointed out that one of the lessons learned from the Oceanic Fisheries Programme was that the *image* of the Programme was very important, and direction, focus and initiative were all necessary. The CFP did not need a just a random collection of ideas, but a prioritisation of key elements at the strategic level as the foundation for the future.

199. The representative of the Cook Islands asked if the FRAD's description of the CFP as being 'the least formally constituted of the regional marine resources organisations' translated to 'disorganised', and if New Zealand's suggestion of the 'need for coordination' also meant that the Programme was disorganised. He felt that Working Paper 5 was merely a collection of ideas and provided no concept of where the Programme should be going. He found it hard to relate these ideas back to what his national fisheries department was actually doing. He felt that there were two fundamental needs that the CFP might address: the need for knowledge about resource potential (including markets) and the need for knowledge about how to sustainably manage resources (including knowing when *not* to take action). He said that the CFP needed a strategic plan, and perhaps a more formal constitution, and that it was up to the Secretariat to provide this. He suggested that country and territory representatives around the table could only offer suggestions.

200. The Fisheries Resource Adviser respectfully suggested that it was the prerogative of member countries and territories to actually *direct* the actions of the Secretariat, and that it was the Secretariat itself that was restricted to offering suggestions in this process. He pointed out that the Secretariat was willing and able to undertake the strategic planning process, but that the collection of ideas described in WP5 had arisen from member countries and territories themselves, and could not be ignored by SPC until they had been considered by the meeting. He welcomed the long-term views that member country and territory representatives were starting to put forward since they cleared the way towards a more positive process of action.

201. The representative of Western Samoa reflected on the previous discussion, then stated that part of the problem lay with member country and territory fisheries administrations. He noted the enthusiasm with which new projects were received, and how this generated requests for assistance. The representative of Western Samoa stressed the need to prioritise projects, and to decide which were the most important for national development. He also noted the possible competition for funds between projects, and the important role that RTMF should play in reviewing and redesignating priorities. The representative of Western Samoa also wondered about asking the forthcoming CRGA for an increase in the percentage of the core budget allocated to the Fisheries Programme. He commented on the size of Fisheries Programme in relation to other Commission programmes, and thought that CRGA should be advised that core funding should proportionately reflect this.

202. The representative of Niue supported statements by the representatives of New Zealand and the Cook Islands that the Coastal Fisheries Programme develop a more formal framework. He noted that earlier comments from the Fisheries Programme Manager about the attitude of the Commission's former management in allocating limited amounts of core funding to the Coastal Fisheries Programme because this Programme had previously demonstrated an ability to secure adequate funding from extra-budgetary sources. He suggested that the difficulties now encountered in obtaining extra-budgetary funding for the Coastal Fisheries Programme should be brought to the attention of CRGA, and that this programme needed a more realistic allocation of core funds.

203. The Fisheries Programme Manager harked back to the comments from the representatives of New Zealand and Western Samoa that Coastal Fisheries Programme resources were becoming too dilute to cope with all the issues and problems within the region's coastal fisheries sector. He said that it was Commission policy to undertake a review of one of its Programmes every two to three years and perhaps, in light of the comments from this meeting, a review of the Coastal Fisheries Programme was now timely. However, with the RTMF being held on a biennial basis it was necessary to look for an immediate mandate from this meeting to conduct such a planning exercise in the immediate future.

204. The representative of Guam stated that a valuable approach for such a plan is for each project to have an in-built redundancy. He explained that, through training and institutional strengthening the member countries and territories themselves should eventually assume all of the activities being currently conducted by the Coastal Fisheries Programme.

205. The representative of Papua New Guinea pointed out however that it was not cost-effective for most Island countries and territories to maintain a complete range of specialist programmes at the national level, and that the main need was to talk about the prioritisation of scarce regional resources and to direct them towards the biggest gaps in national programmes. She suggested that it might be effective to draw up a list of the strengths and weaknesses within the various fisheries administrations of the region to assist the strategic plan to complement member country and territory requirements for fisheries development.

206. The Chairman then asked the meeting if it would give a mandate to the Coastal Fisheries Programme to go ahead with a strategic planning exercise.

207. The representative of Tonga first commented on the role and function of the Coastal Fisheries Programme within the Commission. He referred to comments by the Fisheries Manager on the previous success of the Coastal Programme in securing extra-budgetary funding and the process with which resources within the Commission are allocated. He then commented on the nature of the RTMF and stated that this was more than a simple forum for the exchange of technical information, and that it was an opportunity for member countries and territories try to direct the Programme based on their priorities.

208. He noted earlier comments from the representative of Fiji that there were areas of the fisheries sector that were more attractive than others, such as oceanic fisheries and the attendant treaty negotiations and management meetings that these involve. He continued that tuna was clearly the resource with the greatest potential for making dramatic *improvements* in national budgets, but that we must not ignore the resources that were of greatest *current*

interest to all Pacific Islanders. Tongans, for example, consumed very little tuna. He noted that imports of cheap fatty food into Tonga and their inclusion in the diet had resulted in health problems that now put a strain on the nation's health services. He stated that the Coastal Fisheries Programme had an important role in improving the quality of life of Pacific Islanders and in supporting the cultural responsibilities of Pacific Islanders such as the role of women in fisheries. By taking all these issues into account it should be possible to define the role of the Coastal Fisheries Programme.

209. He then returned to the question of the influence that RTMF can bring to bear on the political processes that control the Commission. He noted that the RTMF has a broader mandate than purely technical issues, and that the RTMF needed to be more structured within the Commission so that ideas arising from the meeting did not get lost or ignored, as seemed to have occurred in the past. The meeting needed to make a greater impact on the planning process of the Commission, and in this context he posed the question: 'how many of the delegates to this meeting are directly involved in planning for the CRGA?' He also noted however that there were other important areas of responsibility within the Commission that also compete for funds.

210. The representative of Tonga said that in the process of sorting out priorities within the Commission, it should be recognised that not all fisheries administrations can deal with all technical problems in the coastal fisheries sector, and that the region needed a regional programme to deal with some of these problems and issues. He concluded by endorsing the relationship of the Coastal Fisheries Programme with the Oceanic Fisheries Programme, but expressed some concern about the relationship between the Coastal Fisheries Programme and SPREP, noting the absence of a representative from SPREP at a meeting which was discussing the recommendations arising from the recent Institutional Review which concerned both organisations. He was concerned about the danger of 'diluting' SPC's effectiveness in the coastal fisheries area by artificially trying to devolve activities to SPREP. He felt that there was a need for *practical* programmes that member countries and territories could benefit from. He was impressed by the breadth of technical competence displayed by the presentations made at this meeting, but wanted to make the point that there was a need to balance the leadership functions of member countries and territories with the technical exchange function within RTMF.

211. The Chairman then summed up the session and also asked the representatives of Niue and New Zealand to draft a recommendation to CRGA to the effect that it had become much more difficult for the Coastal Fisheries Programme to secure extra-budgetary funds, and that this should be recognised when allocation of core funding is being considered in the budgetary process.

Recommendation No. 13

The meeting identified the importance of the SPC Coastal Fisheries Programme, particularly in light of the direct benefit of the coastal fishery resource to the people of the Pacific Islands. The meeting further noted with concern that the Programme, lacking any formal structure and strategic plan, is in real danger of being seriously reduced due to its reliance on extra-budgetary funding. The meeting recommended that

a review be carried out within the Fisheries Programme to identify Coastal Fisheries Programme priority areas, and in consequence develop a formally-structured Coastal Fisheries Programme. The meeting further recommended that the CRGA and Conference, in view of the diminishing attractiveness of the SPC Fisheries Programme to donors, allocate sufficient core funds to allow the continued function of the Coastal Fisheries Programme.

11. SPADP – FUTURE REGIONAL ARRANGEMENTS

212. Mr Hideyuki Tanaka of the Food and Agriculture Organization of the United Nations (FAO) South Pacific Aquaculture Development Project (SPADP) addressed Working Paper 7, concerning a proposal for SPC to assume responsibility for a regional level of aquaculture development support once the FAO funding finished in 1999. Mr Saimone Tuilaucala then addressed the meeting concerning the recommendations of an SPC/SPADP-sponsored workshop that he had chaired on the issue held the week before RTMF in Fiji.

213. In the resulting discussion, the representative of Western Samoa said that there was a definite and growing need for a regional level of aquaculture assistance to be continued after the cessation of the FAO project. In many countries and territories there was a growing shortfall in inshore fisheries production to satisfy local nutrition, and there were increasing opportunities for export income development. He felt that SPC was an appropriate organisation to support an aquaculture advisory service, particularly since FFA had withdrawn from new activities in the coastal fisheries area. He endorsed the report of the Fiji meeting and supported the proposal.

214. The representative of the Cook Islands said that it was timely that this strategic discussion was raised now, alongside the discussion on the institutional future of the CFP. He suggested that the issue of extending the work programme of the CFP to cover aquaculture should be left to the strategic planning and review process that the meeting had just asked the Secretariat to undertake. He felt that it was important that there should be some regional capacity for aquaculture advice after 1999, but the form in which this might be implemented needed careful consideration.

215. The Fisheries Programme Manager said that from the Secretariat point of view it was good that this issue was being considered well before the project funding came to an end in 1999. He suggested that SPC take the views of the meeting into account in the proposed strategic planning process, and also proposed that the views of ICLARM be taken into account, if that organisation felt that their international role was relevant in this case.

216. Dr Johann Bell of the Coastal Aquaculture Centre (CAC) of the International Center for Living Aquatic Resources Management (ICLARM), based in Solomon Islands, said that he had been unable to attend the Fiji SPADP meeting, but had seen the papers presented. He was aware that the FAO SPADP project had many facets and made many small grants and performed national advisory services. ICLARM on the other hand covered a few major research areas (currently including giant clam, pearl oyster and sea-cucumber culture, and greensnail and trochus enhancement). ICLARM's geographical focus was also broader, including Asia, but the CAC was based in the Pacific Islands region and Pacific Islands

would continue to be the first beneficiaries of CAC work. ICLARM was currently expanding under CGIAR (Consultative Group on International Agricultural Research) funding, and saw themselves as long-term players in the region. ICLARM could themselves possibly consider taking on the type of activity undertaken by SPADP, but it would have to be in addition to the current core activity of developing basic methodologies for culture of coral reef species, and this would depend very much on the availability of appropriate funding.

217. The representative of Niue supported FAO SPADP activities, although Niue had not yet benefitted much from them. He felt that aquaculture tied in well with the role of the SPC CFP, and that it was becoming more and more important for replacing the likely growing shortfall in coastal capture fisheries, and also to generate export income. He noted that he was not conversant with the mechanism by which FAO funding was organised and how SPC could tap into this. He suggested however that the forthcoming UNDP programme-planning exercise might be investigated by the Secretariat with a view to supporting aquaculture work. Although the new focus of UNDP was 'poverty alleviation' and 'employment creation', it was clear that aquaculture could address both of these issues very appropriately.

218. The representative of Fiji said that the meeting needed to look very seriously at the question of whether or not regional aquaculture assistance should be provided through SPC. Speaking as a former aquaculture technical specialist, he agreed with the representative of Western Samoa that there was a growing need for some assistance to island countries on aquaculture in general, and felt that Fiji's approach of supporting extensive (i.e. non-intensive) aquaculture methods to supplement protein nutritional requirements at the village level had proved to be more successful than the common approach of trying to develop highly-technical export-oriented aquaculture. Aquaculture offered the possibility of getting fish into the diet of people who were restricted in the catch they could take from their historical fishing grounds after overfishing. He said that aquaculture was necessary to the future of the region.

219. The Fisheries Programme Manager summed up the discussion thus far, and suggested that SPC be mandated to take the discussion further with all relevant parties, including the FAO, SPADP and ICLARM, with a view towards picking up aquacultural advisory and development assistance to member countries and territories following the termination of the FAO project in 1999.

12. REPORT ON PEARL PROJECTS

220. Dr Paul Southgate of James Cook University addressed Information Paper 18, and reviewed progress within the ACIAR-sponsored Pacific Island pearl oyster resource development research project, focussed mainly on Kiribati during this phase.

221. The representative of Kiribati thanked Dr Southgate for the presentation and strongly supported proposals for a second phase to this project. Fiji lent additional support in a similar vein.

222. The representative of the Cook Islands asked if spat collection was a major restraining factor on commercial pearl culture development. Spat collection work by ICLARM in the

Solomons, based on low-density stocks, might tend to suggest otherwise. Dr Southgate said that the problems with spat collection at the project site were not only the low abundance of available broodstock, but that there were other factors behind the decision not to deploy spat collectors, including previous surveys and logistics. The next phase of work would be looking at deploying collectors alongside longlines.

223. The Fisheries Programme Manager thanked ACIAR for their sponsorship of this work, and particularly for the collaborative work that had been sponsored to enable a resource survey in Fiji. He noted that there was likely to be an additional need for this type of basic survey work in countries and territories that were hitherto unexplored for their wild stock potential.

224. The representative of the United States of America then gave a presentation based on Information Paper 36, outlining the recent history and prospects of pearl farming in Hawaii and Micronesia.

13. REPORT ON TROCHUS MARKETS

225. Mr Robert Gillett made a presentation based on a study that had been carried out under the auspices of the World Bank on the international trochus trade.

226. Some conclusions of interest to fisheries officers were:

- The Pacific Island region produces 59 per cent of the world's trochus, and the Pacific Islands should use this as a basis of comparative advantage;
- The fashion industry anticipates a slight to moderate increase in the use of trochus buttons;
- Assuming that Pacific Islands and other major trochus producers do not place additional substantial amounts of trochus on the world market, the price of raw trochus is likely to rise;
- Substitutes for trochus will affect the price, but are not likely to be devastating to the trochus industry;
- Well-intentioned but misled 'environmental concern' may negatively affect the demand for trochus;
- There appears inadequate justification for continuing protection of domestic trochus industry, but there may be a case for continuing to restrict the flow of trochus onto the world market, in a more equitable way, for example, through a tax applied at the same rate over processed and raw trochus. Further study is required to get it right;
- There appear to be several mechanisms to increase benefits from raw trochus sales.

227. The representative of Guam asked if poaching had an effect on the market? Mr Gillett replied that the output of Indonesia was the world's biggest producer of trochus. When there was a moratorium on exports from Indonesia, continued illegal exports had a major effect on the world price of trochus shell.

228. After a question by the Fisheries Programme Manager, Mr Gillett said that the operation of small-scale trochus button plants using just one or two blanking machines was becoming less and less economically viable for Pacific Island countries after transfer of much button blank production to low-wage countries.

229. The representative of Fiji was concerned about the recommendation by the study to remove protection to the trochus processing industry. He noted that there was considerable investment tied up in processing facilities in many Pacific Island countries, and value-adding for these products was a common national strategy. Mr Gillett said it was a very complex subject, and protection of domestic industry by raw trochus export restrictions may be to the detriment of trochus harvesters. Under present conditions if a ton of trochus shell were exported raw, it would probably fetch more money than if it were converted to buttons and sold. It was hard to see this as 'value-added'. Also, button production did still seem to be viable in some places such as Papua New Guinea, and without the need for industry subsidies.

230. The representative of New Caledonia had heard that the trochus price dropped around 1992 due to the release of large stockpiles of shell onto the world market. Mr Gillett said that views on the degree that stockpiling contributed to the world market price were not uniform. There were probably various contributing factors to the low prices in the early 1990s including the high catch in French Polynesia in 1990, but also changes in market preference and a downturn in the Japanese economy. However, because there is one 'middleman' who controls around 30 per cent of the world market, it is quite possible for stockpiling to play a part in the pricing.

231. The representative of Tonga asked if trochus in Indonesia was a different variety from that in the Pacific, to account for the different quality, and would the future likely increase in blacklip pearl shell production (due to aquaculture) affect future trochus prices? Mr Gillett said that Indonesian trochus is the same species as the Pacific trochus, and it was not known if the difference in quality was environmental or genetic. He said that blacklip pearl shell could substitute for trochus, but because it tended to crack and flake more easily, it was not preferred.

14. STATEMENTS FROM OTHER ORGANISATIONS

14.1 South Pacific Aquaculture Development Project

232. Hideyuki Tanaka and Gerald Billings made a joint presentation on some aspects of the work that the FAO South Pacific Aquaculture Development Project has supported recently. After this presentation Mr Tanaka mentioned that one of his project attachment positions

would be coming vacant in the near future, and that SPADP would welcome applications from suitable Pacific Island staff.

14.2 FAO Fishery Industry Division

233. Mr David James reported on the activities of FAO within the Pacific region. Referring to the long relationship between FAO and the Commission, the representative of FAO conveyed greetings on behalf of the FAO Director-General with the hope that the happy relationship would continue.

234. Budget restrictions in FAO unfortunately limited the prospects for FAO assistance, but the Fisheries Department would ensure that the long-term core programmes of fishery statistics and information and support to FAO Regional Fishery Bodies would continue.

235. The major activities in the future would include assistance with implementation of the FAO Code of Conduct for Responsible Fisheries, approved by the 1995 FAO Conference. This would involve specific programmes on limiting wastage through discards and by-catch and restructuring vessel over-capacity.

236. FAO is being decentralised, and has recently opened a sub-regional office in Western Samoa to cover the South Pacific area. In November 1996, FAO will host the World Food Summit, a major opportunity to discuss sustainable food production and ensure equitable access for all to an adequate and healthy diet.

14.3 Forum Fisheries Agency

237. The chairman referred participants to Information Papers 1 and 2 for background details of the relationship between FFA and SPC, and to Information Paper 39 for a statement by the Director of the Forum Fisheries Agency to the 24th CRGA, in May 1996.

14.4 ICLARM Coastal Aquaculture Centre

238. Dr Johann Bell presented Information Paper 37 to the meeting, describing the work of the Coastal Aquaculture Centre in the Solomon Islands. He emphasised that the methodological development work of ICLARM CAC was for the benefit of the whole region, and that Pacific Island countries and territories should not hesitate to contact the Centre for any information.

239. Dr Bell also publicised the latest version of ICLARM's FishBase, and reported that the European Union had now pledged 5 million ECU towards the completion of this enormous database. ACP countries would also benefit from EU support towards the installation of hardware and software to implement local FishBase sites.

14.5 Nelson Polytechnic

240. Mr Alastair Robertson described the work of the Fisheries School at Nelson Polytechnic, New Zealand, and explained the special linkages that the Polytechnic has with the SPC Fisheries Programme, including the yearly SPC/Nelson course for Pacific Island Fisheries Officers, and also several other relevant courses.

14.6 The Nature Conservancy

241. Dr Andrew Smith described the work of The Nature Conservancy and its relevance to the Pacific Island region, referring to Information Paper 8. Information Paper 33 additionally described the work that The Nature Conservancy is supporting in the Anarvon area of the Solomon Islands, where the fisheries conservation area is of particular interest to the meeting. He additionally referred participants to Information Paper 9 which provides an overview of the live food-fish export fishery. He expanded on the latter paper since the issue is an area of concern for Pacific Island governments, especially where sodium cyanide is being used. He said that the Pacific Islands were considered to be the 'next frontier' by many Hong Kong-based live reef-fish companies.

14.7 World Bank

242. Sofia Bettencourt said that the World Bank had previously had a fairly limited role in the region, mainly in terms of selected loans. However, the Bank was increasingly making use of its specialised knowledge to provide regional economic reports for its Pacific Islands member countries, including fisheries. Some technical assistance had recently been provided to the Government of FSM to evaluate the viability of a tuna fishing enterprise. The World Bank also has a role in the Global Environment Facility and the International Coral Reef Initiative.

243. Until recently the World Bank had followed the general donor policy of withdrawal from the Pacific, but the Bank was pleased to announce that it was now paying more attention to the region, and was setting up a Pacific Islands division in Washington DC to increase its presence. The next Annual Meeting would be on October 1st and there would be a Pacific Islands seminar on 29 September to which representatives of all member countries were invited to contribute ideas.

244. The representative of Western Samoa welcomed this new policy by the World Bank and the new Pacific Islands division. He suggested that the World Bank re-consider its policy of directing all its attention to the national level, and hoped that more attention could be paid to regional organisations like SPC. Sofia Bettencourt replied that SPC was not a member of the World Bank but that the Bank would naturally consider all requests that came from its member countries, as long as they were national priorities.

14.8 University of the South Pacific

245. Ganeshan Rao presented Information Paper 17 describing the work of the Marine Studies Programme. The recent establishment of the fisheries post-harvest function should be of particular interest to RTMF. The Institute of Marine Resources (IMR) was now based in Solomon Islands, and the Solomon Islands government had just committed SBD \$1 million towards the construction of a new IMR Centre next to the ICLARM CAC at Aruligo.

14.9 ZoNéCo

246. Mlle Sabrina Virly presented Information Paper 6, describing the work of a collaborative project between IFREMER, ORSTOM, SHOM, the French University of the South Pacific, the Government of France and the Territory of New Caledonia, to provide an economically-oriented overview of the data available from the tuna fishery in New Caledonia between 1956 and 1994.

247. The SPC Masterfisherman thanked Mlle Virly for the information presented, since it would improve his chances of carrying out his next project successfully, with NAVIMON in New Caledonia. He was however concerned that the data provided ought to be subject to rules of confidentiality, since it might be commercially sensitive. Mlle Virly reassured the meeting that the data was aggregated into a database in such a manner that individual contributors were not traceable and that, in addition, the reports were very limited in circulation.

248. The representative of Kiribati asked a question about monitoring catches on the vessels, and also wondered how much the tuna industry in New Caledonia was worth financially to the Territory. Mlle Virly outlined New Caledonia observer coverage, and said that in 1994 the catch was 1,600 mt for local longliners and also 1,600 mt for foreign longliners. The representative of New Caledonia added that it was difficult to put a meaningful financial value on the tuna caught under an access agreement. The Chairman of the meeting said that this project appeared to be a very useful cooperation between SPC and other organisations, and welcomed New Caledonia's suggestion that this might be a model for similar projects in other countries and territories.

15. UNDP OFFSHORE FISHERIES DEVELOPMENT PROJECT TRIPARTITE REVIEW

249. A meeting was held between UNDP Programme Officers, SPC Secretariat Staff and United Nations/South Pacific Commission member country representatives to review the UNDP-funded Offshore Fisheries Development Project which was shortly coming to the end of its funding cycle. The minutes of this meeting were prepared by UNDP staff for later transmission to participants. The meeting concluded that a great deal had been achieved within the context of the project, but that perhaps as many areas had been identified as needing further action as had been possible to address.

250. Following this, UNDP outlined the plans and likely procedures for the funding of the future UNDP programme for which the priority areas of poverty eradication, employment creation, protection and regeneration of the environment and the development of women had been decided. The new cycle programme 'concept paper' would shortly be transmitted from UNDP to national foreign affairs departments, and the results of forthcoming national consultations by UNDP would be summarised in concert with the next South Pacific Conference in Saipan in October 1996. The possibility of fisheries and living marine resource issues playing a part in either poverty eradication, employment creation, protection and regeneration of the environment or the development of women was not ruled out.

16. FUTURE ARRANGEMENTS FOR THE RTMF

251. The Fisheries Programme Manager referred meeting participants to Working Paper 4, which provided some background on this issue. He said that the main question to consider was whether one week every 24 months was a sufficient period within which to organise a two-year work programme. He pointed out that the main constraint on the meeting was the availability of funding for the travel and accommodation of participants, and that this funding situation was likely to get worse, not better, within the near future.

252. If this biennial cycle were to continue, it would be necessary to approve some procedural changes, particularly the mechanism by which the more regular meetings, which were presently required to report via RTMF, presented their findings to the region. It would not have escaped the attention of the meeting that the Oceanic Fisheries Coordinator had to report on three sessions of the Standing Committee on Tuna and Billfish during Agenda Item 4. He reminded participants of one of the points made by the representative of Tonga in the previous session, that the title of 'Technical Meeting' did not quite convey the major policy-making role of the assembly. It might be time to change the title.

253. The representative of New Zealand said that RTMF did not actually appear to have any current formal role in the approval of work programmes, since recommendations had to be passed to CRGA for making the decisions. Before discussing issues such as the frequency of meeting it might be best to talk about the role of the meeting itself, as the Fisheries Programme Manager had suggested.

254. The representative of New Caledonia drew the attention of the meeting to the second bulleted point in WP4, and suggested that adoption of this proposal might create a situation where the Oceanic Fisheries Programme would not receive the guidance of member countries and territories at all. He pointed out that there was not yet any mechanism created for the separate administration of the Oceanic Fisheries Programme, since the Standing Committee on Tuna and Billfish as yet had no formal 'standing'. Consideration of this option would be premature until an alternative arrangement had been established.

255. The representative of Papua New Guinea asked what was the original purpose and constitution of the RTMF. She felt that consideration of this might assist the deliberations of the meeting.

256. The Fisheries Programme Manager said that RTMF had been mainly a mechanism by which member country and territory fisheries departments could make sure that the Secretariat was providing an appropriate service to the region, and to provide an immediate feedback mechanism.

257. The representative of Western Samoa said that he had also looked into the history of the formation of RTMF and had found that there did not appear to be any clear original constitution to the RTMF. It was his understanding that the meeting's main function was to enable member country and territory fisheries departments to review the work of the SPC Fisheries Programme. The Standing Committee on Tuna and Billfish's main mandate as a meeting between DWFNs and Pacific Island countries and territories was to try and improve the data from DWFN fleets provided to SPC. He said that other functions were subsidiary. He noted that data provision had improved immensely since then, and that other, more formal arrangements were likely to be put in place for consultation on tuna fisheries issues. He felt that it was the role of RTMF to look into all functions of the SPC Fisheries Programme, and did not feel that the second bulleted option of Working Paper 4 should be followed. He was in favour of a yearly cycle for RTMF but this was obviously an issue which would need more discussion of funding. He asked the Secretariat how other SPC heads of government department meetings were funded.

258. The Fisheries Programme Manager said that he understood that the only fully-funded meeting at SPC was RTMF, although the Heads of Agriculture meeting did have some support from core. This was why the RTMF was likely to lose even more funding when the issue was considered at the next CRGA. He then asked the Oceanic Fisheries Coordinator to describe the intentions behind the formation of the Standing Committee on Tuna and Billfish.

259. The Oceanic Fisheries Coordinator pointed out that the Standing Committee on Tuna and Billfish was both a peer review mechanism for the scientific work of the Oceanic Fisheries Programme and also a way of involving DWFNs in more cooperation with SPC members. The Standing Committee on Tuna and Billfish had always been kept separate from RTMF by this meeting, with a different focus, but was always required to report through this meeting.

260. The representative of the Marshall Islands wanted to know exactly what was the role of Standing Committee on Tuna and Billfish compared to RTMF. He regretted the continual decrease in funding for attendance at RTMF, whether from SPC or from governments, and wondered how attendance at these additional meetings were organised. Could not RTMF cover the whole work programme of the Fisheries Programme?

261. The Oceanic Fisheries Coordinator presented the Terms of Reference of the Standing Committee on Tuna and Billfish to the meeting, and made it clear that attendance at Standing Committee on Tuna and Billfish was entirely voluntary, with funding now covered by each participant. He pointed out that this was the only forum within which DWFNs and SPC members could meet on an equal footing and was surprised to hear that the role of this meeting still seemed to be open to question. He felt that Standing Committee on Tuna and Billfish operated very effectively and had been a major support to the work of the Oceanic Fisheries Programme, and that it would be difficult to subsume within the structure of RTMF.

262. The representative of the Marshall Islands clarified that he had not been criticising the existence of the Standing Committee on Tuna and Billfish, but that he had been putting it forward as an example of the fact that member countries and territories could still find the funding to attend meetings when they considered the justification strong enough.

263. The Oceanic Fisheries Coordinator said that around seven SPC member countries and territories normally found the money to attend Standing Committee on Tuna and Billfish each year.

264. The representative of the Marshall Islands asked when the two meetings were established and whether there was any duplication of function between RTMF and the Standing Committee on Tuna and Billfish.

265. The Oceanic Fisheries Coordinator explained more of the background, including the history of worries by member countries and territories that Standing Committee on Tuna and Billfish was under the control of DWFNs, which was why all recommendations from Standing Committee on Tuna and Billfish went through RTMF. He felt that the Standing Committee on Tuna and Billfish did not overlap with RTMF in any way in its work, but that the linkage was maintained because the Standing Committee on Tuna and Billfish had to be seen to be fully accountable.

266. The representative of France took the meeting back to the 1980s, and pointed out that the Skipjack Survey and Assessment Programme went far beyond the membership of the SPC, and member countries and territories felt it necessary to involve other countries. The mechanism of the Standing Committee was considered appropriate.

267. The representative of New Zealand said that the question was not so much the reasons behind the Standing Committee on Tuna and Billfish, but the mechanism of relationship between RTMF and the Standing Committee on Tuna and Billfish, and whether or not the biennial cycle of RTMF restricted the usefulness of the Standing Committee on Tuna and Billfish. One suggestion was that the Standing Committee on Tuna and Billfish should meet every two years. He felt that the Standing Committee on Tuna and Billfish had a very clear and useful function, since it would be very difficult for RTMF to find the time to devote the same level of attention to detail on tuna stock assessment and data provision as did the Standing Committee on Tuna and Billfish. He felt that our knowledge of tuna stocks had improved immeasurably since he first became involved with the Standing Committee on Tuna and Billfish in the 1980s. He felt that this discussion of the Standing Committee on Tuna and Billfish, and the mechanism of dealing with its recommendations, should not distract the meeting from the real question of the timing of RTMF.

268. The Fisheries Programme Manager agreed that it was necessary to focus attention on RTMF. He reiterated that it was likely that the funding formula for RTMF would change once the issue was considered by the South Pacific Conference. One way forward might be to agree that the meeting continue on a biennial basis, since it would be unrealistic to think we could hold it annually. It was unfortunate that the decision on funding would not be taken until October at Conference. The Secretariat would undertake to convey any decision back to RTMF representatives, and there might then be the opportunity to best determine how the meeting could conform to those decisions by Conference.

269. The representative of Western Samoa said that he would try to draw out the most important issues. He thought the funding should be left aside at the moment, and the consequences on the work of the Commission resulting from increasing the meeting frequency considered.

270. The Fisheries Programme Manager felt that a biennial cycle for RTMF was not a particular constraint on ability of the Secretariat to obtain sufficient feedback from member countries and territories for the guidance of work programmes. He felt that the visits that officers make to countries and territories, and to other meetings that were attended by members, were sufficient.

271. The representative of the Marshall Islands reiterated that he was not trying to downplay the significance of the Standing Committee on Tuna and Billfish, but to discover more about the role of the meeting that enabled member countries and territories to justify funding for voluntarily attending it annually, but not RTMF. Marshall Islands did not normally attend the Standing Committee on Tuna and Billfish.

272. The representative of Fiji endorsed the comments of the representative of Tonga yesterday and felt that the words 'Technical Meeting' were misleading, and he proposed that the wording 'Heads of Fisheries' meeting, or wording conveying that meaning, be used instead. He did however feel that the operation and purpose of the meeting should not be changed, but that this proposed change of name was to more reflect the actual current activities of the meeting, which covered far more than technical issues. In considering the function of the Standing Committee on Tuna and Billfish he was a little surprised that the Oceanic Fisheries Coordinator had had to present the decisions of three Standing Committees on Tuna and Billfish, during this RTMF. Consideration of tuna fisheries was important, and it was also important to act upon those considerations, and this could only be done through RTMF. If the Standing Committee on Tuna and Billfish was to be held annually, then the RTMF should really meet annually. He further understood that CRGA was held twice every year. If CRGA was the decision-making body for recommendations by RTMF it meant that CRGA only considered fisheries issues in once every four sittings. He pointed out that fisheries is one of the most important issues on many national agendas, and perhaps deserved more consideration by decision-makers than this. He further pointed out that fisheries was a very dynamic issue, experiencing rapid changes, and that a biennial cycle for RTMF was too long for SPC to take these into account. He felt that a breakdown in interaction between the Secretariat and countries and territories was likely, especially on coastal fisheries issues.

273. The representative of Fiji proposed that member countries and territories should foot some of the costs of attending RTMF if they considered fisheries to be important. He suggested that if the present arrangement of Secretariat funding of a biennial RTMF continues, then member country and territory fisheries departments should match this and fund their own attendance during intervening years, resulting in an annual cycle.

274. The Chairman summed up discussion so far and suggested that the change in name for RTMF be adopted and the discussion now concentrate on mechanisms, around the suggestion provided by Fiji.

275. The Fisheries Programme Manager also suggested one further option, that RTMF be held more regularly on a 'needs' basis. If countries and territories were prepared to fund their own attendance on occasion, perhaps the frequency should not be fixed but set on a consultative basis.

276. The representative of Western Samoa pointed out that such an arrangement would not provide a definite mechanism for considering reports of the annual Standing Committee on Tuna and Billfish.

277. The Oceanic Fisheries Coordinator suggested that it would be no problem to distribute all Standing Committee on Tuna and Billfish documents and recommendations to member countries and territories within one month of the meeting. The main problem was that there was no regular mechanism for those recommendations to be acted upon, unless countries and territories were to consider these on a mechanism of consensus by correspondence.

278. The representative of New Zealand suggested that the mechanism of considering recommendations of Standing Committee on Tuna and Billfish was not a major issue, since all of the recommendations seemed to be of a technical nature and did not normally need endorsement at a high level. However, the proposal to distribute reports on a regular and timely basis was welcomed.

279. The representative of Western Samoa endorsed the need to change the title of the meeting. He supported the convention of RTMF annually, but proposed that the costs be shared between SPC and members at every annual meeting, rather than alternating with countries and territories paying one year and SPC paying the next. It was accepted that Conference might decide to recommend that it become SPC practice for RTMF to be provided funds only to cover partial attendance on a biennial basis, but Western Samoa suggested that the difference should be made up by member countries and territories covering much of their own attendance.

280. Niue agreed with the need for an annual meeting and a title change, and endorsed the need for some sort of cost-sharing arrangement.

281. The representative of the Solomon Islands wondered if the change of name would have funding implications. If the meeting appeared to be more important it might attract more participants, which would increase the cost. The Fisheries Programme Manager suggested that, based on experience with other SPC meetings, this was unlikely.

282. The representative of Tonga favoured Fiji's idea of SPC fully funding the meeting on a biennial basis, and member countries and territories funding their own participation during intervening years.

283. The representative of the Solomon Islands agreed with the Fiji representative's suggestion about the need for an annual meeting and funding arrangements, and agreed that the whole of the work of the Fisheries Programme should be considered as a unit. The RTMF should not become restricted to consideration of the Coastal Fisheries Programme only.

284. The meeting made a recommendation to change the name of the meeting, and to return to an annual cycle under new funding arrangements as follows:

Recommendation No. 14

The meeting, taking into account the increasingly non-technical work undertaken by the meeting over the past three decades, recommended that the name of the *Regional Technical Meeting on Fisheries* be changed to the *Meeting of Heads of Fisheries*. The meeting further recommended, in view of the rapidly-changing nature of regional fisheries issues, that the meeting return to an annual cycle and that the resultant increase in cost be met by member countries and territories sponsoring the cost of their own participants in every alternate year, starting in 1997. The meeting suggested that this return to an annual cycle under a cost-sharing arrangement would be contingent upon SPC maintaining at least the same level of funding as is currently devoted to a biennial RTMF.

17. OTHER BUSINESS

285. The Senior Fisheries Scientist (Modelling) presented Information Paper 28 to the meeting, proposing a collaborative project between the SPC Fisheries Programme and ORSTOM to elucidate the relationship between tuna fisheries and their environment. He pointed out that the basic data and knowledge of mechanisms now seemed to be in place to enable the development of a model of the pelagic ecosystem that would enable better surface tuna fishery management in the region. ORSTOM had expertise and information on oceanography and ocean ecosystems and SPC had expertise and information on the tuna fishery, and collaboration, under the Memorandum of Understanding signed by these two bodies in December 1994, promised to be very fruitful.

18. ADOPTION OF REPORT

286. After briefly reviewing the draft prepared by the Drafting Committee, the meeting adopted the report of discussion as amended. In view of the limited time available for detailed consideration of the wording of this lengthy report, occasioned by inconvenient airline schedules, the meeting agreed to permit some further editing of the report by the Secretariat, provided this were confined to grammatical and typographical changes and did not alter the sense or meaning of the report.

IV. RECOMMENDATIONS

The following recommendations arose from the 9th SPC Standing Committee on Tuna and Billfish and were transmitted via the 26th RTMF without comment:

Recommendation 1 (SCTB9)

SCTB9 urged the Oceanic Fisheries Programme to continue efforts to secure stable funding for the programme. SPC core-funding for critical positions within the Oceanic Fisheries Programme would provide considerable assistance in this regard.

Recommendation 2 (SCTB9)

The Oceanic Fisheries Programme should secure, as a priority, funding support for those activities previously identified as high priority, but not currently guaranteed funding. Maintenance of the catch/effort database and statistical monitoring had been identified as one such broad activity, for which funding is not guaranteed.

The following recommendations arose from the 26th RTMF itself:

Recommendation No. 1

The meeting recognised the importance of the Coastal Fisheries Programme to the development of domestic fisheries within Pacific Island countries and territories. The meeting also acknowledged the need for increased collaboration between the different Sections that make up the Coastal Fisheries Programme, and between the Coastal Fisheries Programme and other relevant organisations, to ensure a unified approach to all aspects of fisheries development. The meeting recommended the continuation and strengthening of the Coastal Fisheries Programme, including increased collaboration between the various Coastal Fisheries Sections for the development of funding proposals and their implementation.

Recommendation No. 2

The meeting noted with grave concern the low priority accorded by the CRGA for the development of the Capture Section through its past decisions, despite the growing interest and demand by Pacific Island countries and territories in developing their own domestic commercial offshore fisheries (tuna longlining, FAD deployment and associated fishing techniques, and deep-water snapper fishing), as part of their overall fisheries development plans. The meeting, as a matter of top priority, strongly supported the continuation and strengthening of the Capture Section of the Coastal Fisheries Programme, to ensure that the needed services required by Island countries and territories are effectively delivered in a timely manner. Accordingly, the meeting recommended as its highest priority, that the number of core-funded, qualified masterfishermen be increased to three, that core funding should also cover activity and operation costs, and that adequate support staff be maintained in Noumea for the Capture Section, to ensure that the growing demands for the services of this Section by Island countries and territories are met.

Recommendation No. 3

Concern was expressed by some delegates that the position of Coastal Fisheries Coordinator had not been filled, and that this was needed to facilitate greater collaboration and coordination between the Sections of the Coastal Fisheries Programme, as well as providing a focal point for seeking extra-budgetary funding for the whole programme from donor organisations. The meeting recommended that the position of Coastal Fisheries Coordinator be maintained under core funding, and filled as a matter of priority.

Recommendation No. 4

In recognition of the importance that national fisheries training institutions play in the implementation of in-country training programmes, the Meeting recommended that the Commission further assist with the strengthening of national training capacities and, wherever possible, should collaborate with local institutions. This assistance and cooperation could include, but not be limited to, activities such as tutor training and planning of staff development, the production of resource materials and the development of new programmes.

Recommendation No. 5

In view of the need to support the development of commercial fishing activities in the region and as a means of enhancing job opportunities, the Meeting recommended that the Commission continue to implement training programmes for the artisanal and industrial fisheries sectors. Priority areas for training should include, as far as possible, all aspects of technical and management skills required to successfully operate commercial fishing enterprises.

Recommendation No. 6

The Meeting recognised the value of the USP Public Marine Education Project as an important vehicle for dissemination of information on issues relating to rational and sustainable utilisation of marine resources, and that it should continue as a collaborative effort between the regional agencies with appropriate complementary competencies. In this context FFA, SOPAC, SPC, SPREP and USP are regional institutions that, in working together, could produce a comprehensive and effective programme. In recognition of this, the meeting recommended that SPC should together with USP, and possibly the named regional agencies, explore every opportunity to continue the Public Marine Education Project as a regional multi-agency programme.

Recommendation No. 7

The Meeting expressed the general appreciation of the region for the breadth of work carried out by the Integrated Coastal Fisheries Management Project, and to the Overseas Development Administration of the United Kingdom for enabling this.

Recognising the increasing importance that coastal marine resources are playing in both the subsistence and economic sectors of Pacific Island countries and territories, the meeting welcomed the qualitative improvements in the information available for government decision-making that the project was in the process of developing, and particularly appreciated the practical educational potential that had been demonstrated by the process of attaching member-government marine-resource management officers to the project. It was hoped that SPC would be able to find the resources to continue the activities of the project in its present form, to extend activities to additional member countries and territories and additional attachments. At the minimum it was hoped that resources could be found to support an extension of the project that would draw the coastal marine-resource management experiences of Pacific Island countries and territories together with recent advances in the ecology of reef organisms to provide a practical 'handbook' of coastal-fishery management options, and the Meeting asked the Secretariat to approach the Government of the United Kingdom with this possibility.

Recommendation No. 8

The Meeting recognised the importance of complying with the new health regulations of major seafood-importing countries, such as the USA and members of the EU, and the need to take urgent action to upgrade quality-assurance procedures for Pacific Island seafood exporters, based on the HACCP quality-assurance system. The Meeting recommended that the Secretariat take all necessary action to bring about these improvements to ensure that access to these markets can continue, and to allow the smaller states the opportunity to develop export industries. The Meeting further recommended that FAO should be approached to provide funding for a Technical Cooperation Project to assist member states to meet the requirements of major importing countries.

Recommendation No. 9

The Meeting recognised the important contribution of women in fisheries development and also the functions of the Women's Fisheries Development Section in supporting and developing the activities of women in the fisheries sector. The Meeting recommended that the Secretariat pursue every avenue to secure funding for the continuation of the Section.

Recommendation No. 10

The Meeting recognised the significant involvement of women in fisheries activities. In order to facilitate the role of women in fisheries in the region through the exchange of ideas, knowledge and experience, the Meeting recommended that a Special Interest Group Bulletin on Women-in-Fisheries be set up under the SPC Fisheries Information Section. The Bulletin would serve as an information and communication network outlining the activities of interest and concern to women in the fisheries sector.

Recommendation No. 11

Noting that the Pacific Islands Marine Resources Information System (PIMRIS), being a regional marine/fisheries information network of Pacific Island countries and territories and regional organisations (FFA, SPC, SOPAC, SPREP and USP), established by recommendations made by previous RTMFs, has now proved to be effective in providing marine/fisheries information services and technical assistance in library/information management under the leadership of the PIMRIS Coordination Unit at USP, the Meeting appreciated the role that USP has played in hosting the Coordination Unit. In view of the importance of the services of PIMRIS to Pacific Island countries and territories and emphasising the importance of technical assistance in marine/fisheries information management, the Meeting recommended that USP take all necessary actions to continue supporting and sustaining the operations of the PIMRIS Coordination Unit.

Recommendation No. 12

Acknowledging the Canadian financial assistance received for the establishment of PIMRIS, including the PIMRIS Coordination Unit, and noting that the core activities of PIMRIS are information services, document delivery, information technological assistance to countries and territories, and bibliographic database development, the Meeting recommended that the Canadian International Development Agency (CIDA) consider the continuation of support to PIMRIS activities under the CSPOD phase II funding cycle for the benefit of the Pacific Islands in fulfilling their marine/fisheries information needs.

Recommendation No. 13

The meeting identified the importance of the SPC Coastal Fisheries Programme, particularly in light of the direct benefit of the coastal fishery resource to the people of the Pacific Islands. The meeting further noted with concern that the programme, lacking any formal structure and strategic plan, is in real danger of being seriously reduced due to its reliance on extra-budgetary funding. The meeting recommended that a review be carried out within the Fisheries Programme to identify Coastal Fisheries Programme priority areas, and in consequence develop a formally-structured Coastal Fisheries Programme. The meeting further recommended that CRGA and Conference, in view of the diminishing attractiveness of the SPC Fisheries Programme to donors, allocate sufficient core funds to allow the continued function of the Coastal Fisheries Programme.

Recommendation No. 14

The meeting, taking into account the increasingly non-technical work undertaken by the meeting over the past three decades, recommended that the name of the *Regional Technical Meeting on Fisheries* be changed to the *Meeting of Heads of Fisheries*. The meeting further recommended, in view of the rapidly-changing nature of regional fisheries issues, that the meeting return to an annual cycle and that the resultant increase in cost be met by member countries and territories sponsoring the cost of

their own participants in every alternate year, starting in 1997. The meeting suggested that this return to an annual cycle under a cost-sharing arrangement would be contingent upon SPC maintaining at least the same level of funding as is currently devoted to a biennial RTMF.

V. DOCUMENTS PRESENTED TO THE MEETING

WORKING PAPERS

- Working Paper 1 SPC Fisheries Programme Overview
(Paper prepared by the Secretariat)
- Working Paper 2 Oceanic Fisheries Work Programme Review 1994 – 1996
(Paper prepared by the Secretariat)
- Working Paper 3 Report on SPC Coastal Fisheries Programme Activities, April 1994 –
July 1996
(Paper prepared by the Secretariat)
- Working Paper 4 Future of the Regional Technical Meeting on Fisheries
(Paper prepared by the Secretariat)
- Working Paper 5 Institutional Future of the SPC Coastal Fisheries Programme
(Paper prepared by the Secretariat)
- Working Paper 6 Future of the SPC/Nelson Polytechnic Pacific Island Fisheries Officers
Training Course
(Paper prepared by the Secretariat)
- Working Paper 7 Proposal for a Regional Set-up of Aquaculture Support Mechanism in
the South Pacific Commission
(Paper prepared by FAO SPADP)

INFORMATION PAPERS

- Information Paper 1 1995 Fourth SPC/FFA Colloquium Report
- Information Paper 2 1996 Fifth SPC/FFA Colloquium Report
- Information Paper 3 Review of Regional Institutional Arrangements in the Marine Sector
(Secretariat Comments)
- Information Paper 4 Review of Regional Institutional Arrangements in the Marine Sector –
Final Report
- Information Paper 5 The South Pacific Project Facility – Investment Support to the
Fisheries sector (by Peter Philipson, SPPF)
- Information Paper 6 Fisheries-oriented Overview of Tuna Data from New Caledonia's
Economic Zone (1956 to 1994) (by Sabrina Virly, ZoNéCo)

- Information Paper 7 Pacific Year of the Coral Reef – 1997 (Paper prepared by the Secretariat)
- Information Paper 8 The Nature Conservancy – Asia/Pacific Programs (by Andrew Smith, The Nature Conservancy, Palau)
- Information Paper 9 The Live Reef Fish Trade and the Implications for the Western Pacific (by Andrew Smith, The Nature Conservancy, Palau)
- Information Paper 9/
Addendum The Live Reef Fish Trade and the Implications for the Western Pacific (by Andrew Smith, The Nature Conservancy, Palau)
- Information Paper 10 Post-harvest Section Activities: April 1994 – August 1996 (Paper prepared by the Secretariat)
- Information Paper 11 Women’s Fisheries Development Section Supporting Women in Fisheries (Paper prepared by the Secretariat)
- Information Paper 12 Resource Assessment Section (Paper prepared by the Secretariat)
- Information Paper 13 Fisheries Training Section (Paper prepared by the Secretariat)
- Information Paper 14 Preliminary Report on the Use of Live Milk Fish (*Chanos chanos*) for Tuna Longline Bait (Paper prepared by SPC Consultant Bill Fitzgerald)
- Information Paper 15 A New Style Branchline for Monofilament Longline Systems (Paper prepared by the Secretariat)
- Information Paper 16 Capture Section (Paper prepared by the Secretariat)
- Information Paper 17 Report to the Twenty-Sixth Regional Technical Meeting on Fisheries from the Eighth Pacific Islands Marine Resources Information System Steering Committee Meeting held at USP, Suva, Fiji, 1 – 2 July 1996 (by Ganeshan Rao, PIMRIS Coordinator, USP, Suva, Fiji)
- Information Paper 18 Pacific Island Pearl Oyster Resource Development (by Paul Southgate, James Cook University of North Queensland)
- Information Paper 19 Oceanic Fisheries Programme Work Programme Review 1993–94 and Work Plan 1994–95 (SCTB 7: WP. 5)
- Information Paper 20 Oceanic Fisheries Programme Work Programme Review 1994–95 and Work Plan 1995–96 (SCTB 8: WP. 5)
- Information Paper 21 Oceanic Fisheries Programme Work Programme Review 1995–96 and Work Plans for 1996–97 (SCTB 9: WP. 2)

- Information Paper 22 Report of the Seventh Meeting of the Standing Committee on Tuna and Billfish, Koror, Palau, 5 – 6 August 1994
- Information Paper 23 Report of the Eighth Meeting of the Standing Committee on Tuna and Billfish, Noumea, New Caledonia, 16 – 18 August 1995
- Information Paper 24 Report of Meeting: Sixth South Pacific Albacore Research Workshop (Rarotonga, Cook Islands, 5 – 7 March 1996)
- Information Paper 25 Regional Tuna Tagging Project Tagging Summary April 1995 – July 1996 (SCTB 9: INF. 3)
- Information Paper 26 Status of Tuna Stocks in the Western and Central Pacific Ocean (SCTB 9: WP. 3)
- Information Paper 27 List of Selected Publications of the SPC Fisheries Programme (Paper prepared by the Secretariat)
- Information Paper 28 Tuna and the Environment: SPC–ORSTOM Co-operation Project (Paper prepared by the Secretariat)
- Information Paper 29 Technical Session on Quality Assurance and HACCP. The Application of HACCP in a Government Food Inspection Programme (by Vance McEachern, Department of Fisheries and Oceans, Ottawa, Canada)
- Information Paper 30 The University of the South Pacific Marine Studies Programme Report (Suva, 31st July, 1996) (by Robin South, Professor of Marine Studies and Coordinator, Marine Studies Programme, University of the South Pacific)
- Information Paper 31 Fisheries and Aquatic Resource Management Association of Australasia – A Call for Membership (Paper prepared by the Secretariat)
- Information Paper 32 Recommendation of the SPC/FFA Workshop on the Management of Inshore Fisheries Resources – July 1995 (Paper prepared by the Secretariat)
- Information Paper 33 Community Marine Conservation and Fisheries Enterprise Development in the Anarvon Islands, Solomon Islands (by Peter Thomas, Director, South Pacific Program, the Nature Conservancy)
- Information Paper 34 Technical Session on HACCP – Regional Implications. Establishing a Modern Seafood Safety and Quality Assurance System in the Pacific (Paper prepared by the Secretariat)

- Information Paper 35 Brief Report of the Project 1994/96 Activities. FAO South Pacific Aquaculture Development Project (Phase II) (by Tanaka Hideyuki, Chief Technical Adviser, SPADP)
- Information Paper 36 Some History, Recent Developments and Prospects for the Black-lip pearl oyster, *Pinctada margaritifera* in Hawaii and Micronesia (by Raymond P. Clarke, Dale J. Sarver, and Neil Anthony Sims)
- Information Paper 37 Statement by ICLARM (by Johann Bell, Senior Scientist, ICLARM)
- Information Paper 38 Funding Options for the SPC/Nelson Polytechnic P. I. Fisheries Officers Training Course (Paper prepared by the Secretariat)
- Information Paper 39 Statement of the Forum Fisheries Agency (by Victorio Uherbelau, Director, Forum Fisheries Agency)

COUNTRY STATEMENTS

- Country Statement 1 French Polynesia
- Country Statement 2 New Caledonia
- Country Statement 3 Marshall Islands
- Country Statement 4 Palau
- Country Statement 5 Tokelau
- Country Statement 6 Wallis and Futuna
- Country Statement 7 Northern Mariana Islands
- Country Statement 8 Cook Islands
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- Country Statement 10 Vanuatu
- Country Statement 11 Niue
- Country Statement 12 Nauru
- Country Statement 13 Australia
- Country Statement 14 Solomon Islands
- Country Statement 15 United States of America

Country Statement 16 Tuvalu

Country Statement 17 Fiji

Country Statement 18 Papua New Guinea

Country Statement 19 Tonga

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REPORTS OF TECHNICAL SESSIONS

APPENDIX 1 – TECHNICAL SESSION 1

Western Tropical Pacific Tuna Fisheries Overview

A review of western Pacific tuna fisheries over the past two years was provided by the Oceanic Fisheries Coordinator, to set the scene for the review of the current status of tuna stocks in the region and of the work of the Oceanic Fisheries Programme. The presentation focused on the total catch by gear, species and fleet in the SPC area from 1994 and 1995, with trends in these aspects highlighted, and political and market developments mentioned where these have impacted the fishery

The estimated total catch of the primary market species of tuna in the SPC area during 1994 and 1995 was 1,006,569 mt and 965,516 mt respectively. These are slightly lower than the record high catch of 1,051,000 mt in 1992, but catches have essentially stabilised since 1991, after a decade of rapid growth during the 1980s. When tuna catches in eastern Indonesia and the Philippines are added, the western Pacific production has been around 1.3 million tonnes in recent years, close to half the global production. The 1995 SPC-area landed catch was valued at US\$ 1.7 billion.

The purse seine catch continues to constitute around 80 per cent of the total catch by volume – 807,000 mt in 1994 and 752,000 mt in 1995 - with the majority of the catch made by four main fleets, the US, Japan, China and Taiwan. The regional purse seine fleet now stands at around 161 vessels, having decreased somewhat in number since 1991, but with the total catch being maintained by increased catch rates. Locally-based purse seine vessels, 14 in number, caught around 57,000 mt in 1995. The area of operations shifted considerably westward for most fleets during 1995, with the cessation of the prolonged El Niño event of 1991–1994.

During 1995, pole-and-line fisheries enjoyed the best fishing conditions during 1995 since 1991, with sharp increases in catch by the Solomon Islands and Fiji domestic fisheries, and reportedly also by the Japanese distant-water fleet.

Longline catches overall increased sharply during 1994 due to the development of locally-based and domestic sashimi longline fleets, but this growth slowed during 1995. The large distant-water longline fleets of Japan, Korea and Taiwan continue to account for the majority of the estimated SP-area catch of around 120,000 mt.

Total catches are still dominated by skipjack (659,000 mt in 1995, or 68%), with these catches stable. Yellowfin catches by purse seine declined during 1994 and 1995, from a high of 245,000 mt in 1993, whilst longline catches have increased steadily from a low of 35,000 mt in 1991, but are still below the 1990 catch of 45,000 mt. Bigeye catches (purse seine catches of juvenile bigeye are generally not separated in catches) declined slightly during 1995. Albacore catches, depressed for a few years, returned to 1992 levels (41,000 mt).

The outlook for 1996 appears somewhat uncertain for some sectors, with some components of the purse seine fleet experiencing financial difficulties, and the weakening yen affecting sashimi price returns. With albacore catches possibly linked via reduced recruitment success, to El Niño events, with an approximately three year time lag, lower albacore catch rates might be predicted for the next few years.

Following the presentation of this overview of tuna fisheries by the Oceanic Fisheries Coordinator, there was an opportunity for questions from the floor. There were no questions.

The Principal Fisheries Scientist then outlined the biological status of stocks of tuna in the Western Tropical Pacific, based on Information Paper 26, which had also been presented two weeks previously at the 9th SPC Standing Committee on Tuna and Billfish.

He noted that the major source of information on the status of skipjack stocks had come from the Regional Tuna Tagging Programme. He felt that this was probably one of the best tagging data sets in the world, and it had enabled SPC to fit a robust model to derive estimates of mortality and an indication of the overall exploitation rate of skipjack in the region. It was estimated that about 20 per cent of the total mortality of skipjack in the region is due to fishing. For an abundant and resilient animal like skipjack, this sort of mortality indicates fairly light exploitation. The yellowfin tagging data set was also becoming very comprehensive, and again, demonstrated an exploitation rate of around 20 per cent.

SPC had not been able to carry out much direct research on bigeye, but a great deal of analysis had been carried out by Japanese scientists, particularly on the Japanese longline data using surplus production models. This dataset has a number of limitations: it does not take into account the surface catch, and it is not certain whether the Pacific bigeye stock is split into two parts, between Western and Eastern Pacific. The SPC OFP is undertaking a population genetic study in collaboration with CSIRO and with countries supplying samples from across the Pacific, and this should shed some light on the stock structure of bigeye by the end of this year.

Albacore tuna is a somewhat different fishery, based on a colder-water resource. Assessment had been based on a catch-at-age model incorporating some novel features such as uncertainty estimation – something that will become more and more necessary in stock assessments as the precautionary principle is incorporated – and spatial structures to account for the different geographical distribution of different age classes. Although the albacore fishery is fairly minor in regional terms, it is very important to a considerable number of SPC member countries and territories, particularly in the south and east, which is why the OFP has paid it more attention than it might appear to deserve based on relative catch volume. From the model developed it appears possible that southern albacore recruitment is related to the El Niño southern oscillation index, and if this is confirmed, it will give us some ability to predict how albacore fisheries may perform in future, and to predict the condition of the stock.

The representative of New Zealand thanked the Oceanic Fisheries Programme for this update on the regional tuna stock status. He asked if the Secretariat would be able to comment in light of recent statements by IUCN about the global status of tuna populations. The Oceanic Fisheries Coordinator pointed out that most of these statements seemed to exclude or avoid the southwest Pacific, and that most of the indicators used for the 'health of the stock' were

fairly slippery concepts to pin down anyway. The Principal Fisheries Scientist suggested that there was an element of the bizarre in some of this material, particularly in the CPUE (Catch Per Unit Effort) indicators that were designated as signals of definite stock decline. He pointed out that there are huge natural variations in tuna stocks, particularly in association with natural climatic cycles. There had been some discussion of this at the second World Fisheries Congress and about the need for these benchmarks to have questions attached to them and further work carried out.

The representative of the United States of America asked what had happened to the 'Billfish' in the review of Tuna and Billfish status, particularly in view of the high current interest in swordfish in several countries. The Oceanic Fisheries Coordinator pointed out that there would be a specific item of discussion in the following session to discuss this issues.

The representative of France congratulated the Oceanic Fisheries Programme for the overview presentation. He had just one question concerning Figure 31 in IP 26 which did not appear to show a very strong correlation between the ENSO (El Niño Southern Oscillation) index and the predicted recruitment of albacore, at least in the period before 1980. The Principal Fisheries Scientist replied that this was a preliminary presentation, and that the potential correlation had not been looked at in detail yet. The correlation only appears to be good since 1980, probably since it is based on assumed spawning season for southern albacore. There was no surface fishery before the mid-1980s and there is not much information about recruitment in the older longline size-composition data, since longliners tend to take larger fish from a deeper water stratum further north. Further environmental variables remain to be built into the model to try and explain the variation in the earlier stages of the fishery.

APPENDIX 2 – TECHNICAL SESSION 2

South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP)

The Oceanic Fisheries Coordinator provided the meeting with details of the OFP's South Pacific Regional Tuna Resource Assessment and Monitoring Project (SPRTRAMP). This five year project, funded by the Commission of the European Union under the Lomé IV agreement, will implement continuous scientific monitoring of tuna fisheries in the region and refine the resource assessment work initiated in the Regional Tuna Tagging Project. SPRTRAMP is now up to full staff strength, with a complement of 9 staff based in Noumea and several port samplers based in member countries and territories. The project will conclude nominally at the end of June 1999. No continuation is expected beyond that date. Indeed, on current indications it appears that there will probably not be a Lomé V.

The Senior Fisheries Scientist (Biology) presented the results of his work modelling the distribution of Pacific tuna catches. This is hard to predict based on the distribution of primary production in the Pacific Ocean, but distribution functions were applied to model the probable distribution of skipjack food sources following current transport and environmental factors. This model appears to go a long way towards explaining the distribution of skipjack productivity in different areas and seasons, and thus explaining for the first time some of the factors defining the Large Marine Ecosystem of the oceanic Pacific, particularly the paradoxical presence of a high tuna biomass in the low primary productivity surface waters of the tropical Pacific. Future work will concentrate on the interaction with long-term climatic cycles like ENSO and to take into account the distribution of surface forage species. If regular phytoplankton and other data can be obtained for input to this model, it may become possible at some future date to model the distribution of skipjack on a real-time basis.

In response to a question from the SPC Masterfisherman, the OFC pointed out that the data for this exercise had been averaged over a considerable period, and had to look backwards because of the poor availability of data, particularly phytoplankton distribution time-series. However, the circulation model did take into account upwellings and broad-scale current patterns, and that it might be possible to incorporate more detailed current patterns in future.

The delegation of France suggested that the growing capability for the operational forecasting of long-term climatic cycles raised the intriguing possibility of having a centre to forecast the potential for tuna fisheries production on a day-to-day basis. SFS (Biology) replied that it was indeed one of the objectives of this work to forecast the availability of tuna and thus to improve fleet logistics as well as tuna fishery management. With better data on the physical environment this should eventually become possible.

The Senior Fisheries Scientist (Modelling) then described his work on a simulation of Western Tropical Pacific tuna fisheries. The ultimate aim is to incorporate economic factors into the biological model that is being developed, that would enable both the economics of fishing to be calculated and the rent that could be obtained by Coastal States. The model is based on diffusion and advection movements of skipjack stocks estimated from tagging data, and incorporating the environmentally determined abundance factors estimated by the model described in the previous presentation. The parameters used in the model are subject to

considerable development and fine-tuning, but the preliminary results from the model are promising. For example, it explains the shift of the skipjack population towards the tropics in winter, and the gap in the distribution of skipjack across the equator towards the eastern pacific. When the long distance movement of skipjack from the tagging data is superimposed on the model distribution, it neatly explains why certain movements do not seem to occur. There are still some problems with the model, which does not explain all of the distribution of skipjack, but this will be the focus of further work and progress thus far has been very promising.

The Solomon Islands representative asked why there appeared to be a gap in the distribution of skipjack across the equator. The OFC replied that this distribution was to do with the effects of sea surface current patterns on primary productivity, and the distribution of forage would tend to draw skipjack larvae out of the area. It is due to the time-lag between primary production (which is actually occurring within this equatorial area) and the secondary production driven by the current patterns.

The Solomon Islands representative then asked which were the most significant environmental factors in the model. OFC replied that temperature was not a limiting factor in the distribution of tropical skipjack as much as the distribution of forage, although temperature was more of a factor with colder-water tunas.

APPENDIX 3 – TECHNICAL SESSION 3

HACCP – Regional Implications

Some important destinations for the Pacific Region's exported seafood products are implementing new quality assurance systems. The United States of America, for instance, will, as of 18 December 1997, require that seafood exporters comply with a new regulation that is based on the HACCP system of assuring product safety. HACCP or Hazard Analysis, Critical Control Point, is a seven-point system that requires products to be monitored at identified critical points in the manufacture process. This replaces the traditional method of testing products after they come off the production line. The objective of this Technical Session was to provide information on how the new HACCP regulations will operate and discuss what options there are for the Pacific region to respond to these changes to ensure that access to these markets can continue.

The key-note speaker for the session was Mr David James, Senior Fishery Industry Officer, Fishery Industries Division, FAO, Rome. Mr James described the underlying objectives of quality assurance (QA) as the protection of public health and the prevention of economic fraud. QA systems deals with these two objectives rather than the intrinsic quality of products, such as freshness, taste, appearance, texture, etc. Traditional quality inspection is provided through government inspection. Products are sent to the importing country where they may or may not be inspected. If they are inspected and found to be deficient it is too late to do anything. Although this system is inadequate in preventing poor quality products from reaching the market, fishery products are not in fact a significant source of food-borne diseases. Furthermore, products from domestic suppliers rather than from overseas tend to cause health problems. The more serious problems have occurred with mercury and cadmium contamination of seafood, botulism in canned fish, and salmonella in frozen crustacea. More immediate concerns are with newly emergent micro-organisms such as *E. coli 0157* and *Listeria monocytogenes*, and recent food-poisoning outbreaks in the United States of America (hamburgers) and Japan were given as examples.

Changing appreciation of consumers has pressured politicians to enforce legislation to tighten controls on food safety whether domestically-produced or imported. There is a proliferation of different regulatory systems in different countries. For example, the United States of America, Canadian and European Union QA systems are based on Hazard Analysis Critical Control Point (HACCP). This is one of many possible systems for obtaining an improved QA system. Under the HACCP system, inspecting the final product is replaced by a process that more closely monitors products as they are being manufactured. The responsibility for QA has therefore been transferred to the producer. These regulations are now mandated by the USA and Europe – and the food industry has been forced to change to meet these regulations. HACCP is a simple system, and it should thus not cause great concern to the region. However, it is an issue that must be faced now. The seven-step process of HACCP-based quality assurance was briefly described by Mr James.

From 1998 the United States of America will only accept products that meet their HACCP regulations and the EU will only accept products that comply with their QA model. The guiding principle will be that exporting countries have a QA system that is equivalent to the requirements of the importing country.

There continues to be a number of problems because of a lack of understanding by regulatory agencies. There is no common definition, for instance, of what constitutes a hazard. In the seafood industry this will depend on the product. Different systems need mutual trust of all authorities in importing and exporting countries. A lot of the responsibility is transferred to the producers and there is a need for training at many levels. Government authorities in exporting countries must be in a position to monitor the performance of the industry.

In conclusion, Mr James stated that unless Pacific Island countries and territories comply to these new regulatory systems, they will put their exports at risk of being rejected. Alternatively, they will need to revert to a costly traditional system which is inadequate.

The SPC Post-harvest Fisheries Adviser supplemented the information provided by Mr James by focusing on the implications of these regulatory changes to the Pacific Region (see Information Paper Number 34) and described the outputs of a possible project to upgrade quality-assurance procedures in the Pacific.

Mr James returned to describe how it may be possible to request FAO to support a Technical Cooperation Project that would assist the region to implement a programme that could address these regulatory changes. Such a request would need the support of National Governments.

In discussions that followed, clarification was provided to the Representative of Guam on the Japanese import regulations. Japan has very strict import regulations for seafood, but they have not changed their system to one that is similar to HACCP. Exporting seafood to Japan should therefore be unchanged. However, Japan exports seafood products, and help is provided to Japanese exporters to meet HACCP requirements of specific import countries.

The Representative of Kiribati asked how much a HACCP system would cost to put in place. Mr James explained that it would be difficult to provide an exact figure, and added that the major costs are usually experienced in the implementation phase. This involves surveys, assessing risks, working out levels of tolerance and interventions, etc. Once this is done the manufacturing operation should run with no increased costs.

The Representative of Papua New Guinea asked for more information about the origin of HACCP. Mr James explained that HACCP was developed in the sixties to ensure that food eaten by astronauts while in space was safe. HACCP was found to eliminate the risk of contaminated food in the space programme. The representative of Papua New Guinea further advised the meeting that legislation to clarify the responsibility for national control of export standards was before Parliament. At present there were overlapping mandates between Ministries with responsibilities for fisheries, customs, health etc.

The SPC Masterfisherman asked how HACCP would be applied to chilled tuna exports. It was explained that chilled fish was a low risk item, and that temperature control was the primary factor in controlling risk. If the temperature was kept low the risk of bacterial problems would also be low.

The Representative of Fiji asked whether the Secretariat has any suggestions as to how the region could respond to these regulatory changes and further asked how HACCP systems

respond to potential ciguatera problems in reef-associated fish. It was suggested that a small working group could be convened during the meeting to discuss a regional response and this group would meet with the FAO and SPC officers. Fiji was invited to join this group. Mr James further explained that ciguatera can be accommodated under HACCP only by reference to experience and the acknowledgement of an acceptable level of food risk.

The Representatives of the Solomon Islands, Western Samoa, Kiribati, and Tonga echoed the need for an improved QA system in the region and the need for assistance.

Alastair Robertson, Nelson Polytechnic asked if the HACCP principles have to be accepted at the national level or could they be accepted by only those involved in the production and export of goods? Mr James said that they do not have to be national programmes. There can either be a Memorandum of Understanding between Governments of the exporting and importing countries or an understanding between the individual manufacturing company and the importing country.

Clement Malau, Manager of the SPC Health Programme stated that the Health Programme had interest in food safety issues and would be willing to provide whatever assistance was necessary under the proposed project proposal.

(Note: A recommendation on this topic was discussed and approved in plenary session – see Recommendation No. 8)

APPENDIX 4 – TECHNICAL SESSION 4

Integrated Coastal Fisheries Management Project (ICFMaP)

Macuata Gillnet Fishery

The Inshore Fisheries Scientist presented the first sub-project report which concerned the study of the effects of a five-year ban on commercial gillnet fishing in Fiji. The ban was imposed through the traditional authority of the chiefs in the Macuata region of Vanua Levu in response to concerns by villagers in the region over declining catch rates from subsistence fishing, particularly of esteemed species such as mullet and mackerel. The Inshore Fisheries Scientist reported that the ban had been well received by the villagers in the region who stated that subsistence fishing had improved noticeably and that good catch rates were once again being experienced. Villagers no longer had to travel long distances and fish for long periods to achieve reasonable catches. The Inshore Fisheries Scientist also noted that commercial fishermen in the Macuata region had successfully made the transition from gillnet fishing to line fishing for large reef carnivores on the Great Sea Reef and were disinclined to return to gillnet fishing due to the cost and the uncertainty about whether a ban might be reimposed in the future.

The Inshore Fisheries Scientist also reported on the field observations conducted on gillnet fishing as part of this study. The gillnet catches showed that mullet and mackerel were major components of the catches, suggesting that populations had recovered since the imposition of the ban. Other information collected during this study included selectivity data for the different mesh sizes commonly employed by subsistence and commercial gillnet fishers which showed that the use of 2" mesh-size gillnets should either be banned, or at least discouraged from use, as they target small juvenile fish. The Inshore Fisheries Scientist concluded by summarising the recommendations presented to Fiji's Fisheries Division on the monitoring and regulation of commercial and subsistence fisheries in the Macuata region.

Discussion

The representative of Tonga was very interested in this study, and wondered if the findings would be more widely available. FRAD said that the general aim of ICFMaP was to publicise these reports as case-studies of benefit to the entire region, but that this preliminary work was still under consideration by the Fiji Government, who would be consulted first. He said that this study of a former gillnet fishery, where the commercial net-fishing community had been successfully able to divert their effort into handlining without apparent loss of income, was extremely interesting to all reef-fishery managers.

The representative of Kiribati asked if there was any analysis of the state of sexual maturity of fishes in the catch, since Kiribati was interested in setting up mesh-size limits for gillnetting, particularly for bonefish. The IFS reported that there was some maturity information collected in Fiji but not much. The Resource Assessment Section would be happy to advise on the evaluation of optimum mesh-size limits though.

The representative of Fiji said that the Fisheries Division appreciated the assistance of ICFMaP with this project, and that the attachment of a Fiji fisheries officer to the project was particularly

valuable. He said that Fiji would be very happy to share the results of this study with Tonga and other countries and territories, particularly if the lesson illustrated was of assistance in improving the sustainability of other fisheries. He said that the sharing of information like this was one of the main purposes of RTMF.

The representative of Tonga asked if the fishing community at Labasa had been able to develop a successful commercial handline fishery after the closure of gillnetting because of the development of new techniques that improved the efficiency of fishing. IFS replied that there was no new technique involved, and the fact that the fishermen had developed a new baitfishing method (based on the night-light baitfishing method learned from the pole-and-line tuna fleet) was probably not a major factor in making line fishing economically viable. The main development seemed to be in the post-harvest aspects of the fishery, particularly marketing. He further noted that the initiative for this market development came from the fishermen themselves, which probably accounted for its sustainability.

Ba River Kai Fishery

The next presentation came from Fisheries Management Associate Esaroma Ledua, and concerned management investigation of the kai or river mussel fishery in Fiji. Mr Ledua reported that there were three components of the kai study by the ICFMaP team, which included health and socio-economics of this fishery, and which would be addressed by the Post-harvest Fisheries Adviser and Women Fisheries Development Officer respectively. Mr Ledua reported to the meeting on the results of a stock assessment study of the kai populations in the Ba River. Mr Ledua explained the methods employed to conduct the study, and summarised the results which were obtained.

Based on the study it was apparent that although densities of kai in the Ba River were extremely variable, the overall population densities were very high. Further, the fishery in the Ba River only took an estimated 6 per cent of the biomass each year, which strongly suggested that the present levels of fishing were sustainable. For the continued productivity and management of this fishery Mr Ledua advised that therefore it would be prudent:

- to collect information on the continued level of fishing effort in the Ba River;
- for the Fisheries Division to work closely with the Drainage and Irrigation Department so that dredging operations in the lower reaches of the river do not damage rich kai beds;
- that harvesting continue to be maintained by traditional means and not include any mechanised fishing methods or the use of SCUBA gear.

Discussion

The representatives of Fiji explained some of the background to this joint Fiji/ICFMaP project and said that the need for a kai management plan arose from the importance of this fishery, particularly for women, and from the strong concern that had been expressed about the state of the fishery. The fact that there was a new proposal for large-scale export of kai meant that an assessment and management recommendations were urgently necessary. In addition, the

increasing problems of erosion and siltation in the Ba river area meant that there were more than just the fishery aspects to consider.

The representative of Kiribati asked why there appeared to be such a variation in density of the kai stock in different parts of the river. The ICFMaP Attachment Officer Ledua explained that there were great variations in the density of the stock, not just along the river but across the width of the river, and this would be due to a number of different factors which are difficult to unravel at this stage. The design of sampling surveys had to be carefully considered in order to get a representative snapshot of the stock.

Tongatapu Aquarium Fishery

The next presentation was given by the other Fisheries Management Associate, Sione Vailala Matoto, and concerned the management study of the Tonga aquarium-fish export fishery. Mr Matoto outlined the development of this fishery from the late 1980s onwards, and gave some information on the nature of exports in this industry. The aquarium industry not only catches fish but collects invertebrates such as anemones, soft corals and a limited number of crustaceans. Concerns about the aquarium trade in Tonga led the Ministry of Fisheries to seek the assistance of ICFMaP in developing a management plan for this fishery. The issue addressed by Mr Matoto in his presentation was the level of harvest of fishes from Tongatapu's reefs for the aquarium trade.

Mr Matoto outlined how the standing stock of shallow-water reef fishes, including aquarium fishes, was estimated on the reefs in Tongatapu through underwater visual census (UVC) techniques. Mr Matoto thanked ORSTOM for releasing a technical officer skilled in UVC techniques to this study, and the Government of France for supporting part of the travel costs incurred by this attachment. The results from the UVC study suggested standing stocks of reef fishes comparable to other locations in New Caledonia and French Polynesia that had been surveyed using the same methodology. Further, the harvest of aquarium fish was a tiny fraction of the standing stock of reef fishes and comprised mainly species not targeted for food. Mr Matoto concluded by mentioning the preliminary recommendations given to the Ministry of Fisheries and that a more detailed report would be submitted at a later date, that will also include observations on substrate cover on the reef areas which is also of interest in the management of the aquarium industry.

Discussion

The representative of Papua New Guinea asked where most of the fish were being exported to ICFMaP Attachment Officer Matoto replied that this was the United States of America. In response to a question from the representative of Kiribati about the volume of exports, he said that the overall level of exploitation for export was around 0.01 per cent of the standing stock of fish.

The representative of Western Samoa said that he appreciated the training attachment aspect of this work, and felt that this sort of approach was very relevant to Pacific Island countries.

Ha'apai Bêche-de-mer fishery

The next presentation, given by the Inshore Fisheries Scientist, on the progress of ICFMaP sub-projects concerned the follow-up survey of bêche-de-mer stocks in the Ha'apai Islands in Tonga. The Tonga Ministry of Fisheries had requested the precursor to the ICFMaP project, the Inshore Fisheries Research Project (IFRP), to assist with a survey of bêche-de-mer stocks in Ha'apai in 1990, before heavy exploitation had commenced. One of the participants in this study was Mr Paul Lokani, a fisheries scientist from Papua New Guinea, and his participation was secured once more for this survey with the kind agreement of the PNG National Fisheries Authority.

The Inshore Fisheries Scientist documented the growth of the bêche-de-mer fishery in Tonga, which was based mainly in Ha'apai. The survey results showed that bêche-de-mer stocks were severely depleted, with up to 95 per cent of the original biomass estimated from the original survey having been removed through harvesting activities. The recommendations arising from this survey were for a ten-year moratorium on bêche-de-mer harvesting, with a survey of populations and review of the moratorium after five years. The use of hookah breathing apparatus was also recommended to be proscribed due to the risk of decompression injury or death to untrained divers, and to reduce the efficiency of dive fishers in accessing deeper strata of reserve broodstock, thus not driving populations to such low levels again. At the end of the presentation the Fisheries Resources Adviser noted the swift response by the Tongan Ministry of Fisheries in implementing these recommendations.

Discussion

The representative of Guam asked for more information on the methodology of the stock assessment side of the project, and this was provided by the Inshore Fisheries Scientist.

The representative of Kiribati asked what grounds were used to decide the recommendation for a ten-year moratorium on harvesting bêche-de-mer. It was replied that this was a conservative estimate of the full recovery time of the slower-growing, more valuable species that were the main target of the fishery, the stock of which had been reduced to very low levels, but that the option of review after five years provided some flexibility to the Government to shorten this if recovery was more rapid than expected.

The representative of New Caledonia asked if it might not be more cost-effective to allow the economics of the situation to control the fishery. Experience in some places suggested that there was a level of stock density below which the export fishery became uneconomic, and that this might provide a natural respite for the resource. The Fisheries Resource Adviser recognised that this was indeed an option that was followed by many countries for their bêche-de-mer fishery, but it was an option that certainly did not maximise the value of the resource and carried the distinct risk that components of the fishery would be driven to the verge of extinction. The moratorium was an option that had been proven to be fairly easy to enforce in several countries, and was generally accepted in Pacific Island societies as a useful management method. He added that the huge and increasing demand for bêche-de-mer made it economic in many places to continue fishing the stock down to very low levels, and this was exacerbated by the itinerant nature of many traders. When faced with local stock depletion they would not go bankrupt, but simply move to another place.

Aitutaki Lagoon Fishery

The last presentation on the ICFMaP sub-projects was given by the Fisheries Resources Adviser, and concerned the management study of the Aitutaki Lagoon fishery in the Cook Islands. The Fisheries Resources Adviser stated that due to government legislation, designated fisheries in the Cook Islands required a management plan for their regulation and monitoring. The whole of Aitutaki Lagoon and its associated fishing activities had been designated as a single fishery, and thus a lagoon management plan was required. The Cook Islands Ministry of Marine Resources approached the Commission to seek the assistance of ICFMaP in drafting the Aitutaki Lagoon Management Plan.

The Fisheries Resources Adviser explained the various methods employed by the ICFMaP team, which included the Women's Fisheries Development Officer. These included a household survey to determine patterns of fishing activity, collection of catch and effort data from fishermen and a depletion study to estimate reef fish standing stocks. The Fisheries Resources Adviser stated that overall the fisheries resources of the lagoon appeared to be in better shape than many seemed to fear, and that there were even some areas of the outer reef slope on the windward side that were lightly exploited, thus acting as a *de-facto* reservoir for recruitment. However, there were some specific lagoon fisheries that had clearly been heavily exploited and for which some action would be required to assist with stock regeneration. These included giant clams, bonefish, milkfish and some of the larger parrotfish. The Fisheries Resources Adviser noted that the final management plan would take account of both the social and biological aspects of the lagoon fishery to produce a plan that can be realistically implemented and be acceptable to the villagers on Aitutaki.

There was no time remaining for discussion of this subproject, and representatives were asked to refer any questions to the staff after the meeting.

APPENDIX 5 – TECHNICAL SESSION 5

Use of Live Milkfish as Longline Fishing Bait

Following the presentation of Working Paper 14 by the Fisheries Development Adviser, Masterfisherman Steve Beverly presented additional information on the cultivation of milkfish on Guam. He showed slides of the hatchery (Guam Aquaculture Development and Training Centre) as well as one of the aquaculture farms that were producing milkfish for some of the Taiwanese vessels that transship their catch from Guam. The hatchery had milkfish approaching maturity, however, it would be several years before the brood stock would be ready for breeding (4–5 years old at present, but needed to be 5–8 years old for breeding). The farms, which are separate from the hatchery, were importing their fry from Taiwan and then growing them out to the desired length of 12–15 cm for live bait.

The Masterfisherman also provided the meeting with anecdotal information in relation to preliminary fishing trials using live milkfish for tuna longline bait off Hawaii. Two fishing trips were undertaken during the trial with higher catch rates recorded on the live bait as compared to the normally used dead baits on the first trip, however, there was no difference recorded between the milkfish and other dead baits on the second trip. The results were therefore deemed to be inconclusive, due to the differing results, although it was noted that there was no independent validation or specific recording of the results from the trials, and that further trials were needed. The meeting was also informed that there were two proposals seeking funding to conduct fishing trials to compare the catch rates between live milkfish and dead baits of other species normally used in the tuna longline fishery.

The representative of Fiji thanked the presenters and acknowledged the report prepared by the consultant, Bill Fitzgerald. He agreed with the findings of the report, that only aquaculture could provide the live bait in the quantity and size throughout the year, as required by a tuna longline operation. He stated that fishing trials needed to occur to properly assess the effectiveness of live milkfish over other dead baits, and that there needed to be validation of the results through observers, possibly through the SPRTRAMP Programme. The representative also stated that aquaculture in Fiji had started in the 1970s and was now maturing. If the higher catch rates reported could be validated, the production of live milkfish could happen in Fiji.

The representative of Kiribati gave a brief outline of the milkfish production in his country. Originally, the milkfish fry were purchased from local fishermen and reared for use as live bait for tuna pole-and-line vessels. When the pole-and-line vessels stopped, Kiribati started to export the larger milkfish to Nauru and were currently sending around 200 kg per week. Spawning of milkfish occurs year-round in Kiribati. Given the opening of the Kiribati aquaculture ponds to the ocean, the Fisheries Department now opens the ponds when the conditions are right, thus allowing the milkfish fry to swim in for re-stocking purposes.

Mr Hideyuki Tanaka asked the presenters for a schedule, and the level at which the Commission was going to get involved in a follow-up programme for this study, as he thought there was room for collaboration between the respective organisations. He also stated that he wanted to support the Kiribati project through a possible joint venture, as there was scope for expansion of aquaculture in the region, especially in live milkfish cultivation. In

response, the Fisheries Development Adviser stated that the Commission had no clear direction on any future involvement on aquaculture. The present study was only to look at what was known about the use and effectiveness of using live milkfish as bait in the tuna longline fishery, however, if the Commission was to become involved in the future, it would be in collaboration with other organisations in the region.

Mr Esaroma Ledua asked several technical questions of the Masterfisherman, based on his earlier presentation where he recommended that 18–20 metre boats were the most appropriate for developing domestic tuna longlining operations in Pacific Island countries and territories. He asked if a new 18–20 metre vessels would be suitable for carrying live bait and whether existing longline vessels operating in the region were suitable for this style of fishing. In answering the questions, the Masterfisherman stated that a well designed 18–20 metre vessel could certainly hold sufficient live bait for tuna longlining operations. As far as existing or second-hand vessels were concerned, some could be suitable while others would not. The most suitable second-hand vessels would be those with at least 2 refrigerated seawater (RSW) holds, where live bait could be stored initially, and once the bait had been used, the tank could be cleaned and used for storing the catch.

The representative of the United States of America gave an update on the two research proposals that the Masterfisherman has spoken about. He stated that the proposals would address at least three of the areas raised in the report as needing further investigation (methodology differences in the use of live bait to account for the differences in reported catch rates, evaluating the effectiveness of different methods of using live bait, and the economics of using live bait as opposed to frozen bait). Both of the proposals were seeking funding of around US\$200,000. He also stated the National Marine Fisheries Service would keep the Commission informed on the progress of these proposals (and any activities that may take place), and possibly include the Commission in the review of the proposals, as the results would benefit many countries throughout the Pacific.

The Fisheries Training Adviser directed some technical questions to the Masterfisherman in relation to the depths that the live baits could survive and their availability to bigeye tuna, how the baits were hooked, and what type of food were used to feed the milkfish at their different stages (fry, fingerlings, brood stock). In response, the Masterfisherman stated that he was not sure of the depths that the live bait could go, however, the live bait were hooked through the back under the dorsal fin and set shallow, mainly for yellowfin tuna although bigeye tuna were caught as well. He added that there needed to be research into the depths that these live bait could be used effectively. In relation to the food for the milkfish, the Masterfisherman was not sure except for the fact that the hatchery in Guam was using rotifers as food for larvae and fry, whilst a variety of commercially-prepared foods, some in pellet form, were used for the milkfish in the grow-out ponds.

Dr Johann Bell stated that he was very impressed with the work that had been undertaken and the potential prospect for the production of milkfish through aquaculture. He did state that caution was needed and that stocking of aquaculture ponds should come from fry within the country or local stock to avoid any chance of introducing diseases.

Due to time constraints and the actual time, the technical session on milkfish had to be closed even though there was considerable interest. The Fisheries Development Adviser thanked everyone for their participation and input to the discussions.